



Models to accelerate modern family planning/contraceptive services access and uptake among married women in rural Pakistan

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Acronyms

ADB	Asian Development Bank
ANC	Antenatal care
AOR	Adjusted odds ratio
BHU	Basic Health Unit
CBO	Community based organisation
CHW	Community Health Worker
CMW	Community Midwife
CPR	Contraceptive Prevalence Rate
DFID	Department for International Development (UK)
DHQ	District Headquarters Hospital
DHS	Demographic and Health Survey
DSF	Demand-side financing
FGD	Focus Group Discussion
FHT	Family Health Technician
FP	Family planning
FPAP	Family Planning Association of Pakistan
FHE	Female Health Educator
FWW	Family Welfare Worker
GSM	Green Star Social Marketing
GP	General Practitioner
GYN/OBS	Gynaecology and Obstetrics
IDI	In-depth interview
IMR	Infant Mortality Rate
IPPF	International Planned Parenthood Federation
IUD	Intra-uterine device
KPK	Khyber Pakhtunkhwa (Province)
LAM	Lactational Ammenhorea
LARC	Long-acting reversible contraceptives
LHV	Lady Health Visitor
LHW	Lady Health Worker
LMIC	Low- and middle-income country
mCPR	Modern Contraceptive Prevalence Rate

MDGs	Millennium Development Goals
MHI	Micro health insurance
MMR	Maternal Mortality Ratio
MSI	Marie Stopes International
MSS	Marie Stopes Society
MWRA	Married women of reproductive age
NGO	Non-governmental organisation
OOP	Out-of-pocket payments
PAFP	Post-abortion family planning
PHC	Primary Health Care
PMHIP	Prime Minister National Health Insurance Program
PNC	Postnatal care
PSI	Population Services International
RBF	Results-based financing
RH	Reproductive health
RHV	Reproductive Health Visitor
SDGs	Sustainable Development Goals
SHI	Social health insurance
STI	Sexually transmitted infection
TRF	Total Fertility Rate
UNFPA	United Nations Population Fund
USAID	United States Agency for International Development
WHO	World Health Organization

Key Definitions

Demand-side financing (DSF): Defined as “a mechanism that transfers purchasing power to specified groups for defined goods and services in order to increase access to specified services”(1). DSF is also known as “demand-side RBF”. The key defining feature of a demand-side RBF is the direct link between the payment of incentives and the intended beneficiary, as well as the desired result.

Health-care financing: Defined as “function of a health system concerned with the mobilization, accumulation and allocation of money to cover the health needs of the people, individually and collectively, in the health system is known as health-care financing. The purpose of health financing is to make funding available, as well as to set the right financial incentives to providers, to ensure that all individuals have access to effective public health and personal health care”(2).

Mobile Outreach Services: Mobile outreach services address inequities in access to family planning services and commodities in order to help women and men meet their reproductive health needs. Outreach models allow for flexible and strategic deployment of resources, including health care providers, family planning commodities, supplies, equipment, vehicles, and infrastructure, to areas in greatest need at intervals that most effectively meet demand(3).

Out-of-pocket (OOP) health expenditures: “Out-of-pocket expenditure on health refers to any direct outlay by households, including gratuities and in-kind payments, to health practitioners and suppliers of pharmaceuticals, therapeutic appliances, and other goods and services whose primary intent is to contribute to the restoration or enhancement of the health status of individuals or population groups”(4).

Post-abortion Family Planning (PAFP) involves provision of voluntary contraceptive counseling and methods to women after abortion care, whether for induced abortion or the treatment of

complications from an unsafe abortion, to reduce unintended pregnancies and repeat abortions. International organizations in the field of reproductive health and health researchers have posited that PAFP services that respect women's sexual and reproductive rights are an ideal way to reach sexually active women with unplanned pregnancies, including young women who may have had limited exposure to modern contraception(5)

Results-based financing (RBF): Defined as “a cash payment or nonmonetary transfer made to a national or subnational government, manager, provider, payer, or consumer of health services after predefined results have been attained and verified. Payment is conditional on measurable actions being undertaken”(6). RBF programs reward the delivery and/or utilization of one or more health outputs or outcomes through financial incentives, when it is verified that the agreed results have occurred. These programs focus on health results (such as the number of couples receiving family planning counselling or new users of modern methods), rather than inputs (such as the construction of health centres and training of staff); thus more tightly linking financing to results(6, 7).

Social franchising: Social franchising is defined as a system of contractual relationships “usually run by a non-governmental organization which uses the structure of a commercial franchise to achieve social goals” (8). The overarching difference between social and commercial franchising is that social franchising seeks to fulfil a social benefit whereas commercial franchising is driven by profit (9).

Social franchising, fractional: According to Marie Stopes International (MSI), “in fractional social franchising model only a selected franchisee services and commodities (typically, family planning for MSI franchising) are franchised. In other words, franchisees may provide other health services beyond family planning, but without MSI involvement and quality assurance. This fractional approach enables rapid scale-up of family planning services because it builds on existing service delivery mechanisms and infrastructure. More information on the operation of MSI's fractional social

franchising program, as well as the approaches used by PSI, can be found in the companion paper (10).

Supply-side financing or demand-side RBF: In a supply-side RBF, “incentives are paid to the provider based on a (set) of performance target(s) or indicator(s), which are mostly linked to the number of beneficiaries or consumers, e.g. the number of consumers using the service”(6).

Task sharing: The process of enabling lay and mid-level health-care professionals – such as nurses, midwives, clinical officers and community health workers – to provide clinical tasks and procedures safely that would otherwise be restricted to higher level cadres. This can be a vital strategy in overcoming the shortage of doctors in many countries(11).

Vouchers: Defined as “a token that can be used in exchange for a restricted range of goods or services. Vouchers tie the receipt of cash to particular goods, provided by particular vendors, at particular times. Health care vouchers are used in exchange for health services (such as medical consultations or laboratory tests) or health care consumables (such as drugs)”(12). Voucher schemes are designed to efficiently target populations selected to benefit from the scheme. Health vouchers are seen as instruments that encourage the use of under-consumed services like family planning, treatment of infectious diseases, immunizations, mental health care, and maternal and child health services by subsidizing (fully or partially) health-care costs(12).

Executive Summary

In Pakistan, there is a clear imbalance between the population's needs and available resources to cater for spacing and limiting childbirth as desired by couples. The Pakistan Demographic and Health Survey (PDHS) 2012-13 cited a mere 26% of married women of reproductive age (15-49 years) using any form of modern contraceptives, which is one of the lowest levels of modern contraceptive uptake in the South Asian region following Afghanistan. In 2012, almost half (4.15 million) of an estimated 9 million pregnancies were unintended in Pakistan. Between 2002-2012, the unintended pregnancy rate soared from 71 to 93 per 1,000 women aged 15-49 – an estimated 54% (2.25 million) unwanted pregnancies ended in abortion, 34% (1.4 million) led to unplanned births and 12% (0.5 million) resulted in miscarriages. With the total population of Pakistan currently at 182 million, this presents a significant challenge.

In Pakistan, the public sector used to serve a significant proportion of the population. However, the private sector has progressively taken over health-care provision due to the prevailing bottlenecks in public sector – namely Access; Availability; and Quality. This is driven by lack of coverage, insufficient human resources, provider absenteeism and dual practice, poor infrastructure exorbitant informal fees and quality of care issues underpinned by lack of accountability (almost negligible monitoring and evaluation). All of this leads to low utilisation of services in the public health system.

Less than 1% of Pakistan's government expenditure on health is less than half the mean amount spent by comparison with neighbouring lower middle-income countries such as Bangladesh, India, Iran, Nepal and Sri Lanka. As a result, more than two-thirds (70%) of the Pakistani population are now paying out-of-pocket for overall health costs. Interestingly, with reference to the source of modern contraceptives in the South Asian neighbouring countries, the public sector share is more than two times higher than that of the private

sector. Likewise, both the public and private sectors also provide family planning (FP) services in Pakistan.

However, Pakistan represents a unique case in this region as the private sector has now overtaken the public sector in provision of FP services. The last three demographic surveys in 1990-91, 2006-07 and 2012-13 reported a significant decline in the public sector share of FP from 56% to 40% and then 35%, respectively. During the same period, private sector share presented an inverse reflection of the public sector and rose from 34% in 1990-91 to 42% in 2006-07, finally reaching 52% in 2012-13. This increasing reliance on the private sector is particularly prominent in rural areas where more than 30% of public sector-owned first-level care facilities are located. However, many of these facilities are not operating adequately – some of them are completely non-functional and the rest of them suffer from the non-availability of either trained staff or contraceptive commodities. It is important to recognise that both the sectors are still falling short in addressing the population's family planning needs.

The shortcomings of the public sector in providing FP services have resulted in the development of integrated health financing models exclusively used to fulfil FP service requirements. These models are driven by enhancing access, uptake and quality of FP products and services in targeted populations and areas within Pakistan and elsewhere. For example, demand-side financing (DSF) schemes that aim to improve the delivery and uptake of contraception have been tested in low- and middle-income FP2020 priority countries. (Pakistan is a signatory of the global Family Planning 2020 pledge, which is to provide services to 120 million new family planning users by the year 2020) Private sector DSF schemes incorporating FP service provision through vouchers have been shown to be effective in Ethiopia, India and Uganda, as well as Pakistan. These models work at four levels to achieve their goals: first, by improving access to FP products and services by providing either free or subsidised services; second, availability of services is enhanced by ensuring a steady supply of products; third, providers are imparted training in order to provide standardised care and ensuring quality of care; fourth, grassroots

mobilisation efforts are undertaken to motivate end users to take up the FP services and products on offer.

This thesis is guided by a central aim to increase access and utilization of modern contraceptive in the underserved Pakistan and by the research question, “What are the effects of integrated health financing models for family planning on access and uptake among married women in rural Pakistan?” Eight studies are included, each using different methodologies and presenting key findings in relation to research objectives that were to examine the determinants associated with the uptake of modern family planning/contraceptive services in Pakistan in underserved areas. They test interventions related to integrated health financing models; assess various integrated health financing models (interventions) exclusively aiming to enhance FP access and uptake among married women in rural Pakistan and drive the formulation of recommendation for the development of health financing models that promote FP access and uptake for married women

Our findings from the eight (08) papers in this thesis demonstrate that the use of integrated health financing private sector models – including: 1) targeting underserved communities through demand-side financing vouchers complemented by social franchise providers; 2) task sharing through community midwives: building public-private partnerships; 3) community health workers: connecting clients with the local facility; and 4) expanding outreach services to reach out to underserved communities – has a positive and favourable impact.

Our findings show that the provision of free contraceptives has increased through vouchers using a social franchise approach, - Intrauterine device (IUD) use by 11.8% (from 1.9% to 13.7%) and condom use by 6.0% – from 5.4% to 11.4% in the intervention group. Additionally, there was a favourable impact on IUD discontinuation rates that averaged 19% at 12 months in the post-intervention period, which is lower than the national average of 26%. A separate study testing the effectiveness of a social franchise model supplemented with vouchers reported current contraceptive usage increase of 13.7% from 34.0% to 47.7%, with a 6% increase in IUD usage in the intervention group. Furthermore, qualitative research exploring barriers to accessing post-abortion services shows that,

while seeking post-abortion care, women's decision-making is influenced by household economics, views of husbands and in-laws, restrictions on female mobility, the views of religious clerics and a lack of transport.

Given the importance of FP in reducing high fertility, it would be in the best interest of women and girls and society in general to enhance FP programmes across the country that facilitate access to modern methods of contraception, as well as access to health-care facilities for sexual and reproductive health. A reduction in high fertility not only improves the health outcomes of women and families, it also benefits a country's economy through an improvement in general health. In addition, an improvement in the ability to control fertility in Pakistan through public and private investment and cooperative effort would result in marked improvements in relation to economy, health and inequity.

In a recent evaluation, the Eastern Mediterranean Regional office of the World Health Organization (WHO) recognised the significance of the private health sector in most of the countries in its region, including Pakistan. However, due to lack of evidence it has not been possible to translate these critical attributes and the impact of private sector efforts into a knowledge-based strategy that helps to achieve public health goals in the Eastern Mediterranean Region countries such as in Pakistan.

To summarise, integrated health financing models exclusive to FP not only increase the uptake of modern FP services in underserved areas but also facilitate the long-term continuity of modern FP methods, as well as promoting method-specific switching behaviour. Such models using social franchising have a tangible effect on modern family planning uptake within communities. This in turn has a broader impact on the health of community members as a consequence of increased contraceptive use and reduced total fertility. It has been documented that the provision of evidence-based interventions and care packages especially for the rural population reaching 90% coverage (including approaches to promote post-abortion care; antenatal and postnatal care including family planning services) can contribute averting an estimated 58% of maternal, new-born and

child deaths in Pakistan, and furthermore, 49% of stillbirths could also be prevented.

Government programmes have so far not had the desired impact on enhancing contraceptive uptake. Such models should be considered for adoption into government programmes and further use in future for establishing public-private partnerships in the provision of modern family planning/contraceptive services at the community levels. Engaging private sector would have a significant impact on improving family's lives and empowering vulnerable women in Pakistan.

Samenvatting

In Pakistan is er een duidelijk onevenwicht tussen de behoeften van de bevolking en de beschikbare middelen om te voorzien in het plannen en voorkomen van zwangerschappen en bevallingen. Volgens de Pakistaanse Demographic and Health Survey (PDHS) 2012-13 gebruikt slechts 26% van de getrouwde vrouwen in de vruchtbare leeftijd (15-49 jaar) een vorm van moderne anticonceptie. Dat is een van de laagste niveaus in de Zuid-Aziatische regio, na Afghanistan. In 2012 was bijna de helft (4,15 miljoen) van de naar schatting 9 miljoen zwangerschappen in Pakistan ongepland. Tussen 2002 en 2012 steeg het aantal ongeplande zwangerschappen van 71 naar 93 per 1000 vrouwen tussen 15 en 49 jaar. Naar schatting 54% (2,25 miljoen) van de ongeplande zwangerschappen eindigde in een abortus, 34% (1,4 miljoen) leidde tot ongeplande geboorten en 12% (0,5 miljoen) resulteerde in miskramen. Met de huidige bevolkingsomvang van Pakistan van 182 miljoen vormt dit een belangrijke uitdaging.

In Pakistan gebeurde vroeger een aanzienlijk deel van de dienstverlening aan de bevolking vanuit de publieke sector. De particuliere sector heeft echter geleidelijk de gezondheidszorg overgenomen, wat te wijten is aan een aantal knelpunten in de publieke sector op het gebied van toegankelijkheid, beschikbaarheid en kwaliteit. Er is een gebrek aan dekking, te weinig personeel, een hoog absentisme bij zorgverstrekkers, slechte infrastructuur, exorbitante informele honoraria en kwaliteitsproblemen die te maken hebben met een gebrek aan verantwoordelijkheid en opvolging (bijna verwaarloosbare monitoring en evaluatie). Dit alles leidt tot een lage benutting van diensten in de openbare gezondheidszorg.

Met minder dan 1% van de overheidsuitgaven voor gezondheid doet Pakistan het minder dan half zo goed dan naburige lagere middeninkomenslanden zoals Bangladesh, India, Iran, Nepal en Sri Lanka. Als gevolg hiervan betaalt meer dan twee derde (70%) van de Pakistaanse bevolking de algemene gezondheidskosten uit eigen middelen. Opmerkelijk is dat voor moderne anticonceptie het aandeel van de publieke sector meer dan dubbel zo hoog is dan dat

van de particuliere sector in de Zuid-Aziatische buurlanden. Ook in Pakistan bieden zowel de publieke als private sector gezinsplanningsdiensten aan. Pakistan is echter een uniek geval in deze regio omdat de particuliere sector de publieke sector heeft ingehaald op het gebied van de verstrekking van geboortebeperkingsdiensten. De laatste drie demografische surveys van 1990-91, 2006-07 en 2012-13 rapporteerden een significante daling in het aandeel van de publieke sector in geboortebeperkingsdiensten van 56% naar 40% en daarna 35%. In dezelfde periode vertoonde de particuliere sector een omgekeerde beweging en steeg van 34% in 1990-1991 tot 42% in 2006-07 en tot 52% in 2012-13. Deze toenemende afhankelijkheid van de private sector is bijzonder prominent in landelijke gebieden waar zich meer dan 30% van de publieke eerstelijnsgezondheidscentra bevinden. Veel van deze voorzieningen werken suboptimaal - sommigen zijn volledig niet-functioneel en de rest lijdt onder het niet beschikbaar zijn van ofwel opgeleid personeel ofwel anticonceptiemiddelen. Het is belangrijk te erkennen dat beide sectoren nog steeds tekortschieten bij de aanpak van de gezinsplanningsbehoeften van de bevolking.

De tekortkomingen van de publieke sector in het leveren van geboortebeperkingsdiensten hebben geleid tot de ontwikkeling van geïntegreerde gezondheidsfinancieringsmodellen om aan de gezinsplanningsnoden te voldoen. Deze modellen zijn gebaseerd op verbeterde toegankelijkheid, opname en kwaliteit van geboortebeperkingsproducten en -diensten bij specifieke populaties en gebieden in Pakistan en elders. Zo werden 'demand side financiering' (DSF) systemen gericht op de verbetering van bevoorrading en opname van anticonceptie getest in Family Planning 2020 (FP2020) prioriteitslanden¹. (Pakistan is een van de

¹ Afghanistan, Bangladesh, Benin, Bhutan, Bolivia, Burkina Faso, Burundi, Cambodia, Cameroon, Central African Republic, Chad, Comoros, Congo, Côte d'Ivoire, Djibouti, Democratic People's Republic of Korea (DPRK), Democratic Republic of Congo (DRC), Egypt, Ethiopia, Eritrea, Gambia, Ghana, Guinea, Guinea-Bissau, Haiti, Honduras, India, Indonesia, Iraq, Kenya, Kyrgyzstan, Lao PDR, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mongolia, Mozambique, Myanmar, Nepal, Nicaragua, Niger, Nigeria, Pakistan, Papua New Guinea, Philippines, Rwanda, São Tomé and Príncipe, Senegal, Sierra Leone, Solomon Islands, Somalia, South Africa, South Sudan, Sri Lanka, State of Palestine, Sudan, Tajikistan, Timor-Leste, Togo,

ondertekenaars van de wereldwijde FP2020 belofte, die gezinsplanningsdiensten wil aanbieden aan 120 miljoen nieuwe gebruikers tegen het jaar 2020.) Private DSF regelingen waarin geboortebeperkingsdiensten beschikbaar gesteld werden via vouchers zijn effectief gebleken in Ethiopië, India, Uganda, en ook in Pakistan. Deze modellen werken op vier niveaus om hun doelen te bereiken: ten eerste door het verbeteren van de toegang tot geboortebeperkingsproducten en -diensten door gratis of gesubsidieerde dienstverlening; ten tweede door het verzekeren van een stabiele aanvoer van producten; ten derde door training van providers met het oog op gestandaardiseerde en kwaliteitsvolle zorg; ten vierde door het inschakelen van basisorganisaties voor het motiveren van eindgebruikers om gebruik te maken van de aangeboden diensten en producten.

Dit proefschrift gaat uit van de centrale doelstelling om de toegang en het gebruik van moderne anticonceptie in het achtergestelde Pakistan te verbeteren, en draait rond de onderzoeksvraag: 'Wat zijn de effecten van geïntegreerde gezondheidsfinancieringsmodellen voor gezinsplanning op toegang en gebruik bij getrouwde vrouwen in ruraal Pakistan?' Acht studies zijn in dit proefschrift verwerkt. Ze maken elk gebruik van verschillende methodologieën en bevatten belangrijke bevindingen met betrekking tot de onderzoeksdoelen van dit proefschrift, namelijk het onderzoeken van determinanten van opname van moderne gezinsplanning/anticonceptiediensten in achtergestelde gebieden in Pakistan. De studies testen interventies in verband met geïntegreerde gezondheidsfinancieringsmodellen, evalueren diverse geïntegreerde gezondheidsfinancieringsmodellen (interventies) specifiek gericht op het verbeteren van toegang en opname voor getrouwde vrouwen in ruraal Pakistan, en leiden tot aanbevelingen voor de ontwikkeling van gezondheidsfinancieringsmodellen die de toegang tot- en opname van anticonceptie bij getrouwde vrouwen bevorderen.

Onze bevindingen van de acht artikels in dit proefschrift tonen aan dat het gebruik van geïntegreerde gezondheidsfinancieringsmodellen in de private sector - waaronder: 1) op achtergestelde gemeenschappen gerichte DSF vouchers aangevuld met sociale franchise aanbieders; 2) taakverdeling met gemeenschapsvroedvrouwen: het opbouwen van publiek-private partnerschappen; 3) gemeenschapsgezondheidswerkers: het verbinden van cliënten met lokale centra; en 4) uitbreiden van outreach om achtergestelde gemeenschappen te bereiken - een positieve en gunstige impact heeft.

Onze bevindingen tonen aan dat de verstrekking van gratis voorbehoedsmiddelen toegenomen is door het gebruik van vouchers met behulp van een sociale franchise-aanpak – IUD-gebruik in de interventiegroep nam toe met 11,8% (van 1,9% naar 13,7%) en condoomgebruik met 6,0% (van 5,4% tot 11,4%). Bovendien was er een gunstig effect op de continuïteit van IUD gebruik (discontinuatie van gemiddeld 19% na 12 maanden in de post-interventieperiode, wat lager is dan het nationale gemiddelde van 26%). Een aparte studie die de effectiviteit van een sociaal franchisemodel aangevuld met vouchers testte rapporteerde een stijging van het anticonceptiegebruik met 13,7% van 34,0% tot 47,7%, en een stijging van IUD gebruik met 6% in de interventiegroep. Verder toont kwalitatief onderzoek ter verkenning van de belemmeringen voor de toegang tot post-abortus diensten aan dat de besluitvorming van vrouwen die post-abortus zorg willen, beïnvloed wordt door de financiële toestand van het gezin, de houding van echtgenoten en schoonfamilie, beperkingen aan de mobiliteit, de standpunten van geestelijke leiders en een gebrek aan transport.

Gezien het belang van geboortebeperking voor het verminderen van de te hoge fertiliteit, is het in het belang van vrouwen en meisjes en van de maatschappij in het algemeen om over het hele land gezinsplanningsprogramma's te bevorderen die de toegang faciliteren tot moderne anticonceptiemethoden en tot inrichtingen voor seksuele en reproductieve gezondheidszorg. Een verlaging van de fertiliteit verbetert niet alleen de gezondheidssituatie van vrouwen en

gezinnen, maar komt ook ten goede aan de nationale economie door een verbetering van de algemene gezondheid. Bovendien zou een verbetering van de mogelijkheid om de vruchtbaarheid in Pakistan te beheersen door middel van openbare en particuliere investeringen en samenwerkingen resulteren in een aanzienlijke verbetering op het gebied van economie, gezondheid en ongelijkheid.

De Eastern Mediterranean Regional office van de World Health Organization (WHO) erkende in een recente evaluatie het belang van de private gezondheidssector in de meeste landen in de regio, waaronder Pakistan. Door gebrek aan bewijs is het echter niet mogelijk geweest om deze inzichten en de impact van de inspanningen van de particuliere sector te vertalen naar een onderbouwde strategie die helpt om de volksgezondheidsdoelen te bereiken in de landen van de oostelijke Mediterrane regio.

Samengevat: integrale gezondheidsfinancieringsmodellen voor gezinsplanning verhogen niet alleen het gebruik van moderne gezinsplanningsdiensten in achtergestelde gebieden, maar faciliteren ook de continuïteit van anticonceptiegebruik en het maken van goede anticonceptiekeuzes. Dergelijke modellen die gebruik maken van sociale franchise hebben een meetbaar effect op het gebruik van moderne geboorteregeling in gemeenschappen. Dit heeft op zijn beurt een breder impact op de gezondheid van de leden van de gemeenschap, door een verhoogd contraceptiegebruik en een lagere fertiliteit. Het is aangetoond dat het verstrekken van evidence-based interventies en zorgarrangementen voor de plattelandsbevolking met een dekkinggraad van 90% (met inbegrip van benaderingen te bevordering van post-abortus, prenatale en postnatale zorg die ook gezinsplanningsdiensten omvat) kan bijdragen tot het vermijden van naar schatting 58% van de moeder-, baby- en kindersterfte in Pakistan, en dat bovendien 49% van doodgeboorten kan worden voorkomen.

Overheidsprogramma's hebben tot dusver niet de gewenste impact gehad op het stimuleren van anticonceptiegebruik. Er zou moeten overwogen worden om de bestudeerde modellen op te nemen in overheidsprogramma's en voor toekomstig gebruik in het opzetten

van publiek-private partnerschappen voor de verstrekking van moderne geboorteregelingen/anticonceptiediensten op gemeenschapsniveau. Het betrekken van de private sector zou een aanzienlijke impact hebben op het verbeteren van de levenskwaliteit van gezinnen en het empoweren van kwetsbare vrouwen in Pakistan.

Chapter I: Introduction and Background

This chapter presents a literature review on family planning (FP) in Pakistan as part of a study thesis on this subject. The purpose of this review is to help policy-makers and academicians understand the history, progress and current status of family planning in Pakistan from different perspectives related to family planning health financing. Most of the literature discussed in this document has been published from the year 2000 onwards.

Later on, this chapter provides information on the family planning landscape in Pakistan based on published papers. We used the following key words: Pakistan, family planning, health care financing, demand side financing, contraceptive, LARC, IUD, discontinuation, switching, post-abortion family planning, social franchising, task sharing.

1.1 Global situation: high unmet need and uptake of family planning

About 225 million women around the world have unmet needs for either spacing or limiting births, thus facing risks to their health and the health of their babies (13). One major pathway to better health outcomes is to reduce the high number of unintended pregnancies and unwanted births, since each pregnancy and birth carries a health risk for the mother. Particularly in areas where obstetric services are poor, maternal mortality is still high (13, 14). Family planning – especially modern methods of family planning or contraception² – are considered to be one of the most health-promoting and cost-effective activities in public health, with the potential to avert approximately 30% of maternal deaths and 10% of child deaths (14). However, there are several obstacles facing women and family planning – including lack of access to information and health services,

² Modern contraceptive methods include are oral contraceptives pills, intrauterine devices (IUDs), injectable, implants, condoms, diaphragm and jellies, lactational amenorrhea as well as male and female sterilization

opposition from husbands and lack of community support, misconceptions about side effects and prohibitive costs (15, 16).

The UN's 2010 Global Strategy for Women's and Children's Health was developed in 2010 to meet Millennium Development Goals (MDGs) 4 (to reduce the under-five mortality rate by two thirds between 1990 and 2015) and 5 (to reduce the maternal mortality ratio by three quarters between 1990 and 2015 and achieve universal access to reproductive healthcare by 2015) (17). With the MDG era having closed in 2015, the annual death toll remains unacceptably high: 289,000 maternal deaths, 2.6 million stillbirths, 5.9 million deaths in children under the age of five, including 2.7 million newborn deaths – and 1.3 million adolescent deaths (18, 19). The updated 2016-2030 Global Strategy for Women's, Children's and Adolescents' Health sets the 2030 Agenda for Sustainable Development (18, 19). It is driven by the core overarching objectives – Survive, Thrive and Transform (18, 19). This Global Strategy takes a life-course approach for every woman, every child and every adolescent and aims for the highest attainable standards of health and well-being – physical, mental and social – at every age (18, 19). This updated Global Strategy spans the 15 years of the recently formulated UN Sustainable Development Goals (SDGs) (18). With the aim of reducing global poverty, the SDGs suggest an important link between improvement in maternal health and enhanced family planning use (<http://www.un.org/sustainabledevelopment/health/>). The SDGs aim to ensure universal access to sexual and reproductive health-care services that includes family planning, information and education, and the integration of reproductive health into national strategies and programmes by the year 2030. The beneficial effect on maternal health could be achieved by family planning interventions that promote healthier birth spacing and reduce mortality and morbidity associated with pregnancy (20). However, regardless of the well-established benefits of family planning, many governments in low- and middle-income countries (LMICs) have made only restricted investments in these programmes because priority was given to donors' interests and other areas (21). Another important point is that the use of appropriate terminology is instrumental in enacting

actions that aim to improve family planning at the policy, programme and community levels. Demographic changes in the last few decades have resulted in large populations of youths worldwide, who have unique needs and priorities that are not met by a focus on family planning alone (22) . In this regard it is imperative that the use of 'contraception' as appropriate terminology should be promoted (22).

According to recent global estimates, approximately 85 million pregnancies annually – representing 40% of the total 213 million – were unintended. In addition, 50% of these unintended pregnancies ended in abortion; likewise, 38% ended in an unplanned birth (23). The contribution of modern contraception and family planning programmes to reductions in obstetric mortality and morbidity is universally acknowledged (14, 24). Modern contraceptive methods include oral contraceptives pills, intrauterine devices (IUDs), injectable, implants, condoms, diaphragm and jellies, as well as male and female sterilisation. Research has also proven that avoiding unintended and closely spaced pregnancies results in better health and less morbidity and mortality, not just for women but also for their children (25).

The second major contribution of contraception to reducing obstetric mortality and morbidity is related to its potential to diminish recourse to unsafe abortion. Research clearly shows that the poorer the women, the higher the fertility rate and the less frequent the use of contraceptives, and the less knowledge there is about contraceptive methods (26). Married women's use of contraception is 1.4 times greater in the richest wealth quintile than in the poorest quintile in countries that are less and least developed across the world. In addition, the public sector addresses more than 60% of the demand for modern contraceptives in the less and least developed countries while the rest of the burden is shared by the private sector (26).

Increased use of modern contraceptives can reduce unintended pregnancies, allowing women to plan healthier timing and spacing of pregnancies, and avoiding the dire consequences of unintended

pregnancies. Women can concentrate more time and energy on activities like raising their families, contributing to the work force and are able to increase their resilience by learning new ways of adapting their livelihoods and reducing risks from natural disasters, climate change, or other unforeseen circumstances (25, 27). Similarly, healthier children place less of a care burden on mothers, thus freeing them to spend time increasing their own adaptive capacity and reduce pregnancy-related adverse health outcomes (25, 27), as well as providing more access to education and labour market for women. An area that has received limited attention is the health effect of partner violence on the mental, sexual and reproductive health of women (28). Most data that exist are based on cross-sectional studies with inherent difficulties in establishing causal links between violence and these health outcomes. More efforts are therefore required to advance the understanding of the health effects of violence (28) .

1.2 Setting up the local context: Pakistani scenario

Over the last two decades in Pakistan, improvement in population health has been very slow (29). Being one of the most populated countries in the world, with more than 203 million inhabitants (30), most of its population still (64%) lives in rural areas (30). With an annual growth rate of 2%, Pakistan's population is growing at a faster rate than its neighbouring nations in South Asia (31). At this rate, Pakistan will become the fifth most populous country by 2050 (32).

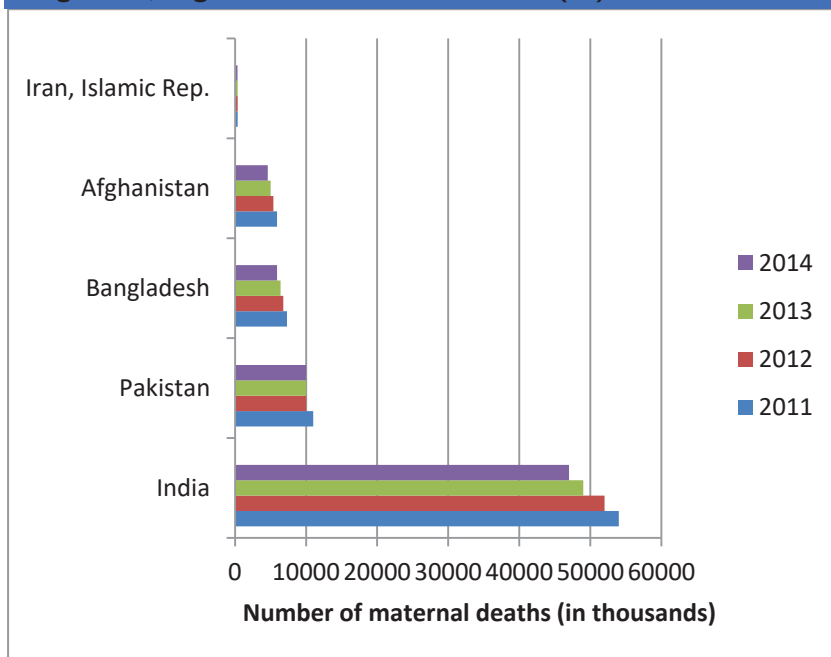
More than one-third of Pakistanis live below the poverty line (33). Since 62% of the health expenditure is out-of-pocket, this poverty directly limits access to health care and diminishes health outcomes (34). According to the available statistics, Pakistan has not met the MDGs set in 2000 and its health indicators (such as maternal and reproductive health indicators) are significantly lower than those of neighbouring countries (see Table I) (34-38).

Table 1: Maternal and reproductive health indicators – India, Iran, Pakistan and Afghanistan(34, 37-39)

Indicators	Pakistan	Afghanistan	Bangladesh	India	Iran
Total population	203 million	33.4 million	161 million	1329 million	80 million
Maternal mortality ratio (national estimate, per 100,000 live births)	184	425	188	181	26
Mortality rate, infant (per 1,000 live births)	67	68	32	39	14
Mortality rate, neonatal (per 1,000 live births)	47	36	24	29	10
Mortality rate, under-5 (per 1,000)	83	94	40	50	16
Births attended by skilled health staff (% of total)	58	39	44	49	97
Antenatal care coverage: at least four visits – (% of total)	37	23	31	45	94

For example, although it is gradually increasing, a relatively low rate of modern contraceptive use has contributed to a high maternal mortality ratio (184 deaths per 100,000 live births); infant mortality (67 per 1,000 births) as well as total fertility rates (3.8%) in Pakistan (30). The lifetime risk of maternal death is 1 in 140 – one of the highest in the South Asian region, following Afghanistan (where the maternal death rate is 1 in 52) (38). Every year 10,000 women die in Pakistan either due to pregnancy or from causes related to or aggravated by the pregnancy or its management, which is second highest after neighbouring India but well ahead of Afghanistan and Iran(34, 36) (see Figure 1).

Figure 1: Geographical trends in maternal death – India, Pakistan, Bangladesh, Afghanistan and Iran 2011-2014(34)

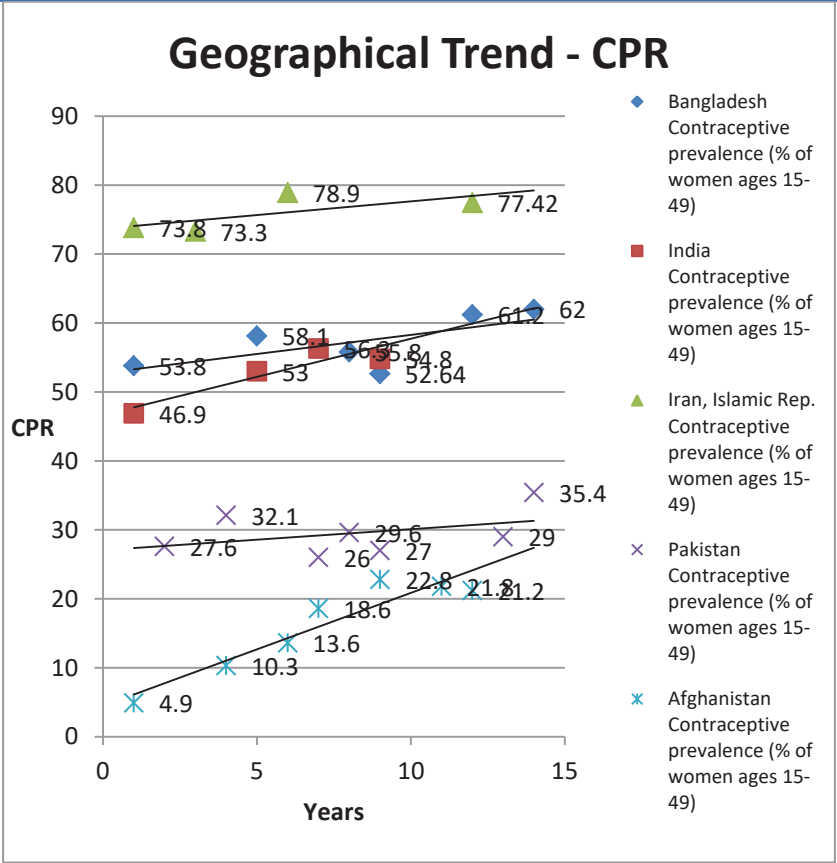


Likewise, the contraceptive prevalence rate (CPR) by any method and modern contraceptive prevalence rate (mCPR) according to reliable estimates, lies at 35% and 26% respectively, which is one of the lowest in the South Asian region following Afghanistan (CPR 21% and mCPR 19.5%) (26, 30) (see Figure 2). CPR, especially the mCPR, provides a measure of the extent to which women at risk of pregnancy and childbirth are taking steps to avoid pregnancy at a point in time. As a result of this low contraceptive prevalence in Pakistan, the unmet need for contraceptives is 20%, again one of the highest in this region (26, 30). In other words, about one-fifth of Pakistani women wish to space the next birth or limit the family to its current size but are not using contraceptives (26, 30).

The unintended pregnancy rate increased between 2002 and 2012 in Pakistan from 71 to 93 per 1,000 women aged 15-49 (40). In 2012, an estimated 9 million pregnancies were reported in Pakistan and nearly half of those (i.e. 4.2 million pregnancies) were unintended (40). Out of the total unintended pregnancies, 54% (2.25 million) ended in

abortion annually as a result of unwanted pregnancies while another 34% (1.4 million) led to unplanned births. Almost all of the abortions were clandestine, as legally abortions are only allowed if deemed medically necessary for saving the life of the mother, placing the health and lives of women at risk – an estimated 623,000 Pakistani women were treated for complications resulting from abortions (40).

Figure 2: Geographical trends in contraceptive use –Bangladesh, India, Iran, Pakistan and Afghanistan 2000-2015(34)



The Pakistan Reproductive Health and Family Planning Survey in 2012-13 also highlighted the wide gap between knowledge (99%) and practice of modern contraceptive methods (26%) among married women (30). However, on the other hand, total fertility rate has dropped from 4.1% in 2001 to 3.8% by 2012-13. This suggests an interesting trend that may be attributed to high rates of induced abortions, which might have been misused as a means of family planning to control unwanted fertility (30, 40).

Moreover, this large difference has created considerable interest in the factors that influence a couple's decision to use a contraceptive method. The most common obstacles to using contraceptives cited by women in Pakistan were their perceptions about their husband's disapproval, socio-economic factors, cultural and religious taboos and fear of side effects arising from birth control (30, 41-43).

Moreover, the reproductive health indicators demonstrate significant inequities between rural and urban populations, as well as between upper and lower wealth quintiles in Pakistan. For example, around 79% of all married women of reproductive age (15-49 years) from the poorest wealth quintile are not using any form of contraception in Pakistan (30). Almost 70% of all married women of reproductive age (15-49 years) in rural areas as compared to 55% of urban women in Pakistan are not using any form of contraception (see Figures 3a and 3b) (30).

Figure 3a: Current use of contraception (urban areas)(30, 44, 45)

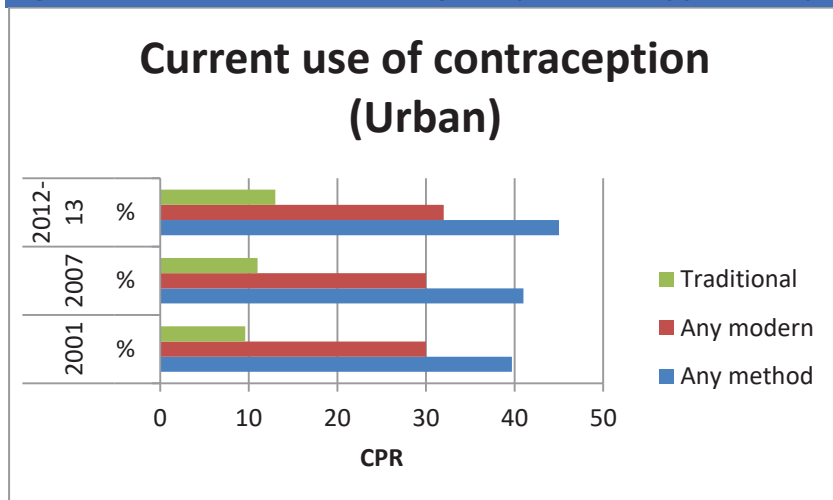
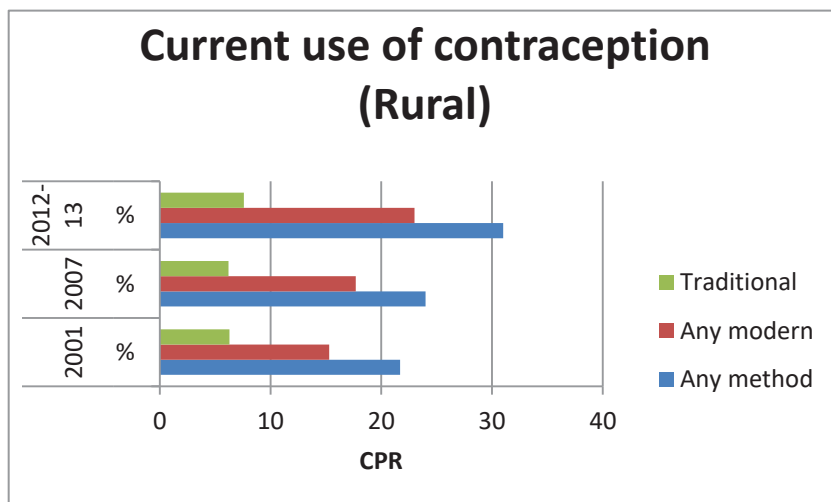


Figure 3b: Current use of contraception (Rural areas)(30, 44, 45)



The Population Policy of Pakistan proposes to address this issue and target males to educate them about the benefits of small families, and their roles and responsibility in birth spacing (30, 41).

1.3 State of the health system: Pakistan

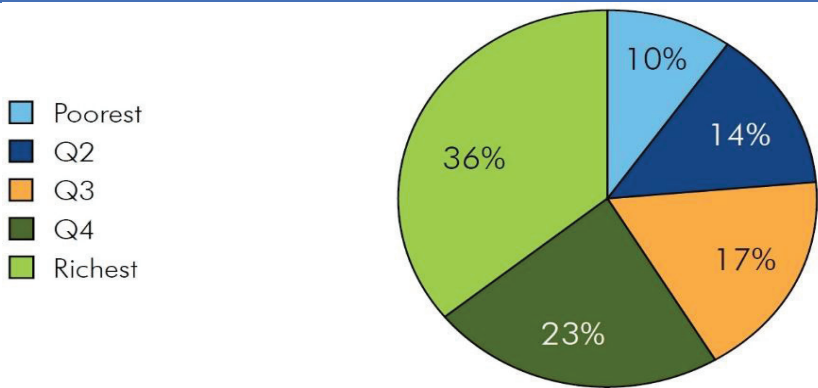
Pakistan has an underfunded and underperforming public health system compared to other countries in the region characterised by urban-rural disparities. The volume of services provided per capita is very low (46).

Health constitutes less than 1% of the total gross domestic product (GDP) of Pakistan and over 80% of health expenditure is spent on curative services (35, 47, 48). In part this reflects a lack of demand for life-saving reproductive health services and it also reflects the failure of the public sector to provide health services to the poor. Additionally, limited health funding is further aggravated by inefficient health systems that mean that the same service costs much more in the public sector than it does in the private sector.

The Pakistani population overwhelmingly depends on a private health sector financed by out-of-pocket payments (35). Approximately 73% of the population pays out-of-pocket for overall health care (35, 49). Not only this, but the private sector has a huge network of health facilities that are much larger than the public sector. For example, 93% of the total primary health-care facilities in Pakistan are owned by the private sector (73,650 private facilities vs 5,941 public health-owned facilities); 73% of all pharmacies are run by the private sector and 60% of diagnostic facilities in the country are privately owned (49). Interestingly, twice as many physicians work in the private sector in Pakistan i.e. 71% of the total physicians. Not only this but there is huge siphoning of services where a majority of the physicians working in the public sector are contracted by the private health sector, thus creating a conflict of interest situation (49). In addition, there are large disparities in out-of-pocket spending by income level (50)(see Figure 4a). Individuals in the richest quintile spend almost four (4) times more overall than those in the poorest quintile and account for almost two fifths of all out-of-pocket spending. The higher spending among those who are no poor is accounted for mostly by much higher spending on doctors and hospital fees, and medicines. Spending is also higher in Punjab and the Khyber

Pakhtunkhwa (KPK), but urban–rural disparities are small(50) (see Figure 4b).

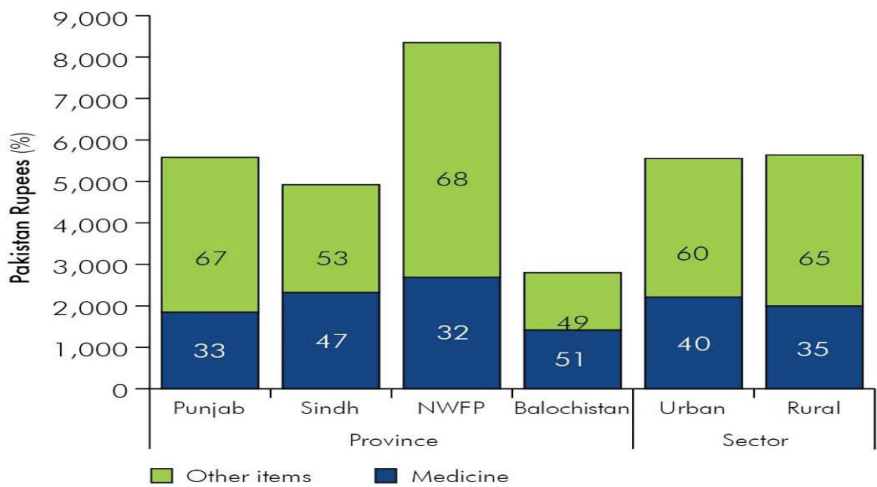
Figure 4a: Out-of-pocket health expenditure in Pakistan, by socio-economic status, 2005-2006(50)



Q = quintile

Source: Authors' analysis of PSLSMS 2006 data set.

Figure 4b: Out-of-pocket medical expenditure per capita per year in Pakistan, by province and sector, 2005-2006(50)

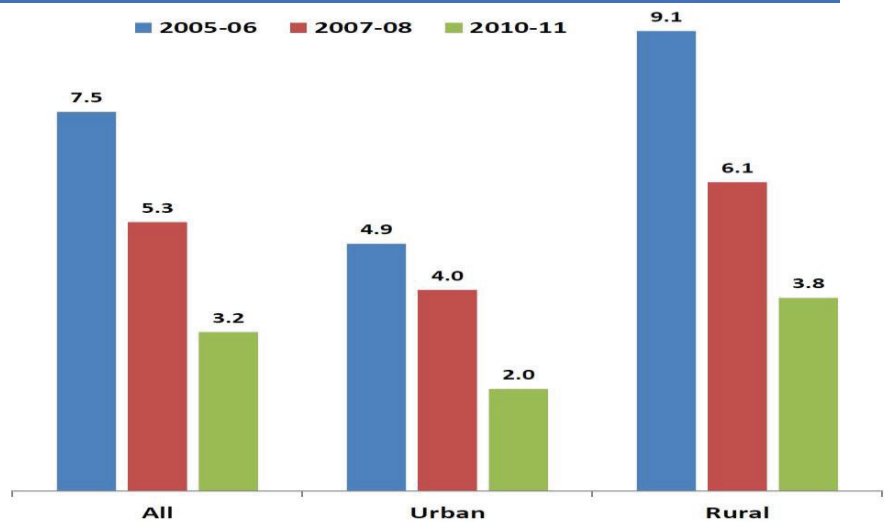


NWFP = Northwest Frontier Province.

Source: Authors' analysis of PSLSMS 2006 data set.

As described above that less than 1% of Pakistan’s general government expenditure is on health, which is less than half the mean amount spent by comparison countries such as Bangladesh, Cambodia, Egypt, India, Indonesia, Iran, Nepal, Philippines, Sri Lanka, Thailand, Uzbekistan and Vietnam (35). Only 22% of the population has health costs covered through employers or social safety nets, and 70% of economic shocks to poor households are the result of catastrophic health expenditures (35). It is important to understand here that health-care costs and poverty are significant barriers to accessing health-care services(51). In the absence of universal health insurance, health-care costs paid out of pocket place a huge burden on household resources, especially for poor households that already have very limited resources available. Health-care expenditure on long-term or chronic illnesses could be catastrophic leading to household impoverishment. Data from Pakistan Living Standards Measurement Survey (PLSM) conducted in rural and urban areas of Punjab and Sindh provinces in the years 2005-06, 2007-08 and 2010-11(51) shows that the proportion of households incurring catastrophic health-care expenditure has reduced from 7.5% in 2005-06 to 3.2% 2010-11 (see Figure 5).

Figure 5: Catastrophic health-care spending, overall and by urban/rural regions, in Punjab and Sindh (2005-06, 2007-08 & 2010-11, numbers are percentages of households)(51)



Additionally, the reduction was found to be more urban centric than rural (see Figure 5). Despite the reduction in the proportion of households incurring catastrophic health expenditure, households in rural areas are still twice as likely to incur such expenditure compared to urban households (see Figure 5).

The public health sector faces serious governance challenges, including provider absenteeism, dual practice and exorbitant informal fees (52). Public facilities routinely lack essential drugs, staff, supplies and basic equipment; their providers are unmotivated and facilities and equipment are poorly maintained (46). Patient satisfaction and confidence is low in the public sector, which is widely seen as corrupt.

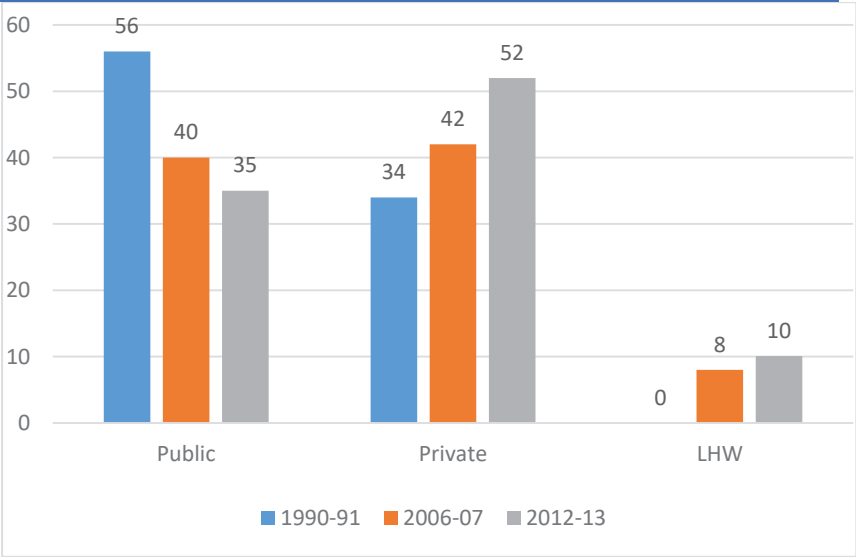
Compared to other countries in the region, public preventive services are underutilised and consumers report their quality to be unsatisfactory (35). In fact, 70% of the population does not regularly seek publicly provided preventive care, preferring to wait until they are in need of curative care, which they seek from private sector providers (35). Outreach services to increase demand for public preventive services are limited. Although antenatal care coverage (ANC) increased between the periods 1990-91 to 2012-13 (from 14% to 37%), the uptake is still considered particularly low at 37% in the year 2012-13 as compared to neighbouring India (45%) and Iran (89%)(36).

Interestingly, with reference to the source of supply of modern contraceptives in the South Asian region, the public sector share is more than two times higher than that of the private sector (26). Both the public and private sectors (see Box 1 for details on public and private sectors) provide family planning services in Pakistan. However, Pakistan represents a unique case in this region.

Although the public sector remains one of the largest providers of modern contraceptive services (35%), the gap between the public and private sector's distribution of share narrowed very rapidly between the periods 1990-91 to 2012-13 (see Figure 6). The private sector, on the whole, is currently providing more than 52% of FP services in

Pakistan and its contribution towards FP services and products is increasing (26, 30).

Figure 6: Increased sources of modern contraception – Pakistan 1990-91, 2006-07 & 2012-13)(30)



*** Public includes:** Public government hospital (RHSC), rural health centre, Family Welfare Centre (FWC), Mother Child Health Centre (MCH), Lady Health visitor and Basic Health Unit & Other public.

Private includes: Private/NGO hospital/clinic, private pharmacy, chemists, private doctor, dispenser/compounder, other private. Shop, friend/relative, Hakim, Dai, TBA and other

LHW: Lady Health Worker Programme, Ministry of Health

Box 1: Health sectors in Pakistan

Public sector: It includes two ministries: Ministry of Health and Ministry of Population Welfare. The majority of the services are provided for free, including some commodities such as medicine, contraceptive products etc.

- Public government hospital (RHSC), Ministry of Population Welfare
- Rural health centre, Ministry of Health
- Family welfare centre (FWC), Ministry of Population Welfare
- Mother-child health centre, Ministry of Health
- Lady Health Worker programme, Ministry of Health
- Lady Health Visitor, Ministry of Population Welfare
- Basic health unit, Ministry of Health

Private medical sector: The private sector operates through two (02) approaches – first, for-profit and second non-profit. The majority of the for-profit private sector operates on out-of-pocket expenses by the clients or limited insurance companies mainly working in urban cities. The funding for non-profit is mainly derived from internal and local donors.

- Private/NGO (for-profit and non-profit) hospital/clinic
- Private pharmacy, chemist
- Private doctor
- Dispensary/compounder
- Shop
- Friend/relative
- Hakim
- Dai/traditional birth attendant

Another important aspect that might play a significant role in increasing the private sector-led dependency on health services is the considerable difference between the quality of health-care services delivered by the public and private sectors (53). A recent systematic review comparing private and public health-care services in LMICs found that the private sector is performing better in terms of improved access and delivery of care, more client-oriented services and availability of medicine, including receptiveness (54). In addition, a growing body of literature from Pakistan, India and Bangladesh report that non-governmental organisations (NGOs) performed better when they had similar resources to their public sector counterparts (49, 53). For example, Bangladesh which got its independence from Pakistan in 1971 has one of the one of the lowest TFR (2.3%) and highest CPR (62%) among other South Asian countries, despite starting from a very low rate of about 8% shortly after the

independence(39, 55). This was only possible due to a strong political-will, focus to reduce illiteracy and through multiple public-private collaborations (Refer to Box 2).

1.3.1 A shifting system - Everybody's business is nobody's business

Two ministries manage health issues in Pakistan: the Ministry of Health, which takes care of preventive and curative care; and the Ministry of Population Welfare, which covers family planning and reproductive health. This results in the duplication and overlap of services, with limited complementarity. More than 5,000 primary care facilities of the health department and nearly 3,000 facilities of population department are mandated to offer a full range of FP services, but the quality and responsiveness are questionable(56). Moreover, health and population policies are not integrated and function in silos. The last health policy was enacted in 2001, and a separate population policy was formulated in 2002. Both ministries were unfortunately abolished with the constitutional reforms and government decentralisation in 2011, leaving a vacuum and state of uncertainty in planning, financing, execution and regulation. Provinces were given a great deal of autonomy to steer their respective health matters(56). But this devolution severely affected the national family planning policy stance due to the provinces' lack of interest in this important matter. The presence of a national family planning programme and policy could have led to achieving MDG target 5b (57); nonetheless, implementation might have been difficult due to the limited ownership of provinces (35).

Although the government's FP programme has been widely supported by bilateral and multilateral donors and the NGO sector, there have been critical pitfalls in the service delivery, supply chain and record keeping. Above all and due to the lack of leadership at the population welfare departments, it was not possible to make the FP programme dynamic and responsive to the needs of clients. In addition, no tangible solutions were developed by the population ministry to overcome the problem of low contraceptive access and use, which was created by religious misinterpretations combined with

cultural and social barriers (58, 59). Realising the need, the Government of Pakistan re-established the federal tier of health with the Ministry of National Health Services, which primarily serves the role of coordination and regulation between the two ministries, vertical programmes etc. A recent evaluation from Pakistan exemplifies the role of the private sector in terms of improving family planning services as part of maternal health care. Under a public-private partnership called the President's Primary Health Initiative (PPHI), 80% of the Basic Health Units (BHUs) – the basic primary care unit in Pakistan – were contracted out to a private sector-led NGO, the Rural Support Programme (RSP). The evaluation, which was conducted in 2011, yielded the positive effects of this intervention, citing better management, increased access, improved drug availability and community engagement at the private sector administered BHUs compared to the government administered BHUs (60). The health-care system in Pakistan has suffered a lot, not only due to organisational disintegration, insufficient resources, and lack of efficiency and limited functional specificity, gender insensitivity and inaccessibility but also due to internal law and order, as well as economic and socio-political volatility. Pakistan has been ranked as the 13th most fragile state on the global map by the Fund for Peace, creating additional pressures on an already struggling health-care system (61).

However, a few public-private or private-public partnership pilots have shown some remarkable accomplishments. The challenge is in instituting public-private partnerships that reform the public health sector drawing on successful private sector approaches, which are essential for any meaningful improvement in FP service delivery through the public sector (46). Incorporating successful private sector-led interventions into the public sector entails creating an enabling environment within the public sector for acceptance and adoption of approaches that promote FP services in Pakistan. Greater acceptance of private sector-based approaches within the public sector will be a gradual process. Advocating this approach should take this factor into account, highlighting the advantages of adopting private sector-based approaches and providing solutions for any

perceived disadvantages or bottlenecks. Nonetheless, whatever approaches or initiative taken by the private sector or by any other partnership model cannot stand alone provide a long-term solution and sustainable contribution to general health or family planning services as compare to the public sector potential which can rapidly adapt to evidence based decision programming and policy and reach the most underserved. However, it requires some bold-steps such as the utmost political-will; pragmatic allocation of funds as well as human resources for health and family planning services; integration of health and family planning and an uninterrupted long-term plan which is protected by the constitution and not affected by any change in political canvas.

BOX 2: Success of the Bangladesh family planning programme:

Bangladesh is the most densely populated country in the world and according to the latest estimates from 2016 reported by the Population Reference Bureau, the population of Bangladesh is 161 million. In 1901, the area that is now Bangladesh supported a population of roughly 25 million and population growth was negligible. By the late 20th century, due to a steep post-WWII mortality decline, population growth exploded, and by the beginning of the present century, at least a 100 million had been added². The poverty rate is highest in rural areas, at 36%, compared with 28% in urban areas. With the help of international development assistance, Bangladesh has reduced its poverty rate from over half of the population to less than a third, achieved Millennium Development The national family planning programme was initiated as a response to this rapid population growth, and fertility has been falling rapidly since the early 1980s. This fall has not been steady or even. The 1980s saw a steep decline in total fertility rate (TFR) from 6.5 to 3.3 by the early 1990s. This was followed by a decade-long plateau which was the consequence of a 'tempo effect'³. The adoption of FP by Bangladeshi couples has always been after the first birth. The age at marriage did not change and there was no delay in age at first birth, and as such, no tempo effect was operating on first births. The 2004 Bangladesh Demographic and Health Survey (BDHS) showed the first nine percent reduction in fertility (TFR of 3.3 to 3.0) for a decade. The 2011 BDHS confirmed a further decline in TFR to 2.3 children per woman². Now, however, fertility levels are quite uneven - remarkably low in the west of the country (below replacement, on average) and worryingly high in the east (up to 1.5 children above replacement), they are still lower than many countries in South Asia. With a Contraceptive Prevalence Rate (CPR) of 62%, Bangladesh has one of the highest rates among South Asian countries, despite starting from a very low rate of about 8% shortly after the independence (1971)¹. This has been possible in spite of widespread poverty, illiteracy, early marriage, and various social taboos. Bangladesh's significant progress in CPR largely comprises of the short term methods, which are vulnerable to high failure risks and can be easily reversed and discontinued. The reduction and plateauing of TFR gives rise to the question of efficiency of family planning interventions. Besides, there seems to be service inefficiency and a trend of over-reporting of FP uptake. The Bangladesh Demographic and Health Survey (BDHS) indicate that the uptake of LAM and Long Acting and Reversible Contraceptives (LARC) is low as a proportion of CPR in Bangladesh. Although there is huge investment in family planning, the current trend makes it very thinly spread across a large population. Nonetheless, the uptake of LARC by public facilities as opposed to the private hospitals is high. Currently the discontinuation rate, within a year of adoption, is about 30%. The discontinuation renders the investments in adoption a waste. Over a quarter of pregnancies/births tend to be unintended. Less than one million induced abortions took place in 2010 in public health facilities. The recent plateauing of the TFR raises caution for the policy makers. It indicates areas of problems that need to be addressed, including: Unmet need; Early marriage and childbearing; Low performance regions like Sylhet, Chittagong and Dhaka divisions; Pockets of hard to reach areas where service accessibility is limited and Lack of well-defined service delivery network in urban areas. Bangladesh has largely overcome the barriers posed by illiteracy and low level of awareness, religious preferences, and poverty. Although there is great potential to accelerate the family planning adoption in the future, there are "issues" that pose barriers to entry for the clients, and obstacles for the supply side. For example, policy ambiguities on the part of government may be contributing towards stagnating TFR reduction. While those involved in the FP field seek to enhance the CPR, some policy makers are in favor of maintaining the current rate in order to take advantage of the phenomenon of demographic dividend.

Source: ¹ Population Reference Bureau. World Population Data Sheet 2016. Washington: Population Reference Bureau, 2016. [cited November 16, 2015]. Available from: <http://www.prb.org/pdf16/prb-wpds2016-web-2016.pdf>. ² Kamal N. Population trajectories of Bangladesh and West Bengal during the twentieth century: A comparative study. London School of Economics and Political Science; 2008. [cited November 28, 2016]. Available from : <http://etheses.lse.ac.uk/2342/1/U615290.pdf> ³ Bongaarts J. and Feeney G. On the Quantum and Tempo of Fertility. Population Development Review 1998; 24(2): 271-91.

1.4 Overview of population characteristics and contraceptive use in Pakistan

In addition to an increasing population, Pakistan has less than desirable health indicators (see Table 2). Nearly 10,000 women die every year from preventable pregnancy-related complications such as postpartum haemorrhage, puerperal sepsis and eclampsia (45). The country's high fertility rate is one of the major contributors to this situation, since the mortality rate has been fairly stable over the years (45).

Table 2: Key demographic and health indicators of Pakistan
Key Indicators(30, 34, 36)

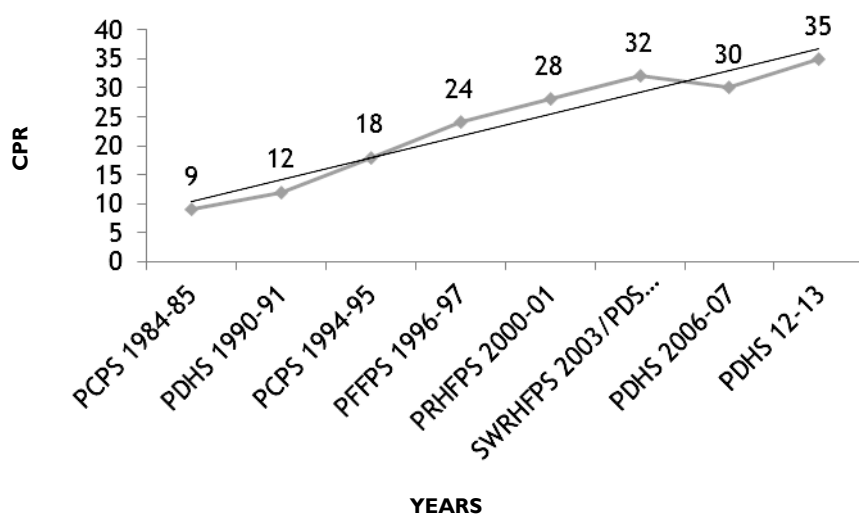
Pakistan population	203 million
Female population 2012-13	91 million
Women of reproductive age (15-49) years	46 million
Married women of reproductive age group	30 million
Women's median age at first birth	22 years
Total Fertility Rate (TFR)	3.8
Maternal Mortality Ratio (MMR)	184 per 100,000 births
% Contraceptive Prevalence Rate (CPR)	35
% of any modern contraceptive use	26
% of unmet need for family planning (spacing + limiting)	20

Over the last three decades, efforts have been made to promote family planning in Pakistan. Through different government initiatives, a significant increase in contraceptive prevalence rate (CPR) has been noted between 1994 and 2000 (see Figure 7).

However, since then, CPR has been stagnant with no significant increase. As a result, the reduction in total fertility rate in Pakistan is slow (30, 45) while neighbouring countries were able to considerably increase their respective CPR over the same period (India – 54%;

Bangladesh – 62%; and Iran – 82%) (62). Demonstrated political will and support has been instrumental in these countries where FP programmes were successfully implemented. This favourable climate has created enabling environments for FP that has transformed into effective services while shaping policies into favourable public perceptions for FP reflecting the government’s will on FP (63).

Figure 7: Trends in contraceptive use in Pakistan 1984-2013(64)



1.4.1 Pakistan fertility goals and current contraceptive use

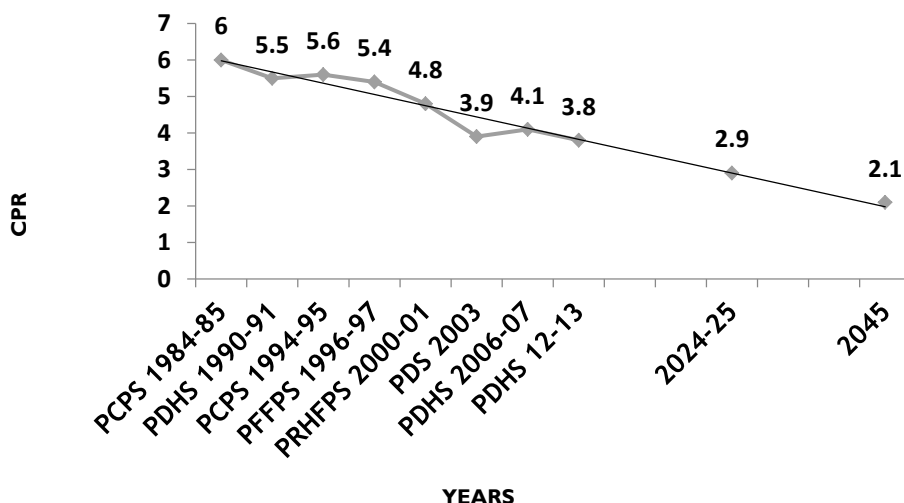
Pakistan is a signatory of the global FP2020 pledge, which is to provide services to 120 million new family planning users by 2020(65). As part of this pledge, Pakistan is committed to increasing its contraception prevalence rate (CPR) from about 35% to 55%, (of which it is assumed that the share modern methods would be 46%, if the traditional methods were to remain at 9%) and reducing its total fertility rate (TFR) from 3.8 to 2.6 (see Figure 8) by 2020 (66). It also plans to achieve substitute fertility levels³ by 2045 (66).

In order to reach mCPR of 46%, a 20% increase is required to meet this FP2020 commitment. The present population of married women of reproductive age in Pakistan is 31 million. So the population of MWRA is estimated to increase by 3 million by 2020 and the addition of 7 million FP users is required to mCPR commitment by 2020 (from the current 8 million FP users to 15 million by 2020).

However, these targets appear increasingly difficult to achieve based on the trends observed in recent decades (see Figure 8). Reaching these targets is becoming more challenging as about 21% of the population is currently between the ages of 15-24 years (67, 68).

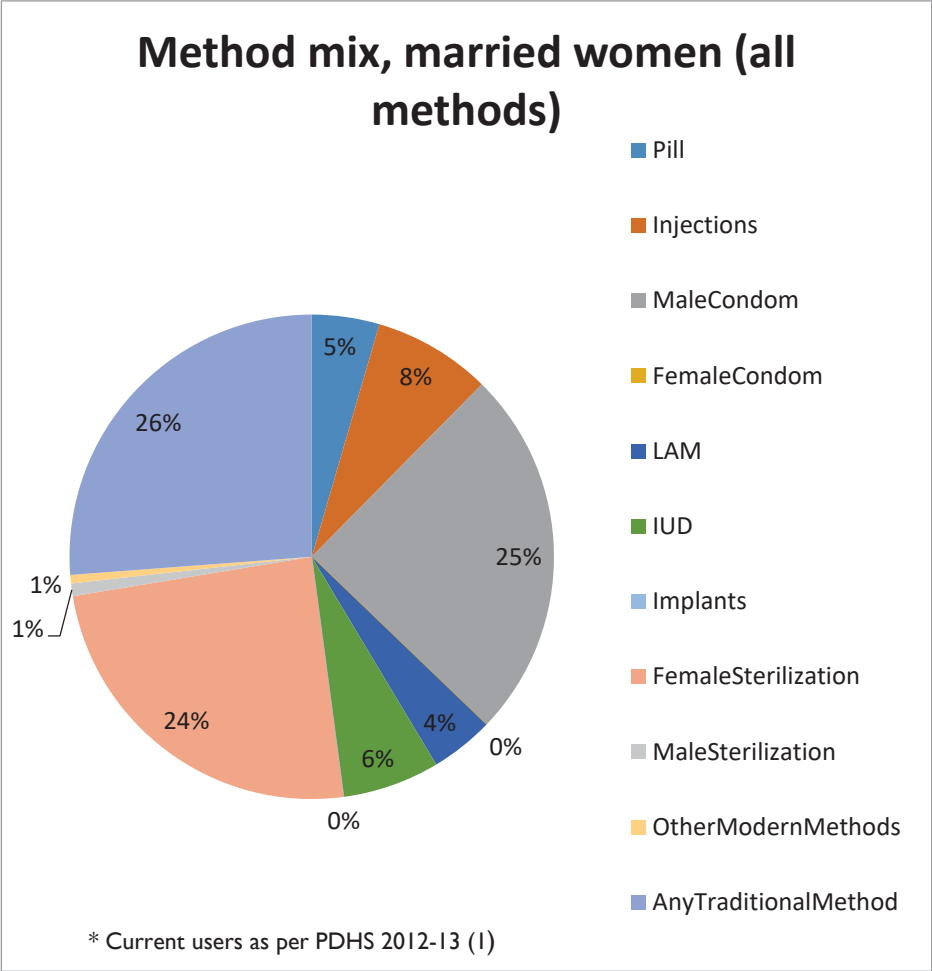
³ Commonly known as 'replacement fertility rate', this is the number of children each woman needs to have to maintain current population levels, or what is known as 'zero population growth' for her and her partner.

Figure 8: Trends of total fertility rates(64)



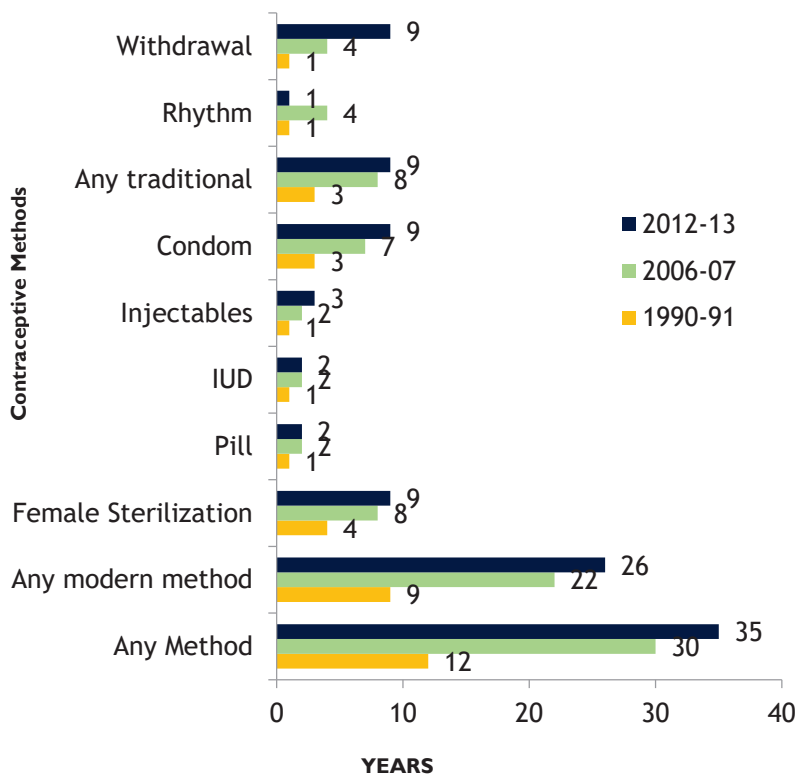
More than half of Pakistani women enter into marriage before they are 20 years old and one-third get married before the age of 18. The median age at which women in Pakistan have their first baby (22) has stayed stagnant since the 1990s (30, 44). Meanwhile the country's TFR has decreased to 3.8 in 2013 from 5.5 in 1990, indicating a nearly 30% reduction (30, 44). Moreover, the data shows that, for every four children born to a woman, about one pregnancy is unplanned, indicating a probable need for FP/reproductive health (RH) services targeting couples with unmet need for family planning (45). The country's current CPR stands at 35%, as reported by the Pakistan Demographic and Health Survey (PDHS) 2012-13 (30). About 26% of couples in Pakistan use a modern contraceptive method (see Figure 9), while 9% use traditional methods, as shown in Figure 9 (30). The increase in CPR is estimated to be less than 1% per annum, according to the PDHS 2006-07 and 2012-13 (30, 45). In addition, there is a significant disparity in the use of contraceptives between urban and rural populations, especially in the Sindh and Khyber-Pakhtunkhwa (KPK) provinces (30).

Figure 9: Contraceptive method-mix, current(30)



Among the method-mix comprising short-term, long-term and permanent methods, female sterilisation, condoms and withdrawal (see Figures 9 and 10) are the predominantly used methods (30, 44, 45). Moreover, there is a constant increase in the predominantly used methods other the years. The use of long-term methods such as IUDs, injectable, implants and male sterilisation leaves a lot to be desired. For example, the modern CPR rose from 20% (1990-91) to 22% (2006-07), achieving the highest rate of 26% in 2012-13.

Figure 10: Contraceptive method-mix, over time(30)



The major contributor among the contraceptive method mix is the use of traditional methods, which has jumped from 3% in 1990-91 to 8% in 2006-07 to a current 9% in 2012-13, leaving behind the leading modern contraceptive methods such as condom (9%) and female sterilisation (9%) by 2012-13. In addition, Pakistan shows very little uptake of long-acting reversible contraceptive methods such as intra-uterine devices (IUD) (2.3%) while short-term (condoms) and permanent (female sterilisation) methods have greater take up. In the rural areas of Pakistan, where nearly two-thirds of the total population lives, the overall CPR is 30.7% while the current modern method use is only 23%, which is three percentage-points lower than the national modern method prevalence. Likewise, women from the poorest households have the lowest mCPR (18% in the lowest to

31.6% in the highest wealth quintile.) Similarly, women with no education are less likely to use contraception (see Table 3).

Table 3: Contraceptive use by region, urban/rural status, wealth quintile, number of living children and education (%) (30)

Background Characteristics	Modern methods											Traditional methods			
	Any method	Any modern method	Female sterilization	Male sterilization	Pill	IUD	Injections	Implants	Condom	LAM	Other	Any traditional method	Rhythm	Withdrawal	Other currently using
<i>Residence</i>															
Urban	44.8	32	9.6	0.4	1.5	2.6	2.5	0.1	14.8	0.6	0	12.8	1	11.7	0.1
Rural	30.7	23.1	8.2	0.2	1.6	2.2	2.9	0.1	5.8	2	0.2	7.6	0.5	6.9	0.2
<i>Region</i>															
Sindh	29.5	24.5	9.7	0.1	1.8	1.2	3.3	0.2	8	0.2	0.1	5	0.1	4.8	0.1
Khyber Pakhtunkhwa	28.1	19.5	2.4	0	2.7	1.5	5.2	0	7	0.6	0	8.6	0.3	8.1	0.2
Balochistan	19.5	16.3	4	0	2.4	2.1	1.7	0.3	3.7	2	0.1	3.1	0.1	3	0.1
Punjab	40.7	29	10.2	0.4	1.1	2.9	2	0	9.9	2.3	0.2	11.7	1	10.6	0.1
Gilgit Baltistan	33.6	28.2	4.6	0.6	3.7	8.4	6.6	0	3	1.4	0	5.4	0.5	4.9	0
Islamabad (ICT)	59.4	44.1	10	0.1	1.8	4.6	1.6	0.1	24.9	0.8	0.1	15.4	2.4	12.9	0
<i>Number of living children</i>															
0	0.9	0.6	0	0	0	0.2	0	0	0.4	0	0	0.3	0	0.3	0
02-Jan	28.8	18.1	1.1	0	1.2	0.9	2.3	0	10.5	1.9	0.2	10.7	0.7	10	0
04-Mar	46.4	35.2	11.8	0.5	2	3.8	3.5	0.2	11.8	1.7	0.1	11.2	0.7	10.2	0.2
5+	47.6	37.4	17.7	0.4	2.4	3.3	3.8	0	7.9	1.7	0.2	10.2	0.8	9.2	0.2
<i>Education</i>															
No education	30.2	23.4	9.6	0.2	1.5	2.2	2.9	0.1	5	1.9	0.1	6.8	0.5	6.1	0.1
Primary	40.8	28.8	9.1	0.6	1.5	2	3.2	0	10.5	1.5	0.3	12.1	0.9	11.1	0.1
Secondary	42.6	30.4	7.1	0.3	2	2.7	2.7	0	14.6	0.9	0.1	12.2	0.9	11.2	0.1
Higher	43.8	29.7	4.9	0.2	1.3	2.6	1.6	0.2	18.1	0.9	0	14.2	0.6	13.5	0
<i>Wealth quintile</i>															
Lowest	20.8	18.1	7.5	0.4	1.6	1.2	2.3	0	1.4	3.6	0.1	2.7	0.2	2.5	0
Second	29.7	22.9	7.8	0.1	1.7	2.3	3.8	0.1	4.8	2.1	0.2	6.7	0.5	6.1	0.1
Middle	38.2	26.9	9.5	0.2	1.1	2.9	3.4	0.1	8.4	1.1	0.2	11.2	0.8	10.1	0.3
Fourth	41.5	30.3	9.1	0.2	2.3	2.4	2.9	0	13	0.4	0.1	11.2	0.9	10.2	0.1
Highest	45.8	31.6	9.3	0.4	1.2	2.7	1.4	0.1	15.7	0.6	0.1	14.2	0.8	13.3	0
Total	35.4	26.1	8.7	0.3	2	2.3	2.8	0.1	8.8	1.5	0.1	9.3	0.7	8.5	0.1

In addition, there is a stark disconnect between the type of contraceptive method being used and the purpose behind it. According to the PDHS 2012-13, among couples using any form of contraception, 74% use it to limit the number of children they have (see Figure 11b); the remainder use it to space births (26). Of the women using contraception in Pakistan, only 30% are using long-acting or permanent methods, while 70% opt for short-term methods (see Figure 11a). One may infer that short-term methods are being used to limit fertility, meaning that families are not using the most suitable method for limiting the number of births, as shown in Figure 11b.

Figure 11a: Type of method used for contraception (%) (30)

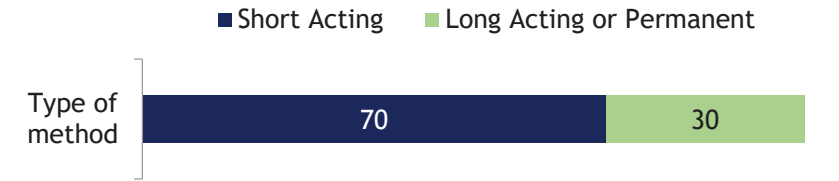
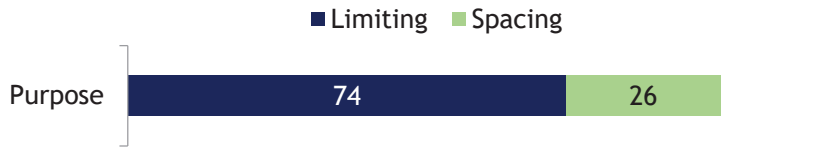


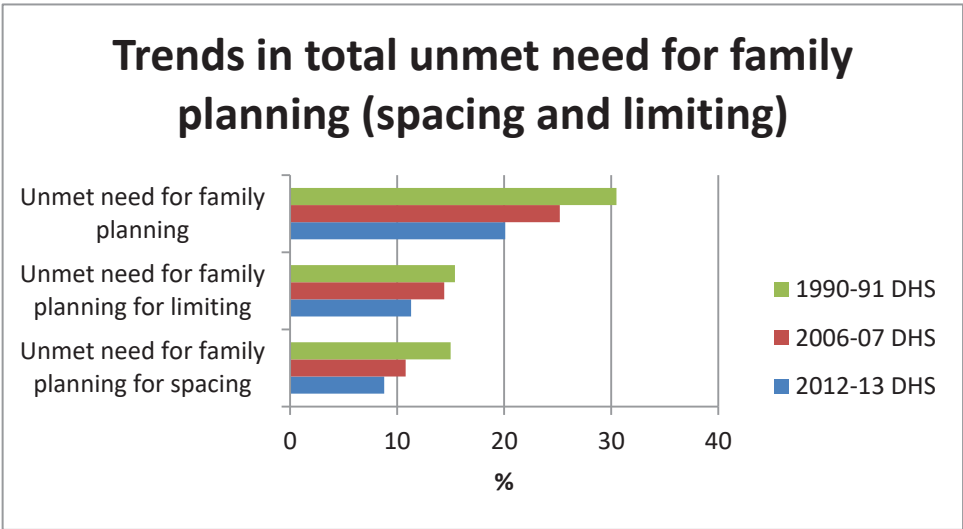
Figure 11b: Purpose of using contraception (%) (30)



I.4.2 Unmet need for family planning in Pakistan

As well as a stagnated contraceptive use, the unmet need for family planning in Pakistan is among one of the highest in the region. Women and girls have an unmet need for family planning when they are sexually active and wish to avoid a pregnancy completely, or space or limit future pregnancies, but are not using a modern method of contraception. The unmet need for family planning has decreased from 25% in 2006-07 **(45)** to 20% in 2012-13 **(30)**, but this is still unacceptably high (see Figure 12)

Figure 12: Trends in unmet need for family planning(30, 44, 45)



As per the PDHS 2006-07, for women who are up to 24 months postpartum, unmet need for FP is 59%; whereas only 26% are using any form of FP. From 0–5.9 month’s postpartum, unmet need is even higher, at 73%. According to the World Bank data, self-reported exclusive breastfeeding till six months in Pakistan is 38% (69). Exclusive breastfeeding when practised correctly has a 98% effectiveness rate in preventing pregnancy up to six months postpartum (70) Among women who are up to 24 months postpartum, 32% are using condoms, 12% are using injectable, 9% are

using pills, 7% are using sterilisation, 6% are using IUDs and 33% are using traditional methods (45). Furthermore, 19% of married women have expressed the wish to delay their next birth, while 42% do not want to have another child, indicating high levels of unmet need for contraception. As with contraceptive use, significant disparity exists in unmet need between women belonging to the highest and poorest wealth quintile and between rural and urban geographic settings (30). According to the latest nationally representative estimates, 7 million women of reproductive age in Pakistan have an unmet need for family planning (30).

1.4.3 Key determinants of family planning uptake in Pakistan

According to the latest demographic survey(30), the key determinants of family planning/contraceptive services uptake in Pakistan are knowledge, levels of education, parity (number of living children), socio-economic status (wealth quintile) and place of residence. Same survey further elaborates about these determinants as follows:

Knowledge: The “Knowledge of contraception is universal in Pakistan” and is the key finding that the chapter on family planning of PDHS 2012-13. More than 96 percent of currently married men and women have heard of at least one method of contraception. More than 80 percent of women have heard of female sterilization, IUCD, injectable and the pill; two-thirds have heard of withdrawal and LAM; close to half have heard of male sterilization and rhythm method; a third have heard of implants’ and only a quarter of women about emergency contraception. Unfortunately, it does not translate into practice and use of modern family planning methods limits to 26%.

Education: Universally, the contraceptive use has a positive association with education and the uptake increases with level of education especially girls/women education. According to the PDHS 2012-13, CPR in Pakistan increases from 30% among women with no education to 41% among women with a primary and middle-level education and 44% among women with a secondary or higher education.

Place of residence: Married women living in the urban areas are reported more likely to use contraception (45%) than their rural counterparts (31%). More than twice as many urban women (15%) as rural women (6%) use condoms.

Wealth of socio-economic status: Wealth also has a positive association with women's contraceptive use. The CPR increases as household wealth increases, from 21% among women in the lowest wealth quintile to 46% among women in the highest quintile.

Parity: The latest PDHS 2012-13 reported a strong positive association between use of family planning methods and number of children. Only 1% of women with no living children use contraception. This percentage increases sharply to 29% among women with one or two children, rises to 46% among women with three to four children, and peaks at 48% among women with five and more children.

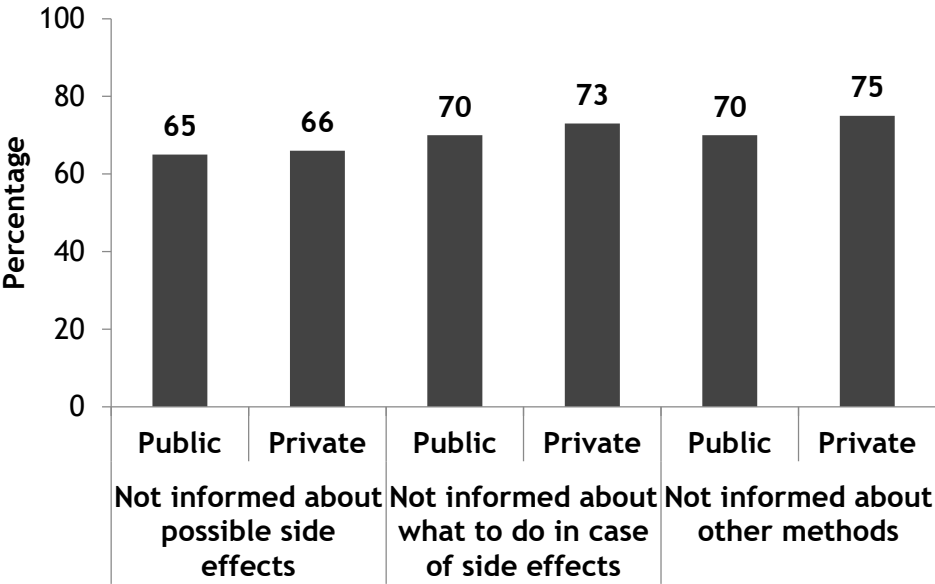
1.4.4 Barriers to family planning in Pakistan

Barriers to accessing FP exist both at the provider level as well as at the user end. Elaborating on supply side barriers, Bertrand et al describe access to FP, quality of care and medical barriers to services as key factors influencing the adoption of contraceptive use (71). Literature on access to FP does not limit it to physical access only, but also includes geographical and physical, economic, administrative, cognitive and psychological accessibility as well (71). Poor quality of care is another critical area that numerous studies have linked to low contraceptive uptake (72). The Bruce-Jain framework (developed in 1990) is often considered the central paradigm for quality in international family planning. It defined quality as “the way individuals and clients are treated by the system providing services”), providing an FP quality paradigm that includes six elements: choice of methods; technical competence; information given to clients; inter-personal relationships; mechanisms to ensure follow up and continuity; and an appropriate range of services (73).

The demand-side barriers to unmet need for family planning at the individual, family or community levels can be attributed to low

perception of risk, fear of side effects and health concerns and opposition or unfavourable opinion among women, their husbands, families and communities (74, 75). Although no empirical evidence exists, but some limited data suggests that the quality of general health care provided at private facilities is better than that at public facilities (76) including family planning but validity of such data still questionable (77, 78). However, some indicators such as counselling information about side effects and choice of method are still sometimes not addressed adequately even in the private sector. It has been reported earlier that two-thirds of the women are not informed about possible side effects while an even greater number of women are not informed about what to do if they experience a side effect (30). And, importantly with regard to choice, 70% of the public sector and 75% of the private sector clients are not informed about the wide range of contraceptive methods available, as seen in Figure 13 (30).

Figure 13: Informed choice(30)



Similarly, the data from verbal autopsy from Pakistan also displayed signs of poor quality and provision of care especially when people reached the public or private facilities (79). This has been identified as the main as well as consistent type of delay in all categories of maternal, new-born, and child deaths, emphasising the need to strengthen health systems strengthening and improving the standards of the quality of care (79).

Heavy reliance on less effective contraceptive methods (short-term and traditional) and poor quality of information provided to the clients result in a high first-year method discontinuation of 37% (30). Method-wise, discontinuation rates are presented in Figure 14. The highest discontinuation rate is seen with injectable (61%), followed by the pill (56%). In contrast, the IUD was the least discontinued with 25%. Even more important to note is that, of the women who discontinue one method, very few switch to another method. The switching rates⁴ after discontinuation are: injectable (17%), pill (14%), IUD (9%), LAM/Implant (7%), condom (6%) and withdrawal (4%). On the contrary, other studies show lower IUD discontinuation among IUD users, which may be attributed to better quality family planning services (80).

Side effects are reported as the main reason for discontinuation for the majority of modern contraceptives such as IUD (64%), injectable (53%) and pill (45%), whereas pregnancy desire was the main reason for discontinuing withdrawal (47%), condom (44%) and LAM/implants (27%). Importantly, a higher percentage of women reported becoming pregnant while using condoms (20%) and withdrawal (25%) method compared to other methods (see Figure 15).

⁴ 'Switching' is defined as adopting another contraceptive method within two months of discontinuation.

Figure 14: Contraceptive discontinuation at 12 months by method(30)

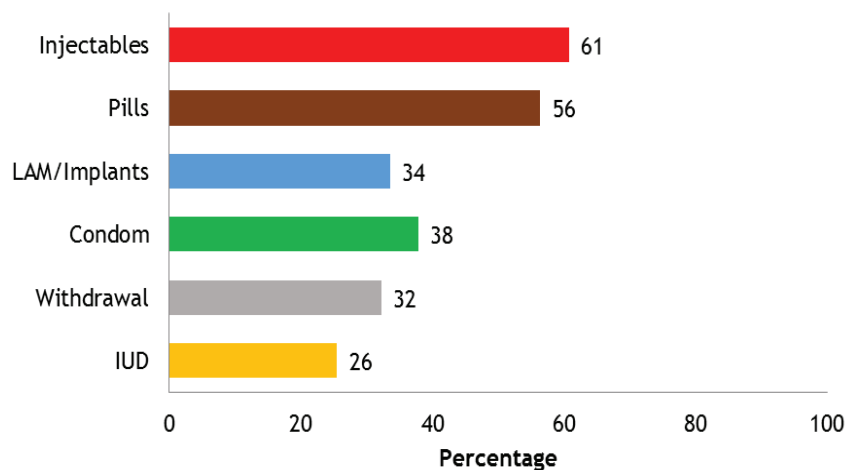
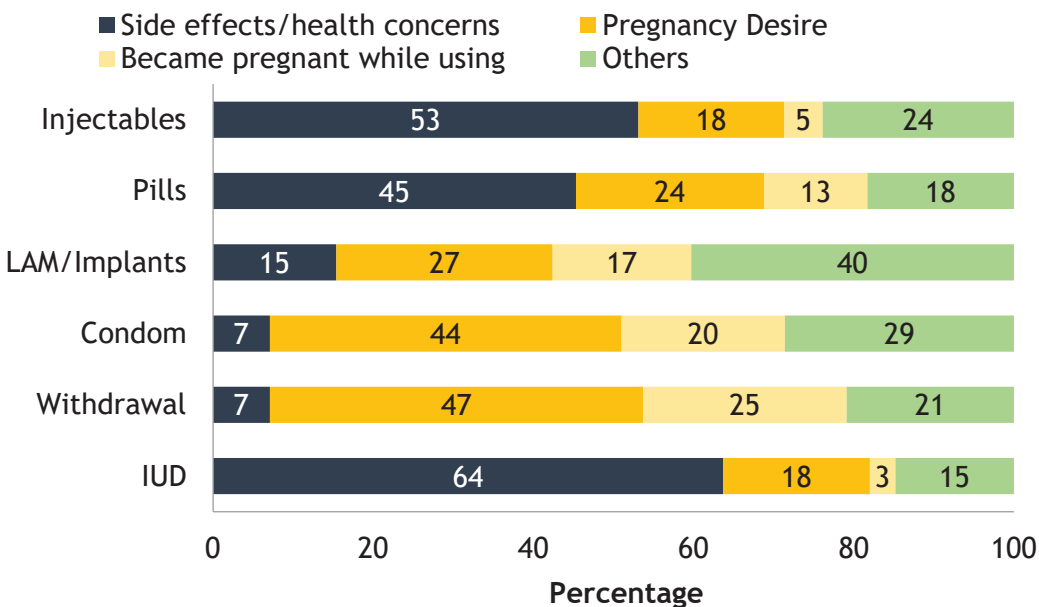


Figure 15: Reasons for contraceptive discontinuation(30)



The study went beyond listing obstacles and attempted to quantitatively assess the strength of the different obstacles reported in the literature. An interesting finding of the study was the inaccurate perception of women as regards their husbands' negative attitude to contraceptive use. Husbands' attitude to FP was not as unfavourable as the wives perceived it to be (81). However, the husband's role in deciding about the use of FP seemed imperative. Women are more likely to use a contraceptive method if the decision is jointly taken by the husband and wife (82).

Another study substantiates and identifies the husband as the decision-maker for family planning use (41). The five-country study (including Pakistan) by Mason and Smith in the year 2000 documented an association between women with unmet need and their husbands' fertility preferences. The authors suggest that men often control their wives' use of contraception in highly gender stratified societies, husbands' fertility preferences can account only for a small proportion of the total unmet need, particularly in communities where unmet need is high. This happens as very few wives in such settings would openly disagree with their husbands about having more children (83).

According to the same study, the powerful drivers of women's intention to use contraceptives included their in-laws' support for family planning use, their belief in the importance of spacing children and their perception that a choice of methods and facilities with competent staff are available (83). Fears about contraceptive methods like IUDs and female sterilisation harming a woman's womb also negatively affect women's intention to use contraceptives. The interesting finding of the study was that couples who were able to discuss FP with one another were likely to adopt modern methods like condoms by men and sterilisation by women. The importance of discussions between husbands and wives on FP was also emphasised by Casterline et al in the context of the inaccurate perceptions of women as regards their husbands' attitude to FP. These authors were

of the view that better communication between couples would improve contraceptive use (81).

Two additional barriers to contraceptive uptake were women's perceptions that family planning is socially or culturally unacceptable and their perception that contraceptive use could conflict with their husband's or mother-in-law's fertility preferences (81). Another qualitative study documented men's unfavourable perception of FP and the attitudes of mothers-in-law, discouraging attitudes of service providers, fear of side effects and reduction in ability to conceive and women's restricted mobility as the prevalent barriers to the use of contraceptives (84). Studies assessing the relationship between adoption of contraception and indicators of women's autonomy – including women's mobility, independent decision-making and control over income – have found no association between these factors (85, 86) and similar findings are documented in other studies (87, 88).

Probability of wanting another child is significantly higher among women who do not have boys. However, despite a stronger preference for sons over daughters in Pakistan, surprisingly the effect of sex preference on fertility control has not been demonstrated as a strong influence on the motivation to adopt contraception (89). Hamid and Stephenson (2007) examined the health service factors that influence contraceptive uptake among women attending health facilities in urban Pakistan (90). While this was a study on a select group of women already motivated to adopt FP, it did demonstrate the association of education, parity, greater availability of staff and methods as factors associated with contraceptive uptake (90).

Low utilisation of services provided by the public sector is a barrier to increasing the coverage of services. According to Abbas et al, the public sector is the major provider of services to the poor; however, the low take up of services reflects clients' mistrust in the quality of services provided, and inadequate referrals (91). Interestingly, this study reveals that current public sector family planning funding is not a primary reason behind the low coverage (92). In order to remove

low uptake of services as a barrier to increasing FP coverage, improvement in quality of services and establishment of referral systems is essential.

1.4.5 Policies and programmes for family planning in Pakistan

Family planning in Pakistan has a long history. A family planning association was established in 1953, the National Population Programme begun in 1955 and the Population Welfare Programme has been part of the national five-year plans since 1960. The government of Pakistan and the private medical sector are both the leading source of contraception provision (41-43, 92). This section reviews government policies and programmes of both government and the private/not for profit sector that have an impact on the overall uptake of FP in Pakistan.

While the evidence suggests that, even today, government facilities are still the leading source for providing modern contraceptive services in Pakistan, followed by the private sector, there are still gaps in government policy that need to be addressed for a more robust and result-oriented policy and programme on FP in Pakistan (30). For example, 66% of the female sterilisations and 53% of the IUD insertions took place at government hospitals as compared to the 33% and 41% of respective private sector share. Meanwhile 48% of pill users and 56% of injection users obtained their supply from a government source, as compared to 36% and 40% of the respective private sector (30).

1.4.5.1 Pakistan's population policy

Pakistan's latest population policy dates from 2010, and highlights government's concerns about population growth, and its impact on socio-economic development. To reduce population growth and fertility through voluntary family planning, the following key objectives were established: achieve replacement level fertility i.e. 2.1 births per woman by 2025; minimise unmet need for family planning services from 25% to 10% by 2025; and achieve contraceptive

prevalence rate of 70% by 2025 (93). However, given the consistently high fertility rates and unmet need for family planning, major challenges remain in terms of achieving the objectives of the population policy (30, 45).

1.4.5.2 Unwanted pregnancy, abortion and family planning in Pakistan: Are they linked to each other?

Abortion in Pakistan is permitted in a vague but rather debatable sense and even the definition is unclear among legal professionals (94). Legally abortion is allowed when a woman's life is at stake or in early pregnancy to provide "necessary treatment"⁵ (95, 96). Due to ambiguity and the socio-cultural taboos associated with the practice, safe abortion services are not easily accessible. Abortion is permitted only to save a woman's life, to preserve her health and, in cases of rape, paving the way for unsafe abortions outside the health systems (97). The harm caused by unsafe abortion practices is largely preventable(98).

Moreover, considerable reluctance is found among qualified health professionals to provide post-abortion care to women in need due to restrictive abortion laws in Pakistan. As a result of this, women end up terminating unintended pregnancies at the hands of unskilled providers, which results in a significant number of deaths (99). The 2006-07 Pakistan Demographic and Health Survey revealed that 6% of all maternal deaths occurred as a result of abortion-related complications (45). Moreover, in 2002, it was estimated that approximately 37% of all unintended pregnancies are terminated by induced abortion (96). Around 40% of abortions are performed by unskilled workers in backstreet clinics (40, 100). Given these statistics, it is not surprising that unwanted pregnancies are the leading cause of induced abortions in Pakistan (101).

In 2002, the country's abortion rate based on a medium estimate was 29 per 1,000 women aged 15-49, while the rate of post-abortion complications represented by hospitalisations resulted from unsafe

⁵ To preserve a woman's physical health and/or to preserve a woman's mental health

induced abortions at an annual rate of 6.4 per 1,000 women aged 15-49 (101). By 2012, the abortion rate had almost doubled to 50 per 1,000 and the rate of post-abortion complications rose to 15 per 1,000, indicating an increase of almost 90% in the abortion rate between 2002 and 2012 for women aged 15-49 (40). The almost doubling of the abortion rate between the years 2002-2012 suggests a possible dependency on abortion to avoid unwanted births by women (40, 101). One of the key reasons for seeking unsafe abortion is poor household economy and limiting number of children (102), which again substantiates the fact that abortion may be used as a method of birth spacing or limiting.

Medical procedures are preferred by women for the treatment of incomplete abortion because it is perceived as less painful, easy to employ and with fewer complications. Household economy, husband and in-laws, female mobility, views of religious clerics and transportation are all identified as associated factors with women's decision-making on seeking post-abortion care (102).

A relatively positive element is that nearly three-quarters of the women seeking post-abortion care services adopt a family planning method (103). This provides some future protection against unintended pregnancies and subsequent unsafe abortions(103). And, of the adopters, 66% of the women opt to use short-term methods while the rest use long-term reversible methods. Moreover, the following factors had significant associations with the uptake of contraception: province, women's education, women's occupation status, monthly family income, first-time visitors to the centre, previous contraceptive use, and type of PAC treatment provided, as well as women's health condition after post-abortion treatment (102). It is recommended that knowledge of the existing abortion law should be improved among legal professionals to facilitate women accessing abortion-related care. Moreover, the implications of unsafe abortion and its consequences on maternal health and life must be publicised in the community as a public health preventative measure (94).

1.4.5.3 National programme on family planning

Pakistan was among the first countries in Asia to start a family planning Programme, which received intermittent support from international donors, including the United States(104). The Pakistan Government initially allocated 10% of the total health budget to FP. It adopted a target-oriented approach to FP programming, with emphasis on mass media to promote voluntary spacing. The Population Welfare Programme and the National Family Planning Council (later to become the Population Welfare Division of the Health Ministry) were also initiated in the 1960s(104). The Population Welfare Division of the Health Ministry was converted into a full ministry in the 1980s, which led to fragmentation of FP programming within the government. (41). Despite this history, fertility has declined more slowly in Pakistan than in most other Asian countries (105). In the early 1990s, Pakistan implemented programmes, managed by the Ministry of Health (MOH) and the Ministry of Population Welfare (MOPW), where women were provided FP services at their doorstep through Lady Health Workers (LHW) (106).

LHWs are from the communities they serve and are trained to deliver primary health care. One of the primary responsibilities of the Lady Health Workers' programme is to provide family planning services to communities, particularly in rural, underserved areas (107). Evaluations of the programme acknowledged the success of LHWs in uplifting FP services (106-108). However, it is interesting to note that, despite successful results, the recent PDHS 2012-13 results find almost one-third of currently married women living in rural areas did not know of an LHW in their area, indicating limited reach of the LHWs (30). Evidence also suggests that the family planning programme did not do as well as it could have because of lack of endorsement from the religious scholars from the onset (43).

In 2009, a review of the programme conducted by Oxford Policy Management found that LHWs had a substantial impact on family planning, antenatal care, neonatal check-ups and immunisation. It was revealed that the programme had greater impact on poor

households, which were the focus of the intervention (109). However, a more recent evaluation of the programme highlighted that there has been a decrease in the number of households using LHW's services between 2000 and 2009, resulting in only one percentage point increase in contraceptive prevalence rate in LHW-served areas during this time period (107, 109, 110). While there have been studies that have demanded a greater role for LHWs in terms of immunisation support etc., the current evaluation also identified that the involvement of LHWs in additional immunisation campaigns and TB directly observation treatment short-course Directly Observed Treatment Short course (DOTS) programme have overburdened the LHWs, affecting their performance (109). The evaluation further noted lack of provision of medical supplies and equipment essential in ensuring an effective community health service, also undermining the credibility of an LHW amongst her community when she is unable to distribute contraceptives and other medicines as expected. The evaluation recommends that, for improving performance among LHWs, it is essential that they are better supervised and better supplied with drugs and equipment and that the programme needs to improve its organisational support (111). Bearing in mind the increased burden on the family planning health force, including LHWs, there has been an evolution of task sharing, where it has been recommended to broaden government support for the deployment of community midwives as providers of family planning services (112).

1.4.5.4 The 18th Constitutional Amendment

As described in Chapter I, a major administrative shift took place with the implementation of the 18th Constitutional Amendment in Pakistan (30, 35). The responsibilities of the MoH and MoPW were devolved to the respective provincial departments. Reproductive Health Service Centres (RHSCs) and hospital-based service outlets are now the major clinical components of the country's Population Welfare Programme and Mobile Service Units have been established to provide family planning services to remote underserved rural populations. Male Mobilisers (male community workers) have been recruited for programme advocacy among local community leaders,

male teachers, shopkeepers, religious leaders and community-based organisations (CBOs). Other important components of the current FP services delivery network include registered medical practitioners, hakims (traditional healers) and homeopaths, LHWs and NGOs. Social marketing of contraceptives and public-private partnerships are also central components of the Population Welfare Programme (30).

1.4.5.5 Health financing context for FP

Given the importance of health care, the public and private health-care system is seriously inadequate in Pakistan, which is essential in reducing maternal mortality and morbidity. The Government of Pakistan has historically spent less than 1% of its GDP on health, mainly on curative services provided at secondary and tertiary level care. Out of which, around 10% was given to FP with emphasis on mass media to promote voluntary spacing and adopted a target oriented approach to FP programming. Pakistan's health budget also contains a weighty proportion of non-development expenditure, always greater than the development budget (47, 48).

Out-of-pocket payment for FP

Although the public sector has dominated with a high number of Ministry of Health-led hospitals, maternal and child health (MCH) Centres, Rural Health Units and Basic Health Units, these numbers are outweighed by an uncouneted but undoubtedly larger number of private facilities. Hence, regardless of ongoing efforts to improve upon the fertility rate and various other factors, such as the infant mortality rate, success has been limited (30, 45). This is due in part to the payment method that is most common in Pakistan, that of out-of-pocket payment or "OOP".

OOP is an important determinant of the capacity of individuals in accessing health care and their ability to afford that health care. Households in which spouses are both illiterate, are urban and reported at least one obstetric delivery within the previous three years are more likely to have higher OOP payments than other households. To improve upon the long-term capacity of Pakistani citizens of all socio-economic demographics to access health care,

policy must be shifted to support the improvement of health programmes and related policy in the future (113). Through a shift in focus upon how health-care access is supported by policy, those lacking in the resources to pursue health care may have a greater ability to do so. In addition to the main barriers, costs are also associated with fertility and the lack of FP in Pakistan, resulting in overpopulation (13). Such issues must be factored into policy-based decisions concerning FP funding in Pakistan. Preventative contraceptive education and services, alongside an expansion in access thereto, will decrease the rate of unwanted pregnancies in the nation, and further, decrease the number of abortions conducted to address unwanted pregnancies (42, 75). Programmes have been undertaken through which cash transfers have been facilitated to address global health inequity. In Latin America, conditional cash transfers to households have been used to support desired behaviours, such as attendance for preventive interventions. In Bangladesh, maternal health-care service use has been improved upon through conditional cash transfers. A number of studies have shown a positive outcome linked to the provision of conditional cash transfers (114).

Historical context of FP funding in Pakistan

The public sector is viewed as being under-utilised and expensive in the context of FP funding in Pakistan. It is the principal provider of FP to the poorest. But costs are higher than in other services. For example, the government cost for female sterilisation is 2,783 Pakistan Rupees (US\$46) per woman (47, 48). Many NGOs provide the same services for 1,000 Pak Rs. (US\$10) per woman. Nevertheless, fiscal analysis over the years has shown that FP has been under-financed, and moreover, even that meagre budget could not be spent by the provinces because of limited capacity and a lack of out-of-the-box thinking(115).

As noted above, a large proportion of FP users (68%) are paying out-of-pocket for FP commodities from NGOs, private clinics and informal outlets or over the counter at pharmacies. While the public sector has a critical niche in serving the poor, its services are

considerably more expensive when compared to international and even some Pakistani NGO costs. This creates inefficiencies in services provided, client mistrust in the quality of services provided and inadequate referrals that need to be addressed directly(116).

Strong political support emerged within the country due to efforts by emerging key social marketing NGOs such as Greenstar. This political support ultimately led to the formation of the Lady Health Workers' (LHW) Programme (a vertical programme with its own funding from the federal ministry), which contributed to the rapid rise in CPR in rural areas(117). Even within FP, although the government has historically set ambitious targets and even provided political support and adequate funds, the content of funding was not matched to the expansion of services or incentives for shifting the social paradigm for communities to have smaller families. For example, when funding doubled after the approval of the Population Policy 2001-02, nearly all but 6% of this additional funding went to personnel. Health and population welfare departments were used to provide jobs to gain votes and senior government officials were obliged to follow pursuit(116). Not surprisingly, despite government spending of around US\$652 million on FP between 2001 and 2009, CPR remained stagnant(118).

Annual public spending for family planning services for the year 2011-12 was US\$151 million. Pakistan increased this to US\$197.7 million in 2012-2013, with further increases annually to ensure universal access by 2020. The private sector share is \$40.8 million(118).

Table 4: Federal PSDP 2014-15(119)

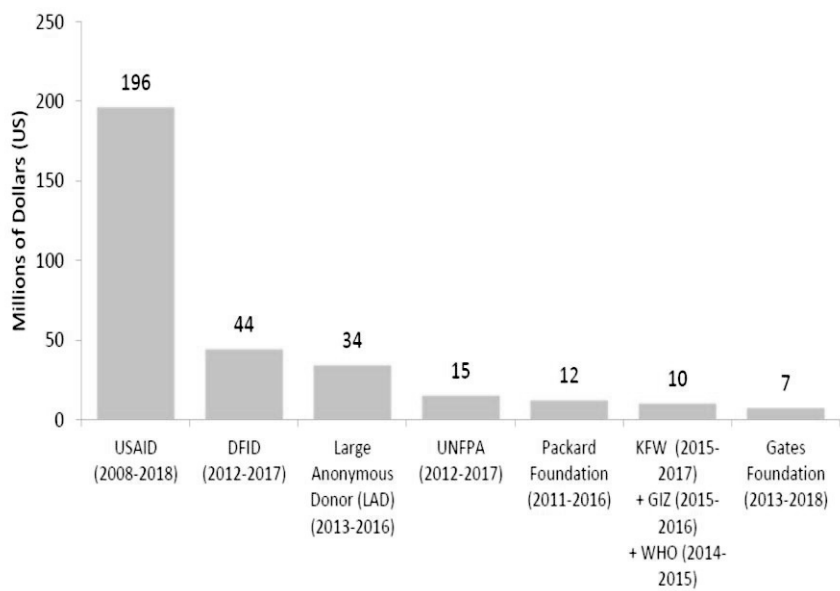
Name of Project	Cost		Expenditure Up to June 2014	Allocation 2014-15			Releases (Rupee Component Only)
	Total	Foreign Aid		Rupees	Foreign Aid	Total	
National Program for Family Planning & Primary Health Care	53,405.9	0.0	15,602.0	11,000.0	0.00	11000.0	11000.0
Population Welfare Program AJK (2010-15)	1,245.3	0.0	558.6	223.356	0.00	223.356	223.356
Population Welfare Program Balochistan (2010-15)	5,330.0	0.0	1,330.6	805.736	0.00	805.736	805.736
Population Welfare Program FATA (2010-15)	997.3	0.0	139.4	78.841	0.00	78.841	78.841
Population Welfare Program GB (2010-15)	663.1	0.0	175.7	118.722	0.00	118.722	118.722
Population Welfare Program Khyber Pakhtunkhwa (201-15)	5,946.5	0.0	3,738.5	1,283.447	0.00	1283.447	1283.447
Population Welfare Program Punjab (2010-15)	18,745.6	0.0	9,935.5	3,633.589	0.00	3633.589	3633.589
Population Welfare Program Sindh (2010-15)	13,336.0	0.0	6,414.3	2,082.373	0.00	2082.373	2082.373

Source: Ministry of Planning, Development and Reforms

Post-18th Amendment decentralization of health and population towards the provinces is causing uncertainty regarding financing and the degree of prioritization for FP. However, the provincial governments are sensitized and well aware of the importance of family planning in terms of achieving international commitments such as SDGs and FP2020. Moreover, the Government of Pakistan is working with the United Nations Population Fund (UNFPA) to support family planning through advocacy, and improved systems and supply of contraceptives. The government had allocated considerable funds under PSDP 2014-15, according to the Ministry of Planning, Development, & Reforms (see Table 4)(119). However, for the year 2015-16, the total Public Sector Development Programme (PSDP) a budget is US\$ 1444.71 million. And only a mere 3.7% (US\$ 53.7 million) of the total PSDP budget is allocated for population control programme or FP support(119).

The largest investor in FP is the US Agency for International Development (USAID), which – along with the UK’s Department for International Development (DFID), the Bill & Melinda Gates Foundation, the Packard Foundation and an anonymous donor – has been supporting efforts at demand creation, improved access and strengthening of health systems. USAID, UNFPA and WHO also supported trainings of FP personnel(120). Packard and UNFPA continue to invest in advocacy with policy-makers for more robust FP Programme and innovative interventions. Last but not the least, the German government-owned development bank KfW and UK’s DFID made significant contributions towards improving the population infrastructure at the provincial and district levels(120) (see Figure 16).

Figure 16: Reproductive health (including FP) donor investment in Pakistan(120)



Flow of finances from the donors has always been intermittent. Results have been mixed and have contributed to urban rural disparities. Furthermore, there are serious issues of financial management and slow financial flow from the main source, the

Ministry of Finance, to executing agencies, implementing departments, and finally to field organs(121).

Greenstar Social Marketing, Family Planning Association Pakistan, and Marie Stopes Society are the main contributors of private sector family planning services. In 2011-2012, spending on family planning was \$1.21 per capita (public sector share: \$0.84; private sector share: \$0.37). In 2012-2013, the public sector share increased to \$1.07 per capita (total: \$1.55 per capita). The goal is to reach \$2.50 per capita by 2020. Contraceptive requirements for both government and Greenstar social marketing are covered by USAID until 2016(122). Subsequently, the government will need to import approximately \$13 million worth of contraceptives annually. This number will increase to \$35 million annually by 2020, as we reach a CPR of 55%. The 2013-2020 resource gaps for contraceptive commodities are \$186 million, according to Family Planning 2020. The growing number of potential users (11.8 million to 16.9 million women) and unmet need for another 6 to 9 million women calls for urgent actions in enhancing the financing of FP programs (118).

Role of Non –Governmental Organizations (NGOs) in FP financing in Pakistan

Public-private partnerships and social marketing of contraceptives in Pakistan started in the 1990s with the emergence of social marketing NGOs and since then NGOs within the private sector have played a significant role in providing FP services (30, 49). As mentioned earlier, the private sector (private medical facilities, chemists and shops) and NGOs were the source of modern methods for 42% of current users of contraception (26). In fact, Pakistan's FP programme was introduced owing to the successful advocacy of the Family Planning Association of Pakistan (FPAP,) which has an expanded network of more than 540 service outlets delivering 10-12% of family planning services in Pakistan (90).

Green Star Marketing (GSM)

Green Star is the largest provider of Social Marketing and Social Franchising services in Pakistan by the name of Greenstar Social Marketing and Greenstar Social Franchising (GSM) is another Pakistani franchise, which was launched in 1997 by Social Marketing Pakistan (SMP) in urban areas(123). The Greenstar network comprises of around 7000 GSM-trained health providers/facilities (mix of medical doctors, nurses, and lady health visitors etc.); 33,000 pharmacies and medical stores and a little over 70,000 FMCG outlets carrying their branded condoms(123). The GS model provided quality FP products to its network at reduced rates. In return, the clinics provided high-quality service at affordable prices to underserved people. Impact evaluations of condom advertising campaigns have shown substantial increases in condom use as a result of specific campaigns and indicate the continued vibrancy of the condom social marketing approach being used (124, 125). Shah et al applied an evaluation framework to simultaneously track performance on efficiency, quality and access by the poor to field data from the family planning programme including Green Star franchise, in Pakistan (and Ethiopia). They compared: (1) independent private sector providers; (2) social franchises of private providers; (3) non-government organisation (NGO) providers; and (4) government providers on these three factors. The study found that Green Star franchise services cost per client and the proportion of poorest clients served showed no differences from non-franchised private clinics (126). In addition to the service delivery, GS also tested some pilot voucher schemes in order to improve maternal health, institutional deliveries and family planning. For example, in a voucher pilot intervention implemented for 12 months in Dera Ghazi Khan District of Pakistan to increase institutional deliveries was found associated with a substantial increase in facility delivery i.e. 22%(127). But the largest impact of the voucher scheme was on the use of Postnatal care (PNC). Participation in the voucher scheme was associated with a 35 percentage point increase in PNC. Secular trends were observed only in the case of Antenatal care (ANC) use. Independent of other factors, participation in the voucher scheme

was associated with a 22 percentage point increase in ANC use(127).However, in another 12-month pilot study with similar objective found low use of PNC as compared to the use of ANC and delivery at a facility(128).

Population Council

The Family Advancement for Life and Health (FALAH) project of the Population Council in Pakistan was designed to improve access to quality family planning services. Contraceptive use in the FALAH districts – where at the baseline, the CPR was 28% versus a national average of 30%, and unmet need was 38% versus 25% respectively – increased to about 34% and unmet need declined to 34%. Similarly, another intervention focusing on behaviour change (particularly enhancement of communication between women and men) along with strengthening of public sector services, demonstrated significant impact on contraceptive use in some districts of Sindh (129).

IPPF Pakistan

In Pakistan, International Planned Parenthood Federation (IPPF) is represented by its member associate the “Rahnuma” (formerly the Family Planning Association of Pakistan or FPAP) which started serving poor and marginalized people in Pakistan as the Family Planning Association of Pakistan (FPAP) in 1953(130). After over 50 years of momentous achievements, the FPAP felt that its name did not fully reflect the scope of its work. It renamed itself ‘Rahnuma’, an Urdu word meaning 'one who shows the path and provides direction'. Rahnuma was one of the pioneers in providing family planning services and advocating for spacing of childbirth and for smaller families. The government later embraced the cause by establishing the Ministry of Population Welfare. In the space of a decade, Rahnuma grew from a single clinic, based in 1 room in Karachi, to a large-scale operation with an infrastructure of district branches offering model clinics and information and educational facilities. Today, the network operates nearly 5,000 service points, comprising 118 permanent clinics, 11 mobile units, 191 associated

clinics and over 2,000 community-based distributors/services (CBDs/CBSs). It also handles referrals to over 2,143 private physicians. Rahnuma has developed innovative programmes to increase access to high-quality, affordable health services. It has advocated for a rights-based approach to sexual and reproductive health (SRH), for the empowerment of particular groups within communities (especially women and young girls), and for the strengthening of civil society in Pakistan. As the sexual and reproductive health and rights (SRHR) agenda has shifted over the years, Rahnuma has increasingly embraced SRHR in the context of national development and poverty alleviation, owing to the direct connection between socio-economic conditions and health and well-being(130).

Marie Stopes Society (MSS)

Marie Stopes Society (MSS) – a leading family planning NGO – has been providing services in 73 districts of Pakistan and two subdivisions of FATA (Federally Administered Tribal Areas), covering 70 million people in the country. MSS has launched several health interventions – one of which is “Community Based Distribution (CBD)” model. In the project, MSS provided family planning services on the door-step through outreach workers, which made a huge impact in the community in terms of increasing the use of contraceptive methods (131).

From 2007-08, MSS launched a social franchising model (see Box 3), Suraj (meaning “sun” in English), primarily targeting the rural and underserved community. The model was essentially a partnership between MSS and private sector service providers who were trained to deliver quality FP services. The aim of the model was to establish affordable and accessible long-term family planning services of high quality. Besides private provider training the model encompasses marketing, branding, and the introduction of a free voucher scheme to prospective clients. These providers are also complemented with outreach workers for raising awareness and free FP vouchers for underserved clients (41).

Box 3: Details of the MSS “Social franchising model”

A social franchising model, or rather clinical social franchising, has been proposed as a workable mechanism through which low- and middle-income nations may experience improvements in family planning networks (52, 53). In some cases, these models have significantly impacted on specific methods used such as long-acting reversible contraceptives (LARC). The primary aims of social franchising are: to increase access to care, to improve quality, to rapidly increase the number of delivery points, and to expand upon the affordability of services (41). Such funding initiatives incorporate a high level of oversight that serves to reinforce the prospects of success, thereby achieving the goal of expanding upon FP access for the targeted population. Social franchises are generally comprised of a network of independent health providers that use commercial franchising models in order to realise social as opposed to financial goals. Family planning social franchising has proven effective in countries with an active private sector that serves low- and middle-income clients (52, 53, 137). Social franchising is supported by helping to build sustainable businesses, clinical training and supportive supervision, marketing and demand creation, and mechanisms through which services are made more affordable for clients (53). The FP social franchise model has the capacity to produce significant benefits as an estimated 90% of such programmes are operating in low- and middle-income countries (52). The franchisees are provided with branding, monitoring, client data and training components (52), just like the ones used by the MSS in Pakistan (41, 42, 115).

The evaluation showed significant impact in the communities in terms of contraceptive use, particularly long-term (IUD) use (41, 42). They also show that quality contraceptive services provided in a culturally acceptable manner are used by many, even when they have to be paid for ((46)43). Moreover, the IUD services provided through Suraj providers seem to be more acceptable among women since the discontinuation rate is far lower than the national rate (21, 44). This shows that providers and outreach workers providing free FP services through social franchising programmes are effective in promoting IUD continuation (44).

Another approach used by MSS is the mobile outreach programme, which is considered costly. However, the study shows that this is a

great potential tool in addressing unmet need in far flung and underserved regions of the country – especially for long-acting contraceptives (42).

In addition, MSS Pakistan supported the integration of FP services with existing public sector health service delivery mechanisms at the community level as an alternative approach in order to increase FP access and uptake for underserved communities. The aim of the Maternal, Newborn and Child Health (MNCH) programme of Pakistan is to improve MNCH indicators by deploying community based health workers known as Community Midwives (CMWs) (132).

Therefore, under an operational research project, MSS Pakistan tested the integration of long-term FP services in particular with existing reproductive health services provided by community midwives (CMWs) at the community level. This presented an opportunity to test interventions designed to improve FP indicators in hard-to-access, underserved and remote areas in Pakistan (133). The available evidence suggests that the CMW programme has not been able to show significant improvements in maternal health indicators ((134)) until recently, when improving upon knowledge, access and use of FP services has been achieved through the CMW model by MSS Pakistan, which is a modified version of the MNCH programme run by CMWs (134).

Box 4: Details of Community Midwife Model

The community midwife (CMW) is an individual who has been assessed and registered by a state midwifery regulatory authority or similar authority (139). However, even after they are registered, they are not regulated by the Government of Pakistan. The CMW provides care to childbearing women during their pregnancy, labour and birth, and during the postpartum period (140). The CMW is trained to provide individualised care to pregnant women through the monitoring of their emotional, social and physical well-being. When necessary, appropriate action is taken with the resources that are

available, with guidance being provided to community members concerning health issues as well.

The Lady Health Worker (LHW) programme has functioned in parallel with the CMW model to facilitate use and support of FP services by women, from female health professionals. In fact, the anticipated accomplishment of the public sector-led CMW programme was largely dependent on collaboration and cooperation received from the LHWs, as the LHWs' role was broadened in order to make delivery referrals for CMWs (139). However, due to weak linkages between the LHW and Maternal Neonatal and Child Health (MNCH) programmes and ambiguity between their roles in the field, the requested facilitation was poor. The former perceived CMWs as a future potential threat, eradicating them from their present role and this has been the central area of conflict between the two programmes.

I.4.5.6 Health financing schemes

The health-financing trend during the last five years indicates a considerable increase in health investment, which doubled the capital expenditure on the development side, and tripled the non-development expenditures. However, this remains low compared to the need. Moreover, management capacities in the health sector are low and there is an absence of focus on programme objectives and more involvement in the procurement of supply and logistics. The incentives to the interest groups have created transparency and accountability problems that lead to an ineffective and inefficient system.

Meanwhile, health insurance is gaining momentum as a mode of providing financial protection from health-care costs. Although, operationalizing any government-funded health insurance scheme on a national level to achieve universal coverage is considered a huge challenge, political will and a rise in the economy have led to the creation of a National Health Insurance Programme also known as the Prime Minister's National Health Insurance Programme

(PMNHIP)(135). It is completely funded and managed by the government and provides free insurance cover paid by the Government of Pakistan via State Life Insurance. Services are accessible through a mix of secondary and tertiary care private and public hospitals. The client does not have to pay until the insurance limit is exhausted, when additional cover may be provided according to set criteria.

Programme beneficiaries are poor families living on Pak Rs. 200 (US\$2) per day or less. Coverage includes secondary as well as priority disease treatment (only hospitalization) without any financial obligations. However, FP and post-abortion care are excluded from this program(135).

Various other diverse health insurance models are now operational in Pakistan (See Annex I on pg. 167). Social health insurance (SHI) entails mandatory enrollment for individuals living in peri-urban areas. Voluntary insurance models, such as private health insurance or micro health insurance (MHI), are also available for those living in urban areas.

Because of decentralization, some provinces in Pakistan have already experimented with SHI or are currently running pilots; while in others there is no planning at all. Many development partners and donors have shown interest in providing or helping provincial governments to provide assistance in this regard. Although SHI is considered just one component of a social protection strategy, if appropriately structured, it can eliminate many equity issues in health-care provision across the country.

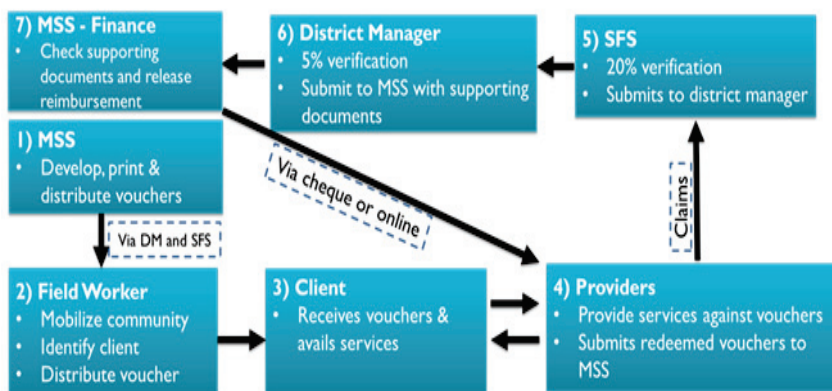
With the help of the World Bank, DFID and the Asian Development Bank (ADB), the provincial governments of Punjab and KPK have been trying to introduce SHI in Pakistan. Presently, KfW is funding an SHI program in some districts of KPK Province, managed by the provincial government (136). Although the KfW initiative in KPK Province covers preventive health services such as maternity and

child health, FP is largely excluded as a “planned or forecasted” event and not a “catastrophic” one.

Similarly, FP was not considered as a priority in the Government of Pakistan-run SHI pilot in Faisalabad, Punjab Province. Called the Waseela-e-Sehat Programme it was managed under the Benazir Income Support Programme – a Social Insurance Programme providing unconditional cash transfers to the poorest and most underserved living on less than US\$1 per day(137).

During the last seven or eight years, demand-side financing approaches such as vouchers, have generated good results by increasing accessibility to LARCs and a full range of other contraceptive services. Interventions led by Marie Stopes Society and Greenstar Social Marketing Pakistan were responsible for positively influencing the attitudes of clients towards modern contraception (80, 127, 134, 138-141). The study findings highlighted that the social franchising approach, when complemented with vouchers and community mobilization efforts, could improve the use of long-term contraceptive methods among rural and underserved women. However, as purely donor-funded programmes, it is not clear whether the FP results and practices of these schemes are sustainable (See Figure 17).

Figure 17: Suraj Social Franchise service provider payment mechanism(139)



Note: a) MSS has an internal Voucher Management System
b) No cash payment was done for providers

Demand-side financing based voucher schemes

MSS's voucher initiative has generated good results in the last ten years. As per one study, Suraj intervention was responsible for influencing the attitudes of its clients towards FP and modern contraception, positively. The study findings emphasise that social franchising approaches like Suraj, when complemented with vouchers and community mobilisation efforts, can improve the use of long-term contraceptive methods among rural and underserved women (142).

The World Health Organization (WHO) has suggested that, in order to overcome the lack of contraceptive services in regions of the world, the implementation of contracting out, social franchising and voucher schemes are of value (61, 143). The provision of vouchers to support the use of maternal health services have proven effective in terms of increasing the use of such services in targeted areas. Voucher interventions that are targeted and adopt a pro-poor strategy have been found to improve access to care within poor and marginalised populations. Such programmes have the capacity to bridge health inequities in developing nations (144).

Vouchers are provided to individuals who, without the subsidy, would likely not have sought out health care (145) and they improve upon overall access to care for women in associated areas (146). Vouchers may improve FP service value, and also FP service access on behalf of prospective users. Some voucher programmes focus solely on family planning, while others are more expansive and take into account sexual and reproductive health services. Service uptake has been found to increase, regardless of whether the voucher programme incorporates both aspects. However, the effectiveness of outcomes depends on the targeting approach that was adopted by the programme (147).

Vouchers and such programmes generally pursue similar objectives. The majority of voucher programmes instituted within poor and low-income countries seek to increase the use of health care, especially maternal health-care services. Most voucher programmes contract private providers, or public and private providers.

Box 5: Voucher regulation

Voucher programmes are designed to increase the level of accountability on behalf of service providers. This facilitates an improvement in both public and private sector health care, as it is through the service user that the voucher is received by the provider. Health centres collect the vouchers and are paid according to predetermined time periods, in accordance with the relevant user fees. Ideally, voucher schemes only provide reimbursement to service providers when all components of a package of care have been completed. However, in practice, health centres may be paid for vouchers collected even when proof is not provided that the woman has completed all antenatal and postnatal care visits (148). The collection of funds for services not rendered proves the willingness of health-care centres to prioritise profit over care, showing the importance of regulation in the realm of vouchers. Both of the MSS social franchising projects (Article 3 and 4) used an in-house voucher management agency for overall voucher management. This started from administering door-to-door distribution through CHWs, entailing reimbursement for service providers upon the use of vouchers for a service by a client or upon completion of required services

through their bank accounts, and then conducting voucher verifications (61, 134).

It is essential that voucher and health equity fund schemes should be carefully designed and implemented to fit the context in which they are applied, and also so that they are capable of achieving their objectives. However, multi-tasking such as implementing voucher programmes and simultaneously conducting its management by the same organisation – whether in the public or private sector – is considered a programmatic weakness to rationalise the success or failure of the voucher initiative. Hence, splitting up of the voucher management agency and implementers can increase transparency, allow for autonomous verification of service delivery and help control informal payments.

Another study testing the efficacy of the voucher programme used a quasi-experimental study design with controls, selecting one intervention district and one control district from the Sindh and Punjab provinces (61). The result indicated that social franchising used alongside free vouchers for long-term contraceptive choices significantly increased awareness of modern contraception. Awareness increased by 5% in the intervention district. Similarly, the ever use of modern contraceptive increased by 28.5%, and the overall contraceptive prevalence rate increased by 19.6%. A significant change (11.1%) was recorded in the uptake of IUDs, which were being promoted with vouchers (61).

The above and other projects implemented by private sector/NGOs were able to establish a role for the private sector, not only in enhancing FP coverage and uptake, but also in providing evidence-based models for the country's Population Welfare Programme to emulate and institute. In addition, it was also argued earlier that, along with the introduction of different subsidised models, the private sector FP services still remain unaffordable for a large portion of the Pakistani population (134, 149). In a study using a compendium of descriptive information on 45 clinical social franchises, located in 27 countries of Africa, Asia⁶ and Latin America, the authors examined

⁶ Forty-five clinical social franchises form the sample used quantitative data available from the compendium for analysis. This was supplemented with detailed qualitative information from case studies of ten of the 45 social franchises: Amua Kenya, Blue

the contribution of social franchises to FP/RH services. The study revealed that these franchises mainly focused on FP services with some focus on maternal health care and abortion. The study also states that the social franchise model does not seem to have extended the coverage to new areas. These social franchises, it was argued, had little impact on reaching out to the poor, and were unaffordable for low-income women. While standards and protocols for quality assurance were in place in all franchises, evidence of adherence to these was limited (150). Although data from client interviews indicated patient satisfaction, the lack of adherence to quality protocols does raise concerns about the viability of such models in the long term.

Chapter 2: Objectives and Methodology

3.2 Justification and research question

Like many developing countries, health-promoting services in Pakistan such as family planning often receive lower priority than other public goods. The public sector in Pakistan spends less than 1% of GDP on health (48). Of these funds, 88% are spent on public sector-led hospitals and only 2-3% on family planning services (151, 152)

Comparison of contraceptive prevalence and use dynamics rates in Pakistan with those of a few other developing countries shows that Pakistan has:

- one of the lowest CPRs
- one of the highest unmet needs and a very high total demand for FP
- high discontinuation and failure rates and
- low rates of contraceptive switching.

However, considerable global evidence suggests that family planning saves lives (20, 153-156) and investing in these services can significantly reduce future social sector costs (156-160) by averting unintended pregnancies and maternal or neonatal deaths (156).

Although the public sector remains one of the largest providers of modern contraceptive services (see Figure 2) at a cumulative rate of 45% (public sector 35% + LHW 10%), the entire private sector in Pakistan also contributes to 52% of the country's modern contraceptive services (30). In addition, there is an overall increase of 5% in dependence on obtaining modern contraceptives from the private sector, from 30% in 2006-07 to 35% in 2012-13. This reliance on the private sector for FP service provision is of particular concern with respect to rural areas as around 30% of public sector facilities in these areas are non-functional (42).

Likewise, the private sector/NGOs have been cited as the major source of treatment for women seeking remedy for side effects from using FP methods as compared to the public sector (private sector 52% and public sector 42%) in both urban (82%) and rural (54%) areas (30). Hence, without this major influence of private sector/NGO-led services or interventions, more than one-third of the country's current users and more than half of future modern family planning users will remain unattended.

Limited research has been undertaken in Pakistan that provides evidence of health financing effectiveness in increasing the uptake of FP products and services in the country.

In this thesis, we studied and documented published research from Pakistan on the effects of integrated⁷ health financing models exclusively used for family planning. These integrated health financing models can be categorised as follows:

1. Targeting underserved through demand-side financing vouchers complemented by social franchise providers.
2. Task sharing through community midwives: building public-private partnerships.
3. Community health workers: connecting clients with the local facility.
4. Expanding outreach services to reach out to underserved communities.

3.1.1 Research question

What are the effects of integrated health financing models for family planning on access and uptake among married women in rural Pakistan?

⁷ For the purpose of thesis the word “**integrated**” comprises of exclusive family planning promoting models such as health financing, task sharing, social franchising, community health workers, outreach mobile services and post abortion family planning.

3.1.2 Hypothesis

Integrated health financing increases family planning access and uptake in married women in rural Pakistan as compared to the family planning services without health financing.

3.1.3 Objectives

The general objective of this thesis is to study and document the impact of integrating health financing interventions on family planning in Pakistan.

The specific objectives of this thesis deal with presenting information on: i) determinants of FP uptake; ii) utility of integrated health financing models exclusively for family planning in the Pakistani context; and iii) suggesting formulation of recommendation for the development of health financing models that promote FP access and uptake for married women. The next Chapter 3 which is the “Results” section discusses the findings of the selected models by objectives.

Specific objectives

Objective 1: To examine and document the determinants of uptake of modern family planning/contraceptive services in rural Pakistan assessing interventions related to integrated health financing models.

Objective 2: To study and document the impact of integrated health financing models (interventions) on FP access and uptake in rural Pakistan by assessing:

- a. the demand-side financing model, utilising vouchers complemented by social franchise providers;
- b. the task sharing through CMW model based on building public-private partnerships;
- c. the CHW model, that connects client with local health (FP) facility to enhance FP access and uptake including post-abortion FP ;
- d. the expanded outreach service model for far-flung communities

- e. models useful in switching to, and continuing use of, LARC.

Objective 3: Formulation of recommendation for the development of health financing models that promotes FP access and uptake for married women.

This thesis will attempt to address the determinants of family planning uptake in later chapters such as education; socio-economic status (wealth quintile); number of children (parity) and place of residence.

3.2 Methods and procedures

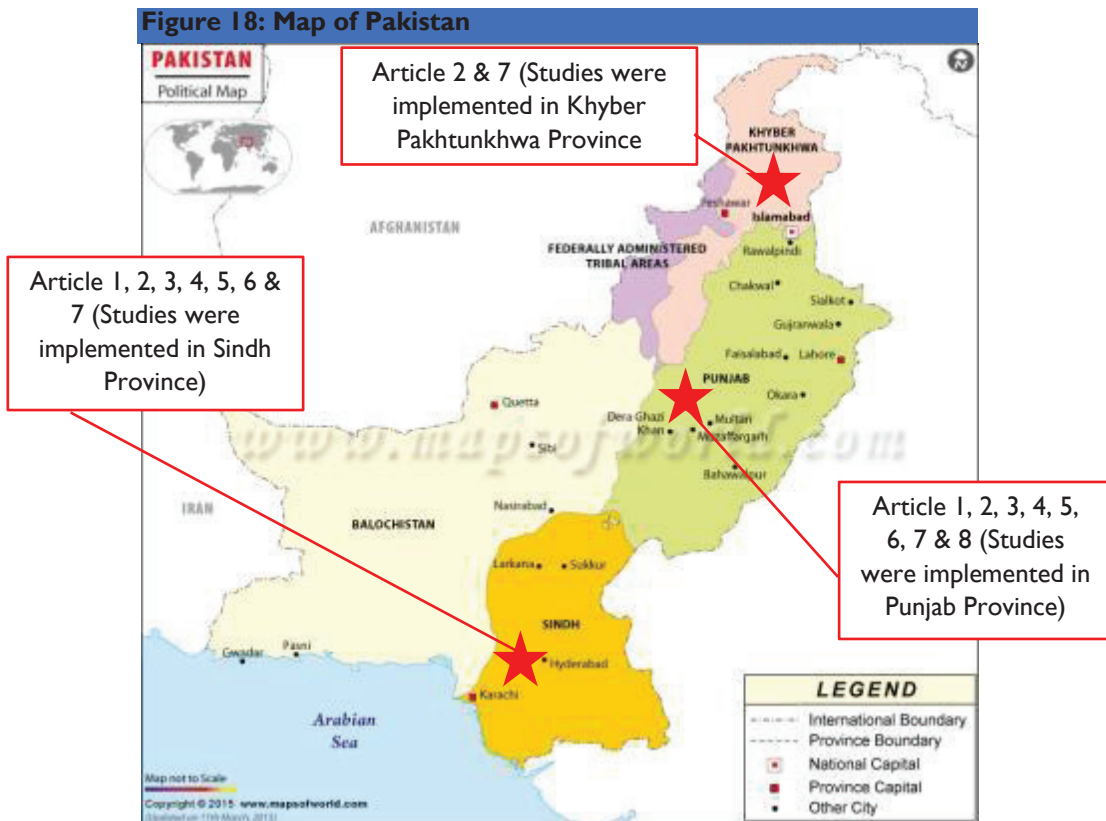
3.2.1 Study site

Study country

Pakistan is a low-middle income country, with a current population of 203 million (39). It is located in southern Asia and is bordered by the Arabian Sea to the south, Iran and Afghanistan to the west, India to the east, and China to the north (161).

The country is divided into four provinces: Punjab, Khyber-Pakhtunkhwa, Sindh and Baluchistan and four territories: the Tribal belt, Gilgit–Baltistan, Islamabad Capital Territory and Kashmir (161, 162). Figure 18 shows the map of Pakistan with its four provinces, indicating where the different studies were carried out. In addition, please see the Annex II (on pg. 192-93) specifically for the intervention and control areas of the two (2) quasi-experimental studies (Article 3 and Article 4).

Figure 18: Map of Pakistan



Reproductive health indicators

Based on national estimates, almost 46 million of the total population are women of reproductive age (15-49 years). Modern contraceptive use is 26% (23% in rural areas) and the maternal mortality rate is estimated at 184 per 100,000 live births. The fertility rate is 3.8 while out of a total of 9 million pregnancies in Pakistan in 2012, nearly half of them (42%) were unintended (40). The unmet need for contraception is 20% (30).

Table 5: Study provinces – RH indicators(30)

Study provinces	TFR*	mCPR (%)*	mCPR-rural (%)*
Sindh	3.9	24.5	17.1
Punjab	3.8	29	27.4
KPK	3.9	19.5	17.3

* these are cumulative CPR for provinces. The district-wise CPR is much lower in some cases than the provincial and national figures.

3.2.2 Study design and procedure

The review in this thesis is based on published papers from Pakistan on various integrated health financing models that exclusively cater to enhancing FP access and uptake among married women in the rural communities of Pakistan. The following key words were used on www.pubmed.com to select studies for this review:

Pakistan, family planning, health care financing, demand side financing, contraceptive, LARC, IUD, discontinuation, switching, post-abortion family planning, social franchising, task sharing, outreach mobile services.

Based on a review of the titles and abstracts of the published papers, identified using the above keywords, eight (08) published studies were included for this thesis. These specifically provided information regarding the objectives of this thesis. Not much published literature was available before 2000, in fact majority of the implementation research on family panning happened during the decade of 2000 onwards. Before 2000 most of the research was focusing to identify barriers and proposing possible solutions. For the purpose of description, the studies have been numbered from 1 to 8 when described in the text below. In addition, to show the relevance and the connection between objectives of this thesis and methods, kindly refer to the summary table as Annex XX from pages xx to xx.

3.2.2.1 Methods for each selected study

Quantitative cross-sectional study (Article 1 and 2) (41, 82)

This quantitative cross-sectional survey was nested in a large multi-centre quasi-experimental operational study with a control arm to understand the predictors of contraceptive use and demand for family planning services in underserved areas of Punjab Province in Pakistan.

Before the operational study was implemented, a cross-sectional household survey was conducted as a pre-test in May 2012 with 3,998 randomly selected married women of reproductive age (MWRA) in the Chakwal, Mianwali and Bhakkar districts of Punjab (sample distribution: 694 in Chakwal, 719 in Mianwali and 2,585 in Bhakkar). One MWRA was interviewed and if there was more than one MWRA within a household, then the youngest MWRA was interviewed.

A multi-stage sampling technique was used to select respondents. At the first stage, the districts and catchment area of the providers were purposively selected. The catchment areas for the providers were spread over a 3-4 kilometre radius and were at a sufficient distance from one another. After demarcation of the catchment area, all households within the catchment area of each service provider were allotted a unique study number in order to select the households for the baseline survey.

The intervention districts were selected on the basis of their rural demographics and low reproductive health indicators. Likewise, the control was selected on the basis of proximity and comparability to demographic and service delivery indicators of the intervention areas and also to ensure that it is placed at a sufficient distance from the intervention districts in order to avoid any spill-over effect of the intervention.

The survey questionnaire was adapted from the 2006–07 Pakistan Demographic Health Survey (PDHS) instruments focusing on: demographic and socio-economic characteristics of women; fertility choices; decision-making; contraceptive knowledge; practices and aspects of reproductive health. Detailed findings are reported in Article 1 in the journal *Reproductive Health* in 2015.

A secondary analysis was conducted on the data extracted from the above-mentioned large pre-test dataset with the following objectives: to “examine the effect of empowerment and its dimensions on female-only methods, as well as couple methods in which the husband’s involvement or support are necessary”. Data were analysed on 2,133 women who were either using any form of contraceptive or living with unmet need for contraception. A conceptual framework was developed to guide the analysis. This framework was based on the principle of women’s empowerment: “The expansion in women’s ability to make strategic life choices – economic, household and physical mobility, in a context where this ability was previously denied to them”. In addition, a wealth index was compiled with two separate measures for each woman’s empowerment measure – classified as ‘independent’ and ‘couples joint’ decision-making. For independent decision-making, three steps were developed: namely, Step 1 where conversion of all 13 indicators into binary – ‘1’ was for women’s decisions alone and ‘0’ otherwise; Step 2 where weights were assigned to reflect the equal contribution of dimensions that had lesser indicators; and Step 3 to sum all binary (weighted) indicators for overall empowerment, and respective indicators for each dimension. The same procedure was repeated for ‘couples joint’ decision-making. This study is published in the journal *PloS One* in 2014 and reported in this thesis as Article 6.

Quasi-experimental pre-post study (Articles 3 and 4) (61, 134)

A quasi-experimental pre-post study with the control arm described in Article 3 was conducted in four districts across Punjab and Sindh provinces in Pakistan, including two intervention districts and two control districts (61). The aim was to evaluate the effectiveness of a two-pronged approach using the social franchise programme and vouchers in increasing modern contraceptive awareness and its uptake. The sites (Jhang in Punjab Province and Badin in Sindh Province were the intervention districts, while Khanewal and Dadu were selected from Punjab and Sindh respectively as control districts) were chosen based on the key socio-economic, demographic and reproductive health indicators. A total of four districts were selected on the basis of poor wealth quintiles in each province. Then one

district was selected for intervention in Punjab and Sindh and one was chosen as a control.

The idea was to test the two-pronged intervention – social franchising complemented with vouchers, implemented by MSS Pakistan. A total of 16 qualified Lady Health Visitors (LHVs), which is a mid-level health provider with a two-year diploma in general health-care provision and safe motherhood services, were recruited for this study. Each service provider centre/clinic was based 30 kilometres away from the centre of the predominantly rural area covering a population of 16,000-20,000 inhabitants. The minimum distance between any two service providers was large enough to avoid any spill-over effect. None of the service providers were providing any FP services through vouchers before the baseline survey.

The pre-test survey was conducted in all intervention and control areas in February 2009 on a sample of 4,992 married women of reproductive age (MWRA, 15-49 years) living within a two to three kilometre radius of the intervention and control group service-provider clinics. The catchment area of each service provider was mapped by allotting unique household numbers. Using a systematic sampling, every second household was included, preceded by a random selection of first household. Using the snowball method, only one MWRA was interviewed in each household. After completing a period of 18-months of intervention, a post-test survey was conducted during July and August 2010 in the same catchment areas with a total of 4,003 MWRAs. The overall sampling technique and strategy was the same. The only modification was that every fourth household, instead of every second, was visited in order to maintain sample representativeness for both intervention and control areas with equal distribution within each private service provider's catchment area.

A structured questionnaire was pre-tested and performed covering the following areas for the pre-test: socio-demographic characteristics; contraceptive awareness; lifetime use and current use of contraception; current use of IUD; and unmet need for family planning. In addition, intervention area client satisfaction was also

conducted during the survey after the intervention phase. The same questionnaire was used for the post-survey with some additional questions pertaining to intervention.

The second quasi-experimental pre- and post-intervention study with control described in Article 4 was conducted in Sindh, Punjab and KPK provinces in Pakistan to assess the effectiveness of two intervention models in promoting the use of modern contraceptive methods compared to respective controls. The main objectives of this study were: first, to assess and compare the effectiveness of an intervention model, a private provider partnership – i.e. Suraj social franchise model – with a control group; and second, to assess and compare the effectiveness of an intervention model, family planning services integration in the existing maternal, new-born and child health services provided by Community Midwives (CMWs) i.e. CMW intervention model, with a control group, in promoting the use of modern contraceptive methods.

The study was conducted in eight districts of Sindh, Punjab and KPK provinces especially in the rural and underserved catchment areas within the selected districts as inclusion criteria for the study based on key socio-economic, demographic and reproductive health indicators.

Interventions were employed by adopting a purposive approach. In KPK Province, the districts of Haripur and Abbottabad were selected as Suraj intervention and control districts, respectively. Similarly, in Punjab, Pakpattan and Rajanpur districts were selected as intervention districts for the CMW model, while Khanewal District was identified as an intervention district for the Suraj SF model, whereas Bahawalpur district served as the comparison district for both interventions. Likewise, in Sindh, Naushero Feroze and Nawabshah districts were selected as a Suraj intervention and its control.

The pre- and post-cross-sectional household surveys were conducted 24 months apart to measure the impact of the two interventions by measuring the same set of indicators including socio-demographic, reproductive health, family planning knowledge; attitude; health-seeking behaviours; FP access and needs; and practices of the

respondents. A structured questionnaire was used by adopting questions from the Pakistan Demographic and Health Survey 2006-07 with some modifications in order to measure use of modern contraceptive methods.

MWRA between 15-49 years of age with at least one child less than two years of age were included in the pre-test survey while post-test included two groups of MWRA: 1) MWRA between 15-49 years of age and with at least one child less than 2 years of age; and 2) MWRA between 15-49 years of age irrespective of the number of children. MWRA who were mentally or physically handicapped and were unable to give an interview, or who refused to provide informed consent or were unmarried/separated/widowed, were excluded.

Using a probability proportional to population size (PPS) technique for each of the three study arms to select study participants, an overall sample of 5,566 MWRA [while 1,995, 1,435 and 2,136 MWRA were recruited from the Suraj, CMW and control catchment areas respectively] for the pre-test and 6,316 MWRA [two sample size calculations were used for two groups: a) MWRA and b) MWRA with a child under the age of 2 years] for the post-test survey. Each target area of study districts was considered as a separate stratum. The data collection was conducted within the same catchment population of the study sites for pre- and post-tests. Prior to data collection, all the households (within a 4-5 kilometre radius) around each selected health-care facility were independently allotted a unique identifier.

Retrospective cohort study (Articles 5 and 6) (80, 142)

Two retrospective studies, both conducted with women of reproductive age (15-49 years) who had received IUD services from Suraj Social Franchise Clinics and Mobile Outreach Programme, were conducted in a total of 14 districts of Sindh and Punjab provinces. By employing a multi-stage cluster sampling procedure, these study sites (Bahalwanagar, Jhang, Kasur, Lodhran, Sheikhpura, Rawalpindi, Khanewal, Bhawalpur, Sialkot, Umerkot, Hala/Matiari, Tando Muhammad Khan, Nawabshah and TandoAllayar) were randomly selected from a purposive sample of two provinces i.e. Sindh and Punjab. The objective of these studies was to assess the socio-economic profile; discontinuation of IUD and to determine the

factors associated with IUD discontinuation among women clients of Suraj social franchise [at 6, 12 and 24 months) and mobile outreach programme (at 10 months).

Out of the 3,000 women we approached in the Suraj Social Franchise study cohort, 2,789 women of reproductive age (15-49) years willingly participated in the study. Within each district, we selected Suraj centres that had (averagely) performed at least 25 (operational targets) IUDs in three selected sub-cohorts (i.e. 6 month, 12 month and 24 month back i.e. in July 2010, December 2009 or January 2009). While, 639 women of reproductive age out of a total of 681 were recruited to the Mobile Outreach Programme study cohort [in the 9 to 10-month period surveyed i.e. July-August 2009].

Both studies used a pre-tested, adapted and contextualised, semi-structured questionnaire to capture socio-demographic information, discontinuation rates, reasons for discontinuation, side-effects, follow-up mechanisms, accessibility to removal services, service switching behaviour, and level of satisfaction with IUD and the Suraj provider. Similar questionnaires were used as in some of the previous studies (163).

Prospective cohort study (Article 7) (140)

This prospective study (Article 7) was nested within the larger quasi-experimental research study described above as in Article 4 (134). This study took place in Punjab, Sindh and KPK provinces with two different models: the Suraj intervention model was used in Khanewal (Punjab), Nausheroferoze (Sindh) and Haripur (KP); and the CMW intervention model was used in Pakpattan (Punjab) and Rajanpur (Punjab).

The recruitment of study participants started in March 2011 and continued until September 2011. All participants were followed every second month for 24 months with the last follow-up conducted in November 2013.

A total of 50 service providers were included in this study – 10 per district, including private providers in Suraj districts and CMW providers in CMW intervention districts. All of the mid-level private providers were Lady Health Visitors (LHVs) with personal clinics because selection criteria for the Suraj network included: (1) a

proper clinic setup; and (2) a practice in rural settings (at least 40 km away from District Health Quarter). Providers had a two-year diploma in general health-care provision and safe motherhood services. CMWs had no previous experience of delivering IUD services.

Providers in both of the intervention models received basic clinical training on FP from Marie Stopes Society (MSS) and were supported by both male and female community mobilisers. The CMW model differed from the Suraj intervention in two key aspects. First, the CMW intervention model did not include a voucher scheme for IUDs. Second, it did not include branding/marketing of CMW facilities in the community

The first 50 women who were new acceptors of long-term or short-term contraceptive methods at each of the Suraj and CMW FP service facilities were asked to participate in the study. They were followed up every two months for 24 months by respective MSS female community mobilisers in Suraj and CMW areas. Overall, 2,500 women were recruited for the study; however, the current analysis was performed amongst a subset (1,163) of the women who had received IUDs at the time of the recruitment. With a sample of 1,163 women (824 in Suraj and 339 in CMW), and assuming 22% cumulative probability of IUD discontinuation at 24 months, we could detect a difference of approximately 7 percentage points with 80% power.

Qualitative exploratory study (Article 8) (102)

A qualitative study was conducted to establish the socio-demographic profile of post-abortion care clients; to determine their preferred method of treatment; to explore their perceptions of the barriers to accessing post-abortion services; and to understand the challenges faced by reproductive health volunteers in six randomly selected districts of Sindh (Hyderabad, Nawabshah, Larkana) and Punjab (Gujranwala, Faisalabad, Bahawalpur) provinces in Pakistan.

The post-abortion care clients included women with complications related to miscarriage and/or unsafe or incomplete abortions, and the cases referred by reproductive health volunteers deployed in the field by MSS.

The study included eight focus group discussions (FGDs) with post-abortion care (PAC) clients and 15 in-depth interviews (IDIs) with the reproductive health volunteers and the participants were purposely selected.

The FGD and IDI interview guides were developed by the study teams and then translated and pre-tested in the local dialect. Both guides included thematic questions on the socio-demographic profile of clients receiving PAC services, surgical or medical treatment, method preference, clients' satisfaction based on choice of method, barriers accessing PAC services and documenting point of view of reproductive health volunteers on the day-to-day challenges and client interactions.

3.2.2.2 Data management and analysis

Quantitative cross-sectional study (Articles 1 and 2)

Data were double entered using Visual FoxPro version 6.0. Statistical analysis was performed through SPSS 17.0 for descriptive, logistic regression and multinomial logistic regression – using SPSS version 17.0. Univariate regression analysis was conducted to define the association between the outcome variable and risk factors. Multivariable logistic regression analysis was run to calculate adjusted odds ratio (AOR) and the 95% confidence interval.

Quasi-experimental pre-post study (Articles 3 and 4)

To ensure the quality of data and to minimise errors, both survey data from the questionnaires were double-entered in Visual FoxPro version 6.0. SPSS version 17.0™ was used to analyse some of the descriptive data. Advanced statistical analysis for model estimation were generated using SAS software, Version 08 and 11 of the SAS System for Windows (SAS Institute Inc., Cary, NC, USA). Overall, simple frequencies and proportions for the continuous variables were calculated, which were used for the analysis of general characteristics.

To test the association between women's satisfaction with wealth quintile and age, we used Pearson's chi-square test. Principal component analysis was used to calculate a socio-economic index. To isolate the effect of the intervention, we calculated difference-in-differences (DiD) estimates due to the fact that we used the quasi-

experimental design with controls, which has a limitation of non-random assignment of individuals to control and intervention groups. Moreover, the DiD analysis was also used to assess the effect of interventions on outcome indicators. A p-value of less than 0.05 was considered as statistically significant.

For Article 3, multivariable logistic regression was used to see the net effect of the intervention accounting for the observed and unobserved time-invariant characteristics, as well as the time-varying factor between intervention and control sites. Multivariable analysis was also run for Article 4 to determine factors associated with current contraceptive use (dependent variable) in each intervention arm, using Cox proportional hazard regression adjusting for clusters. The analysis was also adjusted for independent variables such as wealth, age, education, province, number of living children and socio-economic status. In addition, to obtain a meaningful model to help assess the significance of variables and models respectively, Wald statistic and likelihood ratio tests were used.

Retrospective cohort study (Articles 5 and 6)

The survey data were double entered and validated using Visual FoxPro version 6.0. Using SPSS 17.0, the descriptive frequencies, proportion and means were run for socio-demographic indicators using SPSS software, version 17.0™. STATA version 11.2 (Stata Statistical Software, Release 11; StataCorp LP, College Station, TX, USA) was used for advance analysis. Risk factors including prevalence ratios (PR) were calculated using univariate and multivariate Cox regression, keeping the time variable constant (164) to see the associations between discontinuation and its risk factors. A p-value of less than 0.05 was considered as statistically significant.

Prospective cohort study (Article 7)

In this study, as part of a follow-up visit, women were asked questions about current contraceptive use (including start date), method switching, method discontinuation (including stop date), reasons for discontinuation, method-related complications and pregnancy occurrence in case of method discontinuation. Face-to-face interviews were carried out at participants' homes in private except for the baseline interview, which was conducted at the health-care facility. Data were entered using a specifically designed data

entry programme using Visual FoxPro version 6.0. The questionnaire was pre-tested in a similar setting and revised based on feedback. All female community mobilisers were trained on administering the questionnaire and were rigorously monitored during the course of data collection.

The primary outcome of the study was IUD continuation rate. The analysis was conducted on the Statistical Package for Social Sciences software version 17.0™. Computed means, standard deviations, frequencies and percentages were used to describe the socio-demographic characteristics of women participating in the study. Differences in women's characteristics and reasons for IUD discontinuation between intervention arms were assessed using χ^2 and Fisher's exact tests. Cox proportional-hazard analysis was used to determine the risk factors associated with IUD discontinuation.

Qualitative exploratory study (Article 8)

The qualitative study included IDIs and FGDs. The IDIs and FGDs were tape-recorded with the informed consent of respondents. The mean duration of each FGD was 1.5 hours, and each IDI lasted for approximately one hour. Audio recordings and notes from all the FGDs and interviews were translated into Urdu. Subsequently Urdu-to-English translation was done by the investigators and was transcribed into Microsoft Word. The transcripts were manually coded for content by the researchers. The codes were developed inductively and the main themes were identified. Thematic analysis was carried out manually, which is a method of analysis in qualitative research

3.3 Ethical approvals

All quasi-experimental studies and the quantitative cross-sectional study in the thesis were approved by the National Bioethic Committee, Government of Pakistan. The retrospective cohort and the qualitative studies were approved by the Review Committee at the Research & Metrics Department of Marie Stopes International, London, United Kingdom. For all studies, written informed consent was obtained by all participants. All data from the studies were stored in a database that was protected and accessed only by the study investigators.

Chapter 3: Results

This chapter describes results by the objectives elaborated in Chapter 2 of this thesis developed on basis of following published papers on various integrated models that exclusively cater to enhancing FP access and uptake among married women in rural Pakistan.

List of selected publications

Azmat SK, Ali M, Ishaque M, Mustafa G, Hameed W, Khan O, Abbas G, Temmerman M, Munroe E. Assessing predictors of contraceptive use and demand for family planning services in underserved areas of Punjab province in Pakistan: results of a cross-sectional baseline survey. *Reproductive Health*. 2015; 12(1):25. PubMed PMID: 25880987. Impact Factor: 1.88 (A1)

Hameed W, Azmat SK, Ali M, Sheikh MI, Abbas G, Temmerman M, Avan BI. Women's empowerment and contraceptive use: the role of independent versus couples' decision-making, from a lower middle income country perspective. *PloS One*. 2014; 9(8):e104633. PMID: 25119727. Impact Factor: 3.23 (A1)

Azmat SK, Shaikh BT, Hameed W, Mustafa G, Hussain W, Asghar J, Ishaque M, Ahmed A, Bilgrami. Impact of social franchising on contraceptive use when complemented by vouchers: a quasi-experimental study in rural Pakistan. *PloS One*. 2013; 8(9):e74260. PubMed PMID: 24069287. Impact Factor: 3.23 (A1)

Azmat SK, Hameed W, Hamza HB, Mustafa G, Ishaque M, Abbas G, Khan OF, Asgahr J, Munroe E, Ali S, W H, Ali S, Ahmed A, Ali M, Temmerman M. Engaging with community-based public and private mid-level providers for promoting the use of modern contraceptive methods in rural Pakistan: results from two innovative birth spacing interventions. *Reproductive Health*. 2016;13(25):1-15 PMID: 26987368. Impact Factor: 1.88 (A1)

Azmat SK, Shaikh BT, Hameed W, Bilgrami M, Mustafa G, Ali M, et al. Rates of IUD discontinuation and its associated factors among the clients of a social franchising network in Pakistan. *BMC Women's*

Health. 2012; 12(1):8. PubMed PMID: 22458444. Impact Factor: 1.49 (A1)

Azmat SK, Hameed W, Mustafa G, Hussain W, Ahmed A, Bilgrami M. IUD discontinuation rates, switching behavior, and user satisfaction: findings from a retrospective analysis of a mobile outreach service program in Pakistan. International Journal of Women's Health. 2013; 5: 19-27. PubMed PMID: 23359788. Impact Factor: 0.55 (A2)

Hameed W, Azmat SK, Ishaque M, Hussain W, Munroe E, Mustafa G, Khan OF, Abbas G, Ali S, Asghar J, Ali S, Ahmed A, Hamza HB. Continuation rates and reasons for discontinuation of intra-uterine device in three provinces of Pakistan: results of a 24-month prospective client follow-up. Health Research Policy and Systems. 2015; 13 (Suppl. 1) (53) PMID: 26792610. Impact Factor: 1.81 (A1)

Azmat SK, Shaikh BT, Mustafa G, Hameed W, Bilgrami M. Delivering post-abortion care through a community-based reproductive health volunteer program in Pakistan. Journal of Biosocial Science. 2012 Nov; 44(6):719-31. PubMed PMID: 22652308. Impact Factor 1.26 (A1)

Assessing predictors of contraceptive use and demand for family planning services in underserved areas of Punjab province in Pakistan: results of a cross-sectional baseline survey (Article I)



RESEARCH

Open Access

Assessing predictors of contraceptive use and demand for family planning services in underserved areas of Punjab province in Pakistan: results of a cross-sectional baseline survey

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Abstract

Background: Although Pakistan was one of the first countries in Asia to launch national family planning programs, current modern contraceptive use stands at only 26% with a method mix skewed toward short-acting and permanent methods. As part of a multiyear operational research study, a baseline survey was conducted to understand the predictors of contraceptive use and demand for family planning services in underserved areas of Punjab province in Pakistan. This paper presents the baseline survey results; the outcomes of the intervention will be presented in a separate paper after the study has been completed.

Method: A cross-sectional baseline household survey was conducted with randomly selected 3,998 married women of reproductive age (MWRA) in the Chakwal, Mianwali, and Bhakkar districts of Punjab. The data were analyzed on SPSS 17.0 using simple descriptive and logistic regression.

Results: Most of the women had low socio-economic status and were younger than 30 years of age. Four-fifths of the women consulted private sector health facilities for reproductive health services; proximity, availability of services, and good reputation of the provider were the main predictors for choosing the facilities. Husbands were reported as the key decision maker regarding health-seeking and family planning uptake. Overall, the current contraceptive use ranged from 17% to 21% across the districts: condoms and female sterilization were widely used methods. Woman's age, husband's education, wealth quintiles, spousal communication, location of last delivery, and favorable attitude toward contraception have an association with current contraceptive use. Unmet need for contraception was 40.6%, 36.6%, and 31.9% in Chakwal, Mianwali, and Bhakkar, respectively. Notably, more than one fifth of the women across the districts expressed willingness to use quality, affordable long-term family planning services in the future.

Conclusion: The baseline results highlight the need for quality, affordable long-term family planning services close to women's homes. Furthermore, targeted community mobilization and behavior change efforts can lead to increased awareness, acceptability, and use of family planning and birth spacing services.

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Background

Family planning (FP) is one of the most “health-promoting” and cost-effective activities in public health promotion and has the potential to avert approximately 30% of maternal and 10% of child deaths [1]. Thus, FP contributes to achieving the Millennium Development Goals (MDGs) through healthier birth spacing and by reducing mortality and morbidity associated with pregnancy [2]. In 1950, Pakistan had a population of 37 million and was the world’s 13th largest country as measured by population; however, in 2013, Pakistan had become the sixth largest country with 191 million people [3]. The first government-supported family planning program was started in the 1960s, but over a 50-year period, priorities changed as the program evolved. Failure to effectively manage the fertility rate and rapid population growth had adverse effects on development indicators such as education, poverty, and life expectancy, particularly for maternal and child health [4].

In Pakistan, approximately 35% (more than 8 million) of married women of reproductive age (MWRA) practice some form of family planning, and of them, around 26% (6 million women) use a modern method [5]. Among modern methods, female sterilization/tubal ligation is the most common method at around 45% of the modern method mix, but it is chosen late, often after 31.5 years of age and usually after four or more children [5]. Second, short-term methods such as condoms accounted for around 23% of the method mix, with the remainder divided between the pill, injection, and long-term method (LTM) for contraception, i.e., an intrauterine contraceptive device (IUCD): 8%, 7%, and 17%, respectively [5]. A Pakistani woman does not enjoy autonomy of decision making regarding her own reproductive health and family planning needs [6]. Moreover, religious opposition and misinterpretation of family planning impede the adoption of contraceptives, even among those who desperately want to space their children [7].

Pakistan is a signatory to the International Conference on Population and Development (ICPD). To achieve the country’s commitment to the global MDGs to lower the fertility rate, slow the rapid population growth, and decrease maternal, neonatal, and child morbidity and mortality, the government of Pakistan pledged to increase the contraceptive prevalence rate to 55% by 2015 [8]. However, with the prevailing scenario, it is improbable that this goal will be achieved, although the government of Pakistan is still the major FP provider in Pakistan (47%) while 23% of the need is fulfilled by the private sector [5]. Importantly, 53% of the LTM is supplied by the public sector, but their contribution in the modern contraceptive prevalence rate (CPR) is only 2.3% [5]. Thus, concentrated efforts are required to utilize all available channels in the public, private, and nongovernmental

organization (NGO) sectors to address the low and very slowly progressing CPR and high unmet need for family planning in Pakistan since only with public and private sector collaboration can this challenging goal be achieved.

In the present scenario, franchised health establishments are becoming popular worldwide in attracting reproductive health clients [9]. The Marie Stopes Society (MSS), a local non-governmental organization, therefore, originally piloted its own version of social franchise intervention as Suraj (i.e., in English, Sun, a brand name provided to the clinics of the trained franchise providers of MSS) in 2008 to improve the reproductive health of women living in rural communities and to test the intervention’s feasibility [10]. The earlier findings documented increased awareness and modern contraceptive use especially of IUCDs in targeted rural poor communities in a few districts in Punjab and Sindh provinces [10,11]. Thus, with slight modifications of the original MSS Suraj social franchise model [10–12], the MSS implemented a new operational research project, with a quasi-experimental study design. Based on a similar social franchising model with a demand-side financing approach, the MSS built a partnership with local health care providers in underserved rural areas of Pakistan to produce robust results within a minimum period of time to increase the targeted CPR among the poorest [12].

As part of this multiyear operational research study, a baseline survey was conducted in May 2012 to understand the predictors of contraceptive use and demand for family planning services in underserved areas of Punjab province in Pakistan. This paper presents the survey results; the outcomes of the intervention will be presented in a separate paper after the study has been completed. It is anticipated that the baseline findings will inform the operations research project implementation and programmatic decision making to ensure that the project is on track and adequately meets the contextualized supply and demand needs in the targeted areas. Moreover, the baseline survey will serve as a benchmark to assess the effect of the intervention. The end-line survey of this project will be conducted after the 24-month intervention has been completed to measure change in key project indicators as a result of the intervention.

Methodology

Study design

This is a quasi-experimental study with a control arm. Data collection methods include population-based household surveys (baseline and end-line).

Study settings

The survey was conducted in two intervention districts (Chakwal and Mianwali) and the control district (Bhakkar), where the control district was selected based on its

proximity and comparability to demographic and service delivery indicators of the intervention areas. The control district is at a sufficient distance from the intervention districts to any contain spillover effect of the intervention.

Sampling

The multi-stage sampling technique was used to select respondents. At the first stage, the districts and catchment area of the providers were purposively selected. The catchment area for the providers spread over 3–4 km radius and were at a sufficient distance from one another. After demarcation of the catchment area, all households within the catchment area of each service provider were allotted a unique study number in order to select the households for the baseline survey. Using computer software, we randomly selected a sample of households within the catchment of each service provider.

Sample size

The target population for the baseline survey included MWRA (15–49 years). Overall, a total of 3,998 MWRA were interviewed: 694 in Chakwal, 719 in Mianwali, and 2,585 in Bhakkar. One MWRA was interviewed in a household. If more than one MWRA was found within a household, then the youngest MWRA was interviewed.

Tool for baseline survey

The survey questionnaire was adapted from the 2006–07 Pakistan Demographic Health Survey (PDHS) instruments. The questionnaire had two components: the demographic and socio-economic characteristics of women and one that explored fertility choices, contraceptive knowledge, and practices and aspects of reproductive health.

Outcome variable

All respondents were asked about the current use of contraceptive methods. This outcome variable (current use of contraceptives) was asked similarly on the 2006–2007 Pakistan Demographic Health Survey. If a woman reported current use of any contraceptive method, the response was coded 1 and 0 if the response was negative.

Independent variables

Many socio-demographic and other factors may influence the decision of MWRA to use contraceptives. We included all socio-demographic and other relevant variables in the model to determine the association between the dependent and independent variables. The list of variables used for the analysis include age of the woman and her husband; woman's age at marriage; education and occupation of the woman and her husband; number of the living children the couple have; wealth quintiles; knowledge about and past and current use of contraceptives; attitudes toward family planning and birth spacing;

decision-making dynamics regarding health seeking, family planning, pregnancy, and delivery; and spousal communication regarding family planning and birth spacing.

Statistical analysis

Data were analyzed using SPSS 17.0. Descriptive statistics, frequencies, and proportion were run based on the respondents' socio-demographic characteristics, reproductive health care profile, decision making, contraceptive knowledge, attitude, and practice. The mean, median, and standard deviation were calculated for the continuous variables and proportions for the categorical variables.

Table 1 Socio-demographic characteristics of MWRA

Characteristics	Chakwal %	Mianwali %	Bhakkar %
Age of women			
≤24	15.3	16.3	15.5
>24 to 35	43.2	45.3	53.3
>35	41.5	38.4	31.2
Average ± SD	32.4 ± 7.4	31.2 ± 7.1	30.3 ± 6.3
Age of women at marriage			
≤20	67.4	65.0	65.7
>20 to 25	25.9	26.6	29.8
>25	6.6	8.5	4.4
Average ± SD	19.8 ± 3.7	20.2 ± 3.8	19.9 ± 3.3
Age of husband			
<30	19.7	22.4	21.9
30 to <40	34.6	37.7	46.8
40+	45.7	39.9	31.4
Average ± SD	37.1 ± 8.7	37.1 ± 8.6	34.9 ± 7.5
Women's education			
Illiterate	32.6	60.6	63.4
Literate	67.4	39.4	36.6
Husband's education			
Illiterate	11.2	23.8	38.1
Literate	88.8	76.2	61.9
Number of living children			
No children	3.8	6.6	5.7
1 child	18.2	18.7	17.5
2-3 children	39.9	36.4	38.4
4 or more children	38.2	38.4	38.4
Wealth quintile			
Poorest	5.9	14.9	25.2
Poor	13.3	21.2	21.4
Middle	15.5	18.1	21.7
Rich	19.6	23.6	19.1
Richest	45.7	22.2	12.5

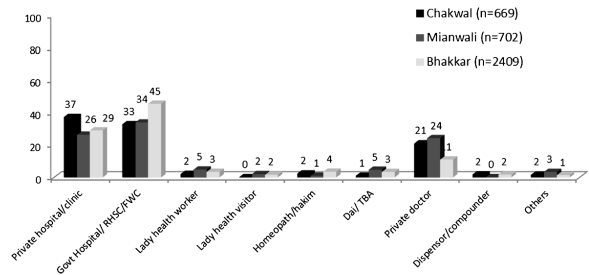


Figure 1 Type of facility and provider for seeking RH care.

Univariate logistic regression analysis was applied to determine the association between the outcome variable (current contraceptive use) and risk factors (couple's age and education, age at marriage, number of children, decision making, place of delivery, and wealth quintile). The adjusted odds ratio (AOR) and the 95% confidence interval were also calculated by applying multivariable logistic regression analysis. Variables that were statistically significant or meaningful were entered in the multivariable logistic regression model.

Ethical consideration

The study protocol, informed consent form, and baseline household survey questionnaire were reviewed and approved by the Ethics Review Committee (ERC) of the National Bioethics Committee (NBC) of Pakistan [12].

Results

Socio-demographic characteristics of MWRA

The mean age of the respondents was 31 ± 6.9 years, and the mean age at the time of marriage was 20 ± 3.5 years. Illiteracy among MWRA was higher in Mianwali and Bhakkar (60%) compared to Chakwal (32%). Mean household income was PKR11, 111 ± 9,695 (US\$104 ± 90.4) per month (refer to Table 1).

Health care seeking and decision making

Most of the MWRA in Bhakkar (45%) and Mianwali (34%) consulted public sector health facilities such as reproductive health service centers (RHSCs) and family welfare clinics (FWCs) for reproductive health (RH) care (refer to Figure 1). However, in Chakwal the majority visited private sector hospitals/clinics. In addition, a significant number of MWRA across the districts also visited private sector practitioners/doctors for RH care. The MWRA were also asked at the baseline to describe the attitude of the RH providers to their patients. Most of the MWRA across the three districts described the RH providers' attitudes as either "somewhat helpful" (47%) or "very helpful" (42%).

An important indicator of quality service delivery is the "availability of medicines and contraceptives supplies" in a district. All three districts had majority of the medicines and supplies usually available (Chakwal: 86%; Mianwali: 92%; Bhakkar: 86%). In addition, the most of the MWRA in all three districts on average went alone to the facility/provider for RH services (66%). Women in Bhakkar were most likely to be more autonomous in terms of social mobility while seeking RH care (79%) followed by Mianwali (65%) and Chakwal (54%), respectively. A small number of MWRA in these districts reported they were accompanied by their husband (14%),

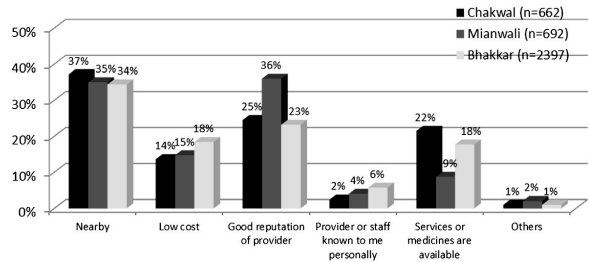
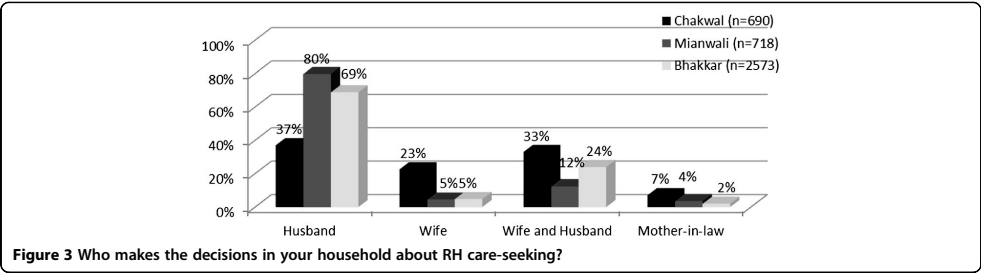


Figure 2 Reasons for selecting a particular RH facility or a provider.



brother (12%), relative/friend (6%), or mother-in-law (2%). Likewise, the common reasons for selecting a health facility or provider included proximity, good reputation of provider, and availability of services followed by the cost of services (refer to Figure 2).

Importantly, the median cost of RH services per recent visit reported by the respondents was PKR500 (US\$4.65) and PKR800 (US\$7.45) for Chakwal and Mianwali, respectively, but PKR300 (US\$2.8) for Bhakkar. Meanwhile, the decisions in households regarding health care seeking were usually made by husbands for 80% of the respondents in Mianwali and 69% in Bhakkar (refer to Figure 3). In Chakwal, about 37% reported their husbands were the decision maker, 23% reported the wife was the decision maker, and 33% reported that the wife and the husband decided together about health care seeking, perhaps reflecting the slightly higher level of education and better economic situation in the district. Health care-seeking decisions about sick children were predominantly made by the husband with only occasional input from the wife. However, this pattern was less strong in Chakwal.

We also asked the MWRA about different methods that they had heard of and the sources of information. Knowledge about family planning and various modern contraceptive methods was considered universal in Pakistan [5]; however, the data indicate that this is not the case. Some of the results are shown in Table 2.

Knowledge and practices of family planning contraception
In all three districts, the main source of information on abstinence, withdrawal, condoms, pills, and injections was a lady health worker (LHW). For IUCD, implants, and sterilization, respondents mentioned a lady health visitor (LHV) or a doctor as their primary source of information. The current contraceptive use across the districts was lower compared to the national CPR of 35% as reported in the latest Demographic Health Survey (DHS) [5]. Overall, the current contraceptive use in the surveyed districts ranged from 17% in Mianwali to 18% in Bhakkar and 21% in Chakwal. Interestingly, much

lower use of traditional methods across the districts was reported than the national average. The main predictors of contraceptive use in all three districts were the age of the woman, whether she had achieved ideal family size, affluence, and access to an LHW or counseling; the last was the most powerful influence (refer to Table 3). Condoms were the most common method in use; around a third of the respondents used this method. The next most common method was female sterilization.

Although the most common methods in current use included condoms and female sterilization, the use of female sterilization was high in Chakwal (5.3%) compared with Mianwali (2.8%) and Bhakkar (2.7%). The average current method mix for short-acting methods such as pills, injections, and condoms was the same as the long-acting method of contraception; for example, IUCD use was highest in Mianwali (3.3%) followed by 2.3% in Chakwal and 1.85% in Bhakkar (refer to Table 4).

Moreover, in all three districts, more than half of the MWRA reported that that use of family planning methods to avoid pregnancy was acceptable while around 42% considered that use of modern contraception was acceptable in Islam (refer to Table 5).

The most common reasons for choosing the contraceptive method currently in use, as reported by the MWRA, included perceived effectiveness of the contraceptive

Table 2 Knowledge about modern contraceptive methods

Method	Chakwal N = 692	Mianwali N = 718	Bhakkar N = 2583
Pill	47%	55%	45%
IUCD	38%	38%	32%
Injections	42%	50%	41%
Condom	39%	34%	32%
Periodic abstinence	26%	17%	15%
Withdrawal	28%	14%	11%
Female sterilization	31%	22%	21%
Male sterilization	17%	11%	13%
Implants	16%	10%	9%

Table 3 Unadjusted and adjusted odds ratios of current contraceptive use by socio-demographic characteristics of participants

Characteristics	N	n (%)	OR (95% CI)	AOR (95% CI)
Age of women				
≤24	724	78 (10.8)	1	
>24 to 35	2,117	393 (18.6)	1.88 (1.45-2.44)***	
>35	1,591	297 (18.7)	1.90 (1.45-2.48)***	
Age of women at time of marriage				
>25	250	26 (10.4)	1	1
>20 to 25	1,141	159 (13.9)	1.42 (0.91-2.20)	1.01 (0.60-1.74)
≤20	2,039	583 (19.2)	2.07 (1.37-3.15)***	1.18 (0.70-1.98)
Age of husband				
<30	1,002	129 (12.9)	1	1
30 to <40	1,775	306 (17.2)	1.41 (1.13-1.77)***	0.58 (0.43-0.79)***
40+	1,654	333 (20.1)	1.70 (1.37-2.13)***	0.53 (0.38-0.73)***
Women education				
Illiterate	2,528	354 (14.0)	1	1
Literate	1,903	413 (21.7)	1.70 (1.45-1.99)***	1.22 (0.9-1.54)
Husband education				
Illiterate	1,140	195 (17.1)	1	1
Literate	3,291	573 (17.4)	1.02 (0.85-1.22)	0.67 (0.52-0.87)**
Number of living children				
0-1 child	1,017	76 (7.5)	1	1
2-3 children	1,478	305 (20.6)	3.21 (2.50-4.19)***	3.19 (2.28-4.47)***
4 or more children	1,586	387 (24.4)	3.98 (3.07-5.17)***	6.10 (4.20-8.86)***
Wealth quintile				
Poorest	852	97 (11.4)	1	1
Poor	919	138 (15.0)	1.38 (1.05-1.82)*	0.98 (0.69-1.39)
Middle	814	148 (18.2)	1.73 (1.31-2.29)***	1.54 (1.08-2.20)*
Rich	859	173 (20.1)	1.97 (1.50-2.58)***	1.72 (1.20-2.47)**
Richest	963	204 (21.2)	2.09 (1.61-2.72)***	1.41 (0.97-2.05)
Decision making regarding pregnancy				
Husband decides	3,088	521 (16.9)	1	1
Mother-in-law decides	225	38 (16.9)	0.99 (0.69-1.42)	1.14 (0.73-1.80)
Respondent (women decide)	298	60 (20.1)	1.23 (0.92-1.66)	1.17 (0.82-1.69)
Both (husband and wife) decide	632	122 (19.3)	1.18 (0.94-1.46)	1.04 (0.80-1.37)
Spousal communication regarding family planning and birth spacing				
No	1,765	71 (4.0)	1	1
Yes	2,655	697 (26.3)	8.48 (6.59-10.91)***	5.29 (4.22-6.65)***
Spouses' agreement on couple using contraceptive method is acceptable				
Disagree by both	1,084	50 (4.6)	1	1
Agree by any (husband or wife)	408	65 (15.9)	3.94 (2.70-5.81)***	1.80 (1.60-2.80)**
Agree by both	2,228	607 (27.2)	7.82 (5.80-10.55)***	4.53 (3.26-6.30)***

Table 3 Unadjusted and adjusted odds ratios of current contraceptive use by socio-demographic characteristics of participants (Continued)

Place of last child delivered				
Home	2,132	367 (17.2)	1	1
Maternity Home/Private clinic	283	65 (23.0)	1.43 (1.06-1.93)*	1.30 (0.89-1.89)
Hospital	1,472	333 (22.6)	1.40 (1.19-1.66)***	1.53 (1.24-1.88)***

P-value: *p < 0.05, **p < 0.01, *** p < 0.001.

method followed by long-term effectiveness, permanent method, and affordability. Other reasons cited for choosing the current contraceptive method included quality and ease of access and use (refer to Figure 4). Husband's or mother-in-law's approval was also cited as an important reason for selecting the particular method currently in use.

The most common source for acquiring the current contraceptive method in use across the districts was either a government health facility or an LHW. Thus, public sector sources accounted for nearly half of the cases. The other common sources were private sector hospital/clinics and self-procurement from a private sector store or friends/relatives. Individual private sector practitioners/doctors were also cited as sources of family planning services (refer to Table 6).

In addition, the median distance to the nearest health facility or provider for FP services was 1 km in Chakwal, 2 km in Mianwali, and 3 km in Bhakkar.

As mentioned in Table 7, the cost associated with use of services also varied in all three districts; the median cost of the FP method was PKR85 (US\$0.80) in Chakwal, PKR125 (US\$1.17) in Mianwali, and PKR200 (US\$1.87) in Bhakkar.

Regarding the LHW's visit to households for FP information/counseling or short-term methods, 69% of the MWRA in Mianwali, 65% in Bhakkar, and 51% in Chakwal

reportedly received a visit in the 1 month before the baseline survey. Around 10% of the MWRA reported having seen a family planning message on television during the same period. Among those who saw the advertisement, the majority (87%) mentioned that it conveyed the message of increasing birth spacing, and almost a similar percentage of MWRA (85%) found the message effective in spreading awareness and benefits of birth spacing.

Fertility preference, unmet need for contraception, and willingness to use contraception in the future

Around half of the MWRA across the three districts stated that they wanted to have another child. The most common reason was the in-laws' desire for a male child. In all three districts, for the newly married couples, more than 40% would prefer having their first child born within first year, and that was mainly due to family pressure.

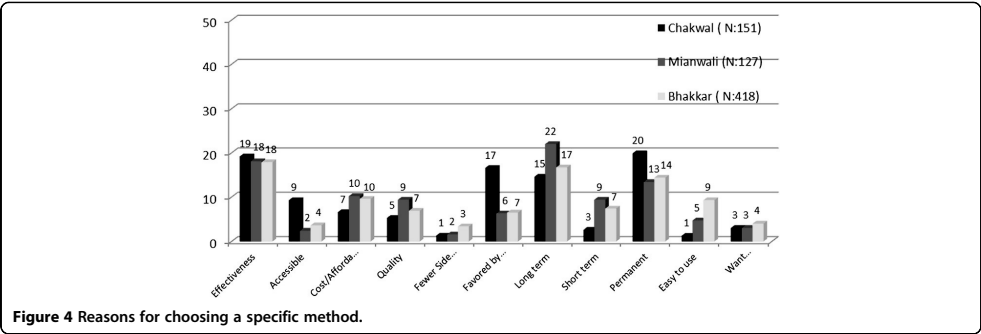
The baseline results reveal high need for contraception at 40.6%, 36.6%, 31.9% in Chakwal, Mianwali, and Bhakkar, respectively (refer to Table 8). Notably, 31.3%, 22.6%, and 20.7% of the women in Mianwali, Chakwal, and Bhakkar, respectively, expressed their willingness to use family planning services in the future. Long-term effectiveness (Chakwal 34.2%, Mianwali 20.7%, Bhakkar 33.5%), quality (Chakwal 29.9%, Mianwali 18.4%, Bhakkar 17.4%), and affordability (Chakwal 15.4%, Mianwali 22.4%, Bhakkar 21.8%) were cited as important factors that would influence MWRA choice of contraception in the future. The willingness to pay for family planning was highest in Chakwal where up to 75% of the women were willing to pay, if they were offered quality services, compared to Mianwali (60%) and Bhakkar (53%).

Table 4 Current contraceptive use and method-wise utilization trends

	Chakwal N = 694	Mianwali N = 719	Bhakkar N = 2585
Overall current contraceptive use			
Current contraceptive use	21%	17%	18%
Method-wise current contraceptive use			
Pill	1.9%	2.2%	2.1%
IUCD	2.3%	3.3%	1.8%
Injections	2.9%	2.6%	2.4%
Condom	6.9%	5.6%	6.5%
Periodic Abstinence	0.4%	0.1%	1.5%
Withdrawal	1.3%	0.4%	0.4%
Female sterilization	5.3%	2.8%	2.7%
Male sterilization	0.0%	0.3%	0.1%

Table 5 Use of contraceptive method approved by women and their husbands

Indicators	Chakwal N = 694	Mianwali N = 719	Bhakkar N = 2585	Overall N = 3998
Mutually approved that couple using contraceptive method is acceptable	52.2%	53.5%	51.5%	52.0%
Mutually approved that couple using contraceptive method is acceptable in their religion	37.3%	45.3%	41.7%	41.6%



Discussion

Women’s social position and health care utilization patterns call for establishing a model in women have the permission, ability, and trust to seek and obtain the services of their choice [13]. More than half of the women reported they received reproductive health services from public sector outlets, which reflects the widespread presence of public sector health networks. In addition, a significant proportion of women also reported they received FP/RH services from private sector sources. The increasing use of the private sector for RH health care reflects the national trend and women’s concern for quality of care associated with private sector health services [5,14]. To address the cost incurred in such consultations in the private sector, vouchers are a tested model for providing a safety net to the poor to use the quality services needed [10].

Many women described they were able to go RH services alone, which is much higher than what has been described in more conservative communities, for example, in some of the southern and northern regions of the country [15,16]. Another striking result of our study

is the reason for choosing a specific provider: the reputation of the provider and the distance to the facility. Most women in Pakistan find it easy to see a health provider, if he or she is in the vicinity and is already known in the community [17]. Despite the autonomy that women enjoyed in terms of mobility, decisions regarding various household affairs rest with the men or the head of the household, which is a very peculiar feature of patriarchal society [18].

The findings indicate that overall knowledge of particular methods such as male condoms is very low; for example, only around half of the women had even heard about any of the common modern methods. This is in contrast with national data that reported almost universal knowledge of contraceptive methods and male condoms as one of the two most popular modern contraceptive methods known and used in Pakistan [5]. This fact can be attributed to the lack of inter-spousal communication, which is almost negligible in these districts. The proposed franchising intervention has a strong component of couples counseling whenever a client approaches the FP provider for birth spacing consultation. Women who are aware and knowledgeable about the methods mentioned LHWs as their primary source for most methods. This is in agreement with findings for the LHW program in Pakistan [19]. Since only 60% of the women reportedly received an LHW visit during the 1 month before this

Table 6 Source of current contraceptive method

Source of current contraceptive method	Chakwal N = 133	Mianwali N = 118	Bhakkar N = 397
Government hospital/RHSC	29.3%	27.1%	28.2%
Lady health worker	22.6%	22.9%	24.4%
Private hospital/clinic	8.3%	11.9%	14.6%
Shop/friends/relatives/husbands	17.3%	11.0%	10.6%
Lady health visitor	3.0%	2.5%	7.6%
Private doctor	6.0%	6.8%	3.8%
Pharmacy/dispenser/compounder	1.5%	5.9%	4.5%
Family welfare center	2.3%	5.9%	1.3%
RHC/BHU/MCH	0.0%	0.8%	0.8%
Others (push cart/Dai/TBA/mobile service camp)	9.8%	5.0%	4.3%

Table 7 Cost of FP services

Median cost of FP method	Chakwal PK Rupees (US\$)	Mianwali PK Rupees (US\$)	Bhakkar PK Rupees (US\$)
Condoms (12 units)	50 (US\$0.47)	150 (US\$1.40)	130 (US\$1.21)
Pills	130 (US\$1.21)	30 (US\$0.28)	200 (US\$1.87)
Injections	55 (US\$0.51)	100 (US\$0.93)	95 (US\$0.89)
IUCD	60 (US\$0.56)	200 (US\$1.87)	400 (US\$3.74)
Female sterilization	–	1265 (US\$11.82)	2000 (US\$18.69)
Male sterilization	–	9 (US\$0.08)	–

Table 8 Assessing need and willingness and reasons to use contraception in the future

Indicators	Chakwal %	Mianwali %	Bhakkar %
Assessing need for contraception	40.6	36.6	31.9%
Willing to use contraception in the future e	22.6	31.3	20.7
Method preference (among those who will use a contraceptive method in the future)			
Condoms	24.4	10.8	21.1
Pills	17.9	19.5	16.1
Injections	14.6	16.2	17.7
Implant	6.5	2.7	1.6
IUCD	12.2	8.1	9.8
Female sterilization	13.0	20.5	12.3
Male sterilization	0.0	0.0	0.0
Periodic abstinence	0.8	0.0	2.5
Withdrawal	2.4	0.0	1.1
Don't know/whatever suggested by husband	8.2	22.1	17.7
Reason for choosing a specific contraceptive method in the future			
Cost/affordability	15.4	22.4	21.8
Quality	29.9	18.4	17.4
Long term	34.2	20.7	33.5
Short term	4.3	2.9	6.9
Permanent	12.0	17.3	9.9
Better for health	1.7	1.1	5.7
Easy access	0.9	0.0	0.0
Others (suggested by husband/ for spacing)	0.0	2.3	0.2
Don't know/	1.7	14.9	4.5

baseline survey, the national program must strategize how the efficiency of the LHWs can be further increased: either by recruiting and deploying more workers or by strengthening the monitoring and supervision of the LHWs. Field health educators (FHEs) of the franchised FP/RH programs might also be helpful in filling the gaps in areas where it is difficult for LHWs to visit certain households more frequently.

The current contraceptive usage rates are around 20% in these districts, much lower than the 35% that was reported in the 2012–13 Pakistan Demographic and Health Survey [5]. Moreover, the unmet need for contraception as documented in this survey is much higher and almost twice the national average [5]. Most importantly, almost one in four MWRA currently not using any contraception expressed the desire to use contraception in the future. However, long-term effectiveness followed by quality and affordability were cited as the

main reasons for choosing a specific contraceptive method in the future. Franchising private sector providers in the two intervention districts has the potential to improve access as well as choice of family planning services for MWRA. This model has been demonstrated to work in other countries where the government system has not worked to build trust and thus deliver quality family planning services [20]. The rates of use of traditional methods were much lower than the national average, which also reflects the lack of awareness of birth spacing methods and highlights the need for increasing awareness of the full range of family planning methods. Among modern methods, condoms were the most popular method, for the same reason often documented in national surveys as well as other studies, i.e., ease of access and ease of use [5,21]. Field health educators/workers and community mobilizers in family planning programs along with LHWs must reinforce messages about long-term methods, to meet the needs of couples who are looking for long-term child spacing. The baseline results also revealed a desire for more children, especially the desire for a son, as a dominant reason for currently not using contraception, which reflects the general trend [5] that women adopt contraception late in life when they have achieved their desired family size. The FP programs can also benefit from behavior change efforts aimed at promoting birth spacing during early years of marriage and to promote optimal birth intervals. Religion or more precisely religious interpretations by local clergy are also an important barrier to using modern FP methods. This issue must be tackled more broadly by engaging actively with local community leaders, social workers, village elders, and renowned religious scholars [22]. The key limitations of our findings are mostly related to generalizability since the data were collected through a cross-sectional survey from intervention sites in only three districts of Punjab province in Pakistan. Furthermore, the interviews were conducted only among women; therefore, the study did not capture in-depth information about men's perspectives on fertility or about their desire and intentions regarding contraceptive use.

Conclusion

The baseline results emphasize the predictors of contraceptive use in rural Pakistan, which include proximity, availability of quality and affordable services, positive perceptions of family planning, spousal communication, and in-laws' approval. Overall, the results highlight the need for quality, affordable long-term family planning services close to women's homes. In addition, targeted community mobilization and behavior change efforts can address socio-cultural issues and misconceptions related to family planning and modern contraception and lead to increased awareness, acceptability, and use of modern contraception.

Competing interests

The authors declare that they have no competing interests.

Authors' contributions

SKA, WH and MA were involved in conception and design of the study, interpretation of the literature, and prepared the draft; MI, GM and WH conducted the main analysis; SKA, MA, WH, GM, EM, OFK and GA added literature and reviewed the analyzed content; MI, GA, WH, GM and SKA supervised the data collection, data cleaning and initial analysis; MT, MA, SKA, IS, GM, WH and EM contributed in revising it critically for substantial intellectual content. All authors read and approved the final manuscript.

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**Women's empowerment and contraceptive use:
the role of independent versus couples' decision-
making, from a lower middle income country
perspective (Article 2)**



Women's Empowerment and Contraceptive Use: The Role of Independent versus Couples' Decision-Making, from a Lower Middle Income Country Perspective

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Abstract

Introduction: There is little available evidence of associations between the various dimensions of women's empowerment and contraceptive use having been examined - and of how these associations are mediated by women's socio-economic and demographic statuses. We assessed these phenomena in Pakistan using a structured-framework approach.

Methods: We analyzed data on 2,133 women who were either using any form of contraceptive or living with unmet need for contraception. The survey was conducted during May - June 2012, with married women of reproductive age (15–49 years) in three districts of Punjab. The dimensions of empowerment were categorized broadly into: economic decision-making, household decision-making, and women's mobility. Two measures were created for each dimension, and for the overall empowerment: women's independent decisions, and those taken jointly by couples. Contraceptive use was categorized as either female-only or couple methods on the basis of whether a method requires the awareness of, or some support and cooperation from, the husband. Multinomial regression was used, by means of Odds Ratios (OR), to assess associations between empowerment dimensions and female-only and couple contraceptive methods.

Results: Overall, women tend to get higher decision-making power with increased age, higher literacy, a greater number of children, or being in a household that has superior socio-economic status. The measures for couples' decision-making for overall empowerment and for each dimension of it showed positive associations with couple methods as well as with female-only methods. The only exception was the measure of economic empowerment, which was associated only with the couple method.

Conclusion: Couples' joint decision-making is a stronger determinant of the use of contraceptive methods than women-only decision-making. This is the case over and above the contribution of women's socio-demographic and economic statuses. Effort needs to be made to educate women and their husbands equally, with particular focus on highly effective contraceptive methods.

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Introduction

Worldwide, 292,982 women died in 2013 due to pregnancy-related complications; and more than 50% of all maternal deaths were in just six developing countries, including Pakistan [1,2]. These deaths are projected to be 1.8 times higher in women without contraceptive use [3]. Among many interventions, contraceptive use to prevent unwanted pregnancies is one of the most cost-effective ways of reducing maternal deaths [4].

The health of women and their children in many societies is adversely affected by women's inferior social status within

households. This is mainly because of the culturally and socially determined roles for women that pervade every aspect of their lives [5,6]. Women in South Asia sacrifice their desire to regulate their fertility because they are nurtured in such a way that their family-group interest supersedes their personal desire [7]. Consequently, women's empowerment is recognized as an imperative element in enabling couples to access reproductive health services - including family planning - for improved mother-and-child health [8]. It is suggested that gender-based control in relationships is associated with sexual- and reproductive-health outcomes [9].

The concept of women's empowerment is complex, as there is considerable variation in its conceptualization. Most definitions link empowerment with the power or freedom used to achieve desired outcomes. For example, Safilos-Rothschild defines "women's status as women's overall position in the society while 'power' refers to women's ability to influence and control at the interpersonal level" [10]. Krishna describes women's empowerment as "the process of increasing the capacity of women to make choices and to transform these choices into desired actions and outcomes" [11]. In South Asia, empowerment is referred to as "the process in which women challenge the existing norms and culture to effectively improve their well-being" [12]. Nabeela Kabeer notes "the expansion in women's ability to make strategic life choices in a context where this ability was previously denied to them" as empowerment. According to the Department for International Development (DFID), empowerment is "a process of transforming gender relations through groups or individuals developing awareness of women's subordination and building their capacity to challenge it" [13].

The dynamic and multidimensional nature of women's empowerment, and its existence at various levels, make it challenging for researchers to measure empowerment [14]. Several proxy indicators are used to measure empowerment, such as education and employment status; however, though related to it, these characteristics do not reflect empowerment [15,16]. Offering one of the most comprehensive frameworks for measuring women's empowerment, Malhotara et al. propose measuring the general development of empowerment at different levels, and in six categories or dimensions: economic, socio-cultural, familial/interpersonal, psychological, legal, and political [15]. There is considerable literature from several countries on the relationship between women's empowerment and the use of contraception [9,17–22]. However, most studies in this area have examined the effect of either only a single-aspect dimension or an overall empowerment on contraceptive use; yet analysis has shown that not all dimensions of women's empowerment correlate equally with contraceptive use [17]. There is insufficient evidence in the literature available to establish a relationship between the empowerment of women and contraceptive use in Pakistan [22,23]. Moreover, to the best of the authors' knowledge, there is little available evidence of having assessed the mediating effects of women's socio-economic and demographic statuses on the relationship between empowerment and contraceptive use.

Mindful of the implicit assumption that in most societies, particularly in Asia, men control the women of their social class - especially in their households and families - we chose the operational definition of empowerment proposed by Kabeer [24]. This is because it is most widely accepted, and addresses, in particular, the individual level instead of group- or community-level empowerment. Above all, it effectively covers nearly all the key dimensions in the stated definitions. In this paper, we have aimed to assess the overall effect of women's empowerment and its various dimensions on contraceptive use by adapting the structured framework used by Haque et al. [25] in Bangladesh. We hypothesized that empowered women are more likely to practise contraception, compared with women who are not (or are less) empowered. Specifically, we examined the effect of empowerment on female-only methods, as well as couple methods in which the husband's involvement or support are necessary. The framework we used consisted of three key dimensions: economic decision-making, household decision-making, and women's physical mobility (see figure 1). In addition, we attempted to determine the mediating effects of women's socio-economic and demographic characteristics on the relationship in question.

Country setting

Pakistan has a population of over 180 million [26] with a sex ratio of 102 males per 100 female [27]. 65% of the people live in rural areas [28], 20% of women or couples want to delay or limit their pregnancies; and nearly one in the total fertility rate (TFR) of 3.8 is an unwanted birth, with a median birth-spacing time of 28 months [27]. Current use of modern contraception is around 26%, with the most common methods being either permanent (female sterilization), less effective (condom), and traditional (withdrawal) [27]. In Pakistan, the patriarchal framework of society works at all levels to place women in a more vulnerable position than men [5]. According to the 2012 Gender Gap Report, Pakistan scores almost lowest among the countries assessed on gender disparities, ranking 134 out of 135 countries [29]. In order, also, to improve key maternal- and reproductive-health indicators, addressing the issue of women's empowerment is recommended [30].

Methods

Study setting and sample

This paper reports on the baseline-survey data collected during May - June 2012, as part of a larger study underway in three districts (Chakwal, Mianwali and Bhakkar) of Punjab, Pakistan; each district has a total population of approximately 1.3 million [31]. The study aims to assess and evaluate the effectiveness of demand-side family-planning approaches in promoting the healthy timing and spacing of pregnancies [32].

A total of 3,998 interviews were carried out in the catchment areas of 41 primary healthcare facilities (24 located in rural and 17 in urban areas) for the provision of family-planning services in the aforementioned districts of Punjab. The healthcare facilities were selected based on set criteria. Prior to data collection, all households located within a 4–7-kilometres radius around each selected healthcare facility were independently allotted a unique identifier. The household numbering was used for population estimation around each facility. Then, employing the probability proportional to size (PPS) technique, the sample was proportionally distributed across the selected health facilities. Finally, using Epi-info [33], households were randomly selected from the lists, and within each selected household the youngest eligible woman was invited to participate in the survey. Local area enumerators were hired, and trained on the questionnaire. Face-to-face interviews were conducted at participants' homes in privacy. Data were double-entered using Visual FoxPro Version 6.0 (Microsoft Corporation, Redmond, WA, USA). In order to align with the definition of female-only and couple methods, we excluded male-sterilization cases from the analysis ($n = 7$). Moreover, from a group of non-users we further excluded cases ($n = 1858$) by restricting our sample to those women who had an unmet need of contraception (i.e. those who wanted to limit or space pregnancies, and were sexually active but not using any form of contraceptive method). Consequently, analyses were performed on a total of 2,133 cases (see Table S1 regarding contraceptive use and unmet need for contraception based on original sample). The non-response rate documented during the survey was 3%. Among the main reasons for non-response were: women's unwillingness, as they were busy with household chores; and family members not allowing the sharing of information for reasons to do with security, a mistrust of authorities and the poor law-and-order situation locally.

Figure 1: Conceptual framework for women empowerment

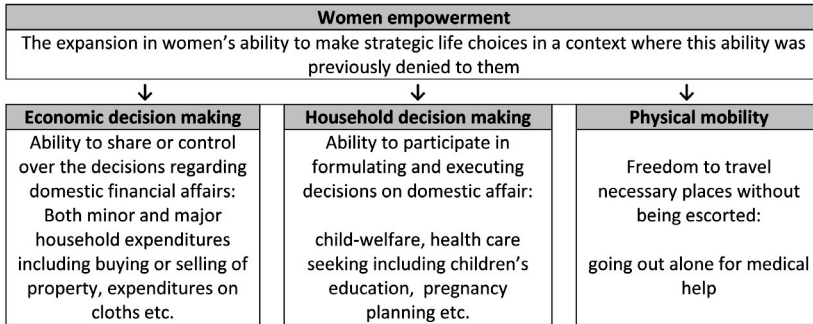


Figure 1. Conceptual framework for women empowerment.

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Eligibility criteria

The survey participants were currently married women of reproductive age (15–49), residents of the catchment area, neither mentally nor physically handicapped, and not sick.

Ethical consideration

The study protocol was approved by the National Bioethics Committee (NBC) Pakistan. Ref. No. 4-87/12/NBC-92/RDC/3548. All survey participants provided a written informed consent [32].

Measures

Female-only and couple contraceptive methods

We categorized contraceptive methods into female-only and couple methods. The fundamental difference between the two is that for couple methods – which included male condom, withdrawal, and periodic abstinence (periodic abstinence included standard days methods, cervical mucus method, and calendar method) – women require at least the awareness of, or a certain degree of support, involvement or cooperation from, the husband. Female-only methods included the pill, injectable, IUCD, and implant.

Outcome variables

The outcome variable was current contraceptive use, which we classified into three categories: 0 = non-users; 1 = female-only methods (pill, injection, intra-uterine device, implant, and female sterilization); 2 = couple methods (condom, withdrawal and periodic abstinence).

Construction of women's empowerment indices in decision-making

We included thirteen questions regarding household decision-making which were proposed in the framework as well as used in several other research studies [22,23,34–40]. Based on the conceptual framework (figure 1), these items were classified into three broad dimensions. Economic Decision-making: (1) buying or selling of property, (2) small household expenditures (e.g. toothpaste, soap, crockery etc.), (3) major household expenditures (e.g. TV, refrigerator, furniture etc.), (4) expenditures on woman's

clothes, cosmetics, jewelry etc., (5) purchase of medicines, and (6) children's clothes; Household Decision-making: (1) where to go outside for medical care in the event of the woman's illness, (2) where to take the child in the event of illness, (3) children's education, and (4) when to plan pregnancy; and Physical Mobility: (1) visiting relatives, (2) woman's employment outside the home, and (3) woman going out of the house alone for medical help. The responses to all indicators were categorized broadly as 'woman decides independently', 'husband decides independently', 'husband and woman decide together', 'mother-in-law decides', 'woman and mother-in-law decide together', and 'other family members decide'. The only exception was that the indicator 'women's mobility outside home alone for medical help' was recorded as a dichotomous variable.

We constructed two separate measures for overall women's empowerment, as well as for each of the empowerment dimensions as proposed in the framework above (figure 1). The classification of the two measures was based on 'women's independent' and 'couples' joint' decision-making on the aforementioned indicators. For the measure of overall empowerment for independent decision-making, we converted all indicators into binary variables where women were coded as '1' if they decided on the above 13 items *independently*, and '0' otherwise. Because the number of indicators varied from one empowerment dimension to the next – for example, the measurement of economic empowerment was based on six indicators, household empowerment on five, and the dimension of physical mobility on three – the contributions to the overall empowerment composite score were uneven. Therefore, we gave additional weight to the dimensions of 'household decision-making' and 'physical mobility' to reflect their equal contribution to the composition of the overall empowerment measure. Thereafter, we constructed a composite score by adding the number of decisions. The total score ranged from 0–18, where a high score reflected a higher degree of decision-making power. The same procedure was repeated for the index of couples' decision-making, where cases were coded as '1' if couples took a *joint* decision, and '0' otherwise. Using a similar strategy, we constructed two measures for each of the three dimensions of women's empowerment. The scores for household decision-making, economic decision-making and physical mobility ranged from 0–6, 0–4 and 0–3, respectively. The 13-item indexes for

independent and *joint* decision-making were highly consistent, internally-reliable measures for women's empowerment with Kuder Richardson's value of 0.83 and 0.89, respectively.

Potential confounders

Included in the analysis were a range of independent variables that had the potential to be confounders. These variables mainly depict women's status in the society, and they include: women's and their husbands' age and literacy; the number of children; the age difference between women and their husbands; the age of women at the time of marriage; and socio-economic status in the form of wealth quintiles. We constructed wealth quintiles using principal-component analysis in a manner similar to its original application in demographic and health surveys. The first component score was stored and categorized in quintiles.

Statistical analyses

Using SPSS 17.0 (SPSS Inc. Released 2008. SPSS Statistics for Windows, Version 17.0. Chicago: SPSS Inc), we carried out the analyses in multiple phases. First, using the mean and proportion, we described the women and the household's characteristics - women's overall empowerment and its different dimensions. Second, we applied bivariate analyses, by means of Pearson's chi-square, to investigate the factors associated with women's overall empowerment. Finally, using the multinomial logistic regression technique, we applied a block-modeling strategy whereby each group of variables is entered into a model separately, resulting in eight different models: (1) a crude model, to examine whether overall empowerment and its dimensions are significantly associated with contraception; (2) a partially-adjusted model in which the wealth quintile was included, to see if the association remained after adjusting for possible confounders; and (3) a final model in which variables related to women's socio-demographic characteristics were added to determine whether the association was explained by women's statuses. The role of women's age and wealth quintile as effect modifier was measured separately by testing the interaction with each empowerment measure. P-value of <0.05 were considered significant. Statistical weights were used to adjust the representation of the population of three districts, and the rural and urban populations. The population adjustment was made using the 2011 projected population of each district.

Results

Descriptive analysis

Characteristics of the study population. Of the women interviewed, the majority (50.5%) were aged above 35 years, and two fifths (39.6%) had 3–4 living children. Approximately half of the women's husbands were aged above 40 years; and, notably, 84.4% of the women were at least one year younger than their husbands. Nearly three out of five women (59.3%), and a quarter of their husbands (27.2%), were illiterate. Only 29.9% of the women reported to be users of any contraceptive method at the time of interview – including 19.7% female-only and 12.0% couple methods (please see appendix 1 for contraceptive method-mix and unmet need based on original sample). With regard to empowerment, 44.5% of the women reported having the power to take at least one decision independently, and 62% took at least one joint decision with their husbands (table 1). Distributions of women's independent and couples' decision-making were right-skewed (x-axis: number of decisions; y-axis: percentage of women), with more women having low decision-making autonomy (results not shown).

Table 2 elicits that women's empowerment was observed as highest in the economic domain where 32.7% of women reported taking at least one economic decision independently, while the majority (46.3%) of the couples tended to take at least one joint decision with regard to physical mobility. Similarly, 23.5% of the women took at least one decision regarding domestic affairs independently, and 42.8% decided jointly with their husbands.

Factors related to women's empowerment. The association between the sample characteristics and women's empowerment is shown in table 3. The analysis revealed that women's literacy, the number of living children and the wealth quintile were positively associated with both measures of women's empowerment. The ages of the women and their husbands were also found to be correlated with independent decision-making. Literate husbands were more likely to make joint decisions with women. Overall, women tend to get higher decision-making power with increased age, higher literacy, a higher number of children, or being in a household that has superior socio-economic status.

Effect of women's empowerment on contraception. Table 4 shows the results estimated from multinomial logistic regression analysis. Model 1 demonstrates the simple association between women's empowerment and contraceptive use; model 2 adjusts for wealth quintiles; and the third model assesses the effect of the addition of women's socio-demographic variables.

The overall score for women's empowerment for independent decision-making showed no association with either female-only or couple methods in any of the three models. By notable contrast, empowerment measures for couples' joint decision-making substantially affected contraceptive use: a one-point increase in the score was related to a 1.03 times increase in the odds of using female-only methods rather than no method, and a 1.06 increase in the odds of using a couple method instead of none at all (table 4, model 1). When adjusted with wealth quintiles, the relationship held significance for only couple methods (odds ratio, 1.05). However, with the addition of women's socio-demographic variables, the measure showed significant association with both of the empowerment measures – independent and couples' decisions (odds ratio 1.03 and 1.06, respectively). Furthermore, the association changes with women's age and wealth quintile, as the interaction was found to be significant for the said relationship. With regard to the measure of economic domain, an increase of one point in the score of couples' joint decision-making was associated with a 12-per-cent increase in the odds of using couple methods as against using no method (model 3); it showed no association with female-only methods. The score of couples' joint household decisions increases the likelihood of couple methods' use rather than no method by 29 per cent (model 3) with every single unit increase in the empowerment score. Interestingly, the same measure showed no substantial relationship with the use of female-only methods in models 1 and 2, unless the model was adjusted for women's socio-demographic characteristics. We found evidence of women's age and wealth quintiles playing the role of effect modifier on the aforementioned association.

With every additional joint decision couples make about their physical mobility, the odds for using female and couple methods as against using no method increase by a factor of 1.22 and 1.31 respectively (model 3). By contrast, women's independent decision-making regarding their mobility showed no significant association with the uptake of either female-only or couple methods. Overall, the measure of couples' joint decision-making increases changes in contraceptive use - primarily in favour of couple methods: consequently, we see a greater preference for, and more use of, condoms and withdrawal methods, as has also been cited by other studies in Pakistan [27,41].

Table 1. Characteristics of the sample (n = 2133).

Variables	%	Variables	%
Women's age		Women's literacy	
≥15–<25 years	7.9	Illiterate	59.3
≥25–<35 years	41.7	Literate	40.7
≥35 years	50.5	Husband's literacy	
Age of women at marriage		Illiterate	27.2
<20	76.3	Literate	72.8
≥20–<25	19.8	Number of living children	
≥25–35	3.9	0	2.6
Husband's age		1–2	21.6
<30 years	12.2	3–4	39.6
≥30–<40 years	36.9	5+	36.2
≥40 years	50.9	Current use of contraception	
Age difference		No	68.3
Women is older	5.5	Female-only methods (pill, injectable, Intra-uterine device, implant, female sterilization)	19.7
Same age (–1 to +1 range)	10.1	Couple methods (condom, withdrawal, periodic abstinence)	12.0
Women is younger	84.4	Overall Women empowerment	
		At least one independent decision	44.5
		At least one decision joint decision with husband	62.0

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Discussion

Despite being one of the first countries in South Asia to start a national family-planning programme, Pakistan has had limited success in achieving desired outcomes in this area [23] as only 26% of couples use any modern contraceptive method [27]. Women's empowerment is recognized as an imperative element for improved mother-and-child health. This paper is unique among its kind as it assesses the association between various dimensions of women's empowerment and current contraception use through a structured framework. We used the data on 2,133 women interviewed in peri-urban and rural areas in three districts of Punjab.

Overall use of female-only methods versus couple methods was 10:7, as opposed to 5:6 nationally [42]. In general, the percentage of women with sole authority for decision-making was low. The highest level of empowerment was observed in economic decision-making, while the lowest level was observed in physical mobility, which is consistent with the previous study [16].

Factors identified as having significant associations with women's empowerment were consistent with the findings of a good many other research studies. Women alone having a final say in decision-making increases with their increased age, and that of their husbands; with an increased number of living children; with a better (socio-economic status) wealth quintile; and with women's literacy [22,25,35,39,43]. The age of women also directly links with that of their husbands and the number of children. Thus,

Table 2. Women empowerment in different household decision making (n = 2133).

Dimensions of women empowerment	Independent decision %	Couple decision %	Dimensions of women empowerment	Independent decision %	Couple decision %
Household decision making	23.5	42.8	Visiting relatives	7.9	36.0
When to plan a pregnancy	7.4	15.7	Economic decision making	32.7	41.2
Choosing source of healthcare in case of woman illness	11.6	23.0	Buying or selling of property	2.1	12.2
Choosing source of healthcare for child in the case of illness	12.7	23.6	Major household expenditures (e.g. TV, refrigerator, etc.)	6.0	12.6
Children's education	9.0	26.0	Small household expenditures (e.g. toothpaste, soap, crockery etc.)	15.3	13.2
Physical mobility	21.7	46.3	Purchase of medicines	8.4	19.2
Woman go out alone for medical help (yes/no)	14.4	-	Children's clothes	21.5	27.9
Woman's employment outside the home	1.9	12.5	Expenditures on woman's clothes and jewelry etc.	19.1	28.4

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Table 3. Univariable analysis of women's empowerment in decision making and socio-economic and reproductive health characteristics (n = 2133).

Variables	Independent decision %	Couple decision %
Women's age		
≥15–<25 years	33.3	58.1
≥25–<35 years	41.7	63.8
≥35 years	48.4	61.1
<i>P</i> -value	<0.001	0.265
Age of women at marriage		
<20	44.1	62.4
≥20–<25	44.1	62.3
≥25 +	53.0	51.8
<i>P</i> -value	0.275	0.152
Husband's age		
<30 years	35.4	55.8
≥30–<40 years	39.5	62.2
≥40 years	50.2	63.3
<i>P</i> -value	<0.001	0.081
Age difference		
Women is older	47.0	60.7
Same (–1 to +1 range)	50.7	65.6
Women in younger	43.6	61.6
<i>P</i> -value	0.117	0.502
Women's literacy		
Illiterate	40.1	56.0
Literate	50.8	70.6
<i>P</i> -value	<0.001	<0.001
Husband's literacy		
Illiterate	41.2	54.9
Literate	45.7	64.6
<i>P</i> -value	0.064	<0.001
Number of living children		
0	38.6	64.9
1–2	40.1	67.2
3–4	48.6	62.4
5+	42.9	58.1
<i>P</i> -value	<0.011	0.014
Wealth quintile		
1 st (Poorest)	35.3	52.1
2 nd	33.9	59.9
3 rd	47.4	65.6
4 th	40.9	59.8
5 th (Least poor)	62.1	70.2
<i>P</i> -value	<0.001	<0.001

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higher decision-making power with increased age may be attributed to the cultural norm whereby a newly-married woman is expected to perform household duties under the supervision of her husband, or even mother-in-law, who is the primary decision-maker [44]. On the other hand, couples' joint decision-making correlated substantially with women's and their husbands' literacy, the number of living children, and with socio-economic status.

We observed no association between any measures of women's independent decision-making and the use of either female-only or couple contraceptive methods. By contrast, when the element of couples' joint decision-making was considered, the empowerment measures showed a substantial effect on contraceptive use. This somehow indicates the role and involvement of husbands in deciding about the use of contraception. In the main, our findings

Table 4. Unadjusted and adjusted odds ratios for contraceptive use by women overall empowerment and its various dimensions in household decision making.

Independent variables	Model 1 (Crude) OR (95% CI)		Model 2 (Adjusted ¹) OR (95% CI)		Model 3 (Full adjusted ²) OR (95% CI)		Interaction significant at 0.05 level	
	Female-only	Couple	Female-only	Couple	Female-only	Couple	Women's age	Wealth Quintile
Overall empowerment (weighted) (Score range: 0–18)								
Independent decision	1.02 (0.99–1.06)	0.99 (0.95–1.04)	1.02 (0.98–1.05)	0.95 (0.90–1.00)	1.03 (0.99–1.07)	0.99 (0.93–1.04)	No	No
Couples' decision	1.03 (1.00–1.05)*	1.06 (1.03–1.09)**	1.02 (1.00–1.05)	1.05 (1.02–1.08)**	1.03 (1.01–1.06)*	1.06 (1.03–1.10)**	Yes	Yes
Economic decision making (Score range: 0–6)								
Independent decision	1.04 (0.95–1.23)	0.97 (0.87–1.08)	1.02 (0.94–1.11)	0.88 (0.78–0.99)*	1.05 (0.96–1.15)	0.94 (0.83–1.06)	No	No
Couples' decision	1.05 (0.98–1.12)	1.14 (1.06–1.22)**	1.03 (0.97–1.10)	1.11 (1.03–1.19)**	1.05 (0.98–1.12)	1.12 (1.04–1.21)**	No	Yes
Household decision making (Score range: 0–4)								
Independent decision	1.05 (0.92–1.19)	1.02 (0.87–1.19)	1.02 (0.89–1.16)	0.88 (0.74–1.04)	1.07 (0.93–1.23)	0.97 (0.81–1.17)	No	No
Couples' decision	1.08 (0.99–1.18)	1.30 (1.17–1.43)**	1.06 (0.97–1.16)	1.26 (1.14–1.40)**	1.10 (1.00–1.21)*	1.29 (1.15–1.44)**	Yes	Yes
Physical mobility (Score range: 0–3)								
Independent decision	1.21 (0.98–1.49)	0.91 (0.69–1.22)	1.19 (0.96–1.47)	0.87 (0.65–1.16)	1.26 (1.00–1.57)	1.07 (0.78–1.46)	Yes	Yes
Couples' decision	1.19 (1.04–1.36)*	1.25 (1.07–1.47)**	1.16 (1.01–1.33)*	1.21 (1.03–1.43)*	1.22 (1.06–1.41)**	1.31 (1.10–1.57)**	No	No

* $p < 0.05$.** $p < 0.01$.*** $p < 0.001$.¹Adjusted for wealth quintile;²Adjusted for wealth quintile, district, women's age, age of women at marriage, husband's age, age difference, women's literacy, husband's literacy, and number of alive children.

Notes: Female-only methods include: pill, injectable, intra-uterine device, implant and female sterilization; couple methods include: condom, withdrawal, periodic abstinence and male sterilization.

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concur with evidence derived from an earlier national study in Pakistan [22], and from studies conducted in other countries [17,20,21]. While our findings contradict the results of another research project conducted in an urban squatter settlement in Karachi, Pakistan [23], it is pertinent to note here that the measures of empowerment and outcome classification in these studies are not the same. Unlike in previous studies, our empowerment measures were regressed on a continuous scale, constructed based on several indicators, and also classified into women's independent and couples' joint decision-making.

Within the economic domain, only the measure of couples' joint decisions substantially affects the use of couple contraceptive methods. These results are consistent with another study conducted in Pakistan [22]. Also, the association was confounded by women's status, while the wealth quintile was the effect modifier. We suggest further research investigations in order to understand the cultural phenomenon of women with unmet contraceptive needs neither opt for nor practise female-only methods, even when they have economic empowerment.

As with other measures of independent decision-making, the measure of women's independent mobility showed no association with any form of contraceptive method. However, we observed significant mediating effects of women's age and economic status on the association. This finding contradicts with the earlier qualitative study conducted in Pakistan where restricted women's mobility was identified as one of the barriers to contraceptive use [45]. A possible reason for this could be women's age: older women tend to make more independent decisions (table 3), while the chances of becoming pregnant decline with proximity to the menopause [46], which eventually lessens the need for contraception. These results may be attributed to cultural aspects whereby women in underprivileged communities receive greater encouragement to do *pardah* (veil), and young women are usually accompanied by men and elder members of their family [16]. By contrast, women deciding about their mobility jointly with their husbands have higher chances of using female-only as well as couple contraceptive methods. The fact that this finding contradicts an earlier study carried out in Pakistan [22] could be attributed to the indicators used for the composition of this dimension. However, we suggest the area merits further research: dedicated, in particular, to studying the effect of women's independent decision-making on adopting female-only (i.e. more effective) methods, and the extent to which some women may also conceal their use of contraception from their husbands, as they require neither his support nor his involvement [47].

It is interesting to note the modest effect of overall empowerment measures as compared to the effect of each empowerment domain. In our opinion, this is due to the differences in scale (range) of each empowerment domain (see construction of women's empowerment indices above). For instance, the magnitude is highest for the measure of physical mobility which is ranged from 0–3, followed by household decision-making (score range 0–4), economic measure (score range 0–6), and, finally, overall empowerment (score range 0–18). Principally, the odds ratios for continuous variables are the ratios between individuals who are identical on the other variables but differ by one unit on the variable of interest. Therefore, in our case, the overall empowerment measures have higher range which brings more variability, thus resulting in a lower coefficient.

The key limitations of our findings are mostly related to generalizability. The data were collected through a cross-sectional

survey, and only in three districts of Punjab province in Pakistan; thus the data do not yield any temporal relationship between women's empowerment and contraceptive use. Moreover, the restriction of our sample to women who were either using any form of contraception or living with unmet needs for contraception will further limit the generalizability. Secondly, married relationships are ever-changing and multi-faceted [35], details that were not quantified in our paper. Furthermore, the interviews were conducted only among women; therefore the study did not capture in-depth information about men's perspectives on fertility, or about their desire and intentions with respect to contraceptive use. Lastly, we included female sterilization in female-control methods; however, Pakistan's health policy necessitates a husband's written consent before the procedure is performed, due to the irreversible nature of it.

Despite these limitations, our study has important implications. On the whole, our findings reaffirm the fact that women with greater empowerment are more likely to use contraception. The effect of empowerment measures for couples' decision-making (overall, economic, and household empowerment) and independent decision-making (physical mobility) on contraceptive use was mediated by the women's age and wealth quintile. Importantly, couples' collective choice is more inclined towards couple contraceptive methods (such as withdrawal and condom), which are less effective. This may be the reason for the higher use of condoms and withdrawal in Pakistan – resulting in stark imbalances in the contraceptive-method mix [27]. Thus, an uplifting of the general social and cultural status of women in conservative societies like Pakistan will have a positive effect on contraceptive use. Strategies should be devised to promote the empowerment of women in relation to household, economic and physical-mobility affairs. Adopting contraceptives can help women achieve their desired goals in relation to birth spacing or limiting, in addition to ensuring that they have proper information about, and a range of, contraceptive options. We encourage family-planning programmes to engage men within the scope of their interventions, as contraceptive use rests more on couples' decisions than on women-only ones. Moreover, efforts need to be made to educate both partners equally about contraceptive methods that have higher effectiveness. In-depth research, supplemented by qualitative research, is needed to improve our understanding of decision-making within households.

Supporting Information

Table S1 Comparison of key family planning indicators.
(DOCX)

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Author Contributions

Conceived and designed the experiments: BIA WH. Performed the experiments: WH BIA. Analyzed the data: WH. Contributed reagents/materials/analysis tools: WH. Wrote the paper: WH BIA. Literature review and preliminary data analysis: MIS GA. Critical and intellectual review of draft manuscript and feedback for revision: SKA MA MT. Supervised the entire study: BIA.

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Impact of social franchising on contraceptive use when complemented by vouchers: a quasi-experimental study in rural Pakistan (Article 3)

Impact of Social Franchising on Contraceptive Use When Complemented by Vouchers: A Quasi-Experimental Study in Rural Pakistan

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Abstract

Background: Pakistan has had a low contraceptive prevalence rate for the last two decades; with preference for natural birth spacing methods and condoms. Family planning services offered by the public sector have never fulfilled the demand for contraception, particularly in rural areas. In the private sector, cost is a major constraint. In 2008, Marie Stopes Society – a local NGO started a social franchise programme along with a free voucher scheme to promote uptake of IUCDs amongst the poor. This paper evaluates the effectiveness of this approach, which is designed to increase modern long term contraceptive awareness and use in rural areas of Pakistan.

Methodology: We used a quasi-experimental study design with controls, selecting one intervention district and one control district from the Sindh and Punjab provinces. In each district, we chose a total of four service providers. A baseline survey was carried out among 4,992 married women of reproductive age (MWRA) in February 2009. Eighteen months after the start of intervention, an independent endline survey was conducted among 4,003 women. We used multilevel logistic regression for analysis using Stata 11.

Results: Social franchising used alongside free vouchers for long term contraceptive choices significantly increased the awareness of modern contraception. Awareness increased by 5% in the intervention district. Similarly, the ever use of modern contraceptive increased by 28.5%, and the overall contraceptive prevalence rate increased by 19.6%. A significant change (11.1%) was recorded in the uptake of IUCDs, which were being promoted with vouchers.

Conclusion: Family planning franchise model promotes awareness and uptake of contraceptives. Moreover, supplemented with vouchers, it may enhance the use of IUCDs, which have a significant cost attached. Our research also supports a multi-pronged approach- generating demand through counselling, overcoming financial constraints by offering vouchers, training, accreditation and branding of the service providers, and ensuring uninterrupted contraceptive supplies.

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Introduction

Family planning is one of the most effective activities in terms of costs and promoting health. It has the potential to reduce poverty and hunger, avert around 30% of maternal deaths and 10% of child deaths, thus helping to achieve the Millennium Development Goals (MDGs) [1]. Globally, government healthcare systems have faced numerous challenges in terms of governance, lack of human resources and financial constraints and frequently fail to meet the demand for family planning services. Private healthcare providers have

contributed significantly to this area [2-7]. The World Health Organization (WHO) has emphasized the need to set up partnerships with private practitioners to remedying these problems, using a range of methods including social franchising [8]. Several approaches have been recommended for engaging the private sector directly in the delivery of healthcare services in low income countries, including contracting out, voucher schemes, insurance schemes, provider accreditation social marketing and social franchising [9-12].

Social franchises generally comprise of a network of the independent private health providers that use commercial franchising methods to achieve social rather than financial goals. Therefore, it is seen as a business model whereby franchising organizations provide an authorization to self-regulating providers or health service delivery outlets to operate under a specific brand name by building upon their existing expertise in the poor communities. Social franchises organize multiple, existing, private providers into contractually obligated networks. These franchisees are then provided training, branding, monitoring, and client data. They are supported to provide new or improved services, in addition to their existing patient treatment regimens through complying with a range of necessities, such as provision of certain socially beneficial services, following to quality and pricing criteria, and profit-share franchisee fees etc. A potential franchisee is typically established consequently permitting the social franchise organization to provide immediate access to its target population and facilitating a rapid scale-up. The aims of social franchising are to improve quality, increase access to care, expand the affordability of services and rapidly increase the number of delivery points for important public health services [13].

Social franchising of sexual and reproductive health services has been a successful approach for family planning programming in Asia, Africa and Latin America and has emerged as one of the possible solutions to satisfy the growing demand for quality healthcare services [14,15]. There is a great deal of interest in the developing countries around using social franchising models to promote family planning and reproductive health services in the resource poor and underserved areas [9,16]. Complementing this arrangement, the vouchers have been found to be an effective way of addressing low use of family planning services by providing an alternative way for clients to pay for providers' fees, as well as to cover the costs of contraceptives, follow up and treatment of complications. A higher number of clients seeking family planning services can also be an added benefit to the provider's income, as clients could consult for other ailments too.

a) Context

In Pakistan, only 22% of the families use modern contraceptives. Among modern contraceptive, besides female sterilization, the most commonly used modern contraceptive method is the condom – a temporary, short term method with a high failure rate of (18%) with typical use [17]. The unmet need for family planning in Pakistan stands at 25% among married woman and is highest among poor women (31.1%), those living in rural areas, and women who are illiterate. As a result the country's total fertility rate is high in the region -4.1 which is continuously increasing among the rural, illiterate and the poorest i.e. 4.5, 4.8 and 5.8 respectively [18]. Nearly 28,000 women die each year in Pakistan from causes related to the pregnancy. This number is projected to have been 1.7 times higher without contraceptive practice [19]. In order to address this high unmet need and a high fertility rate, it is essential to promote long term birth spacing methods and their use must be improved by removing the constraints and addressing the

barriers associated with their uptake. Among long term contraceptive methods, the intrauterine contraceptive device (IUCD) is highly effective (>98%) and reliable in terms of averting unwanted pregnancies [20].

In Pakistan, the use of IUCD has been as low as 2%, which can be attributed to a number of factors. One major issue has been the minimal number of adequate facilities that offer IUCD services [21]. Government family planning centres are few and far between, seldom provide a conducive environment for clients and the overall state of responsiveness is poor. Supplies are only available intermittently and the providers' attitude is not always sympathetic towards the clients' needs. The majority of family planning centres and health facilities lack the privacy, confidentiality and hygienic conditions needed for IUCD insertion. This has turned the clients towards the private sector, where the same services are available at a higher cost, but are considered more trustworthy [22]. However, even the private providers have not been incentivized or recognized for their services and have become unmotivated. They lack interpersonal communication and counseling skills. Often they run out of stock of various contraceptives because of issues related to supply chain management. Most serious issue that prevents potential users (of public and private sector both) from adopting the IUCD as a birth spacing method is the fear of its side effects [23,24].

More than 80% of people in Pakistan have said that they would turn to a private provider for a first level healthcare (including preventive health care) and for advice on common health problems [25,26]. Moreover, franchising family planning services at the private providers' outlets has shown positive results in terms of increasing the contraceptive rate in Pakistan [27]. However, to encourage the use of private services, there has to be a mechanism to overcome the financial barrier at the users' end.

b) Social franchise model – 'Suraj'

In response to a low contraceptive prevalence and a high unmet need in the underserved rural areas of Pakistan, Marie Stopes Society (MSS) – a local non-government organization – established a social franchise model in 2008, and branded it as 'Suraj', which means 'sun' in English. The aim of the project was to provide accessible and affordable long term family planning services of a high quality by training the private providers and through marketing, branding and introducing a voucher scheme for prospective clients. So far, this network has forged partnerships with 100 female health visitors, midwives and nurses at their respective private clinics. All these providers were trained and accredited to provide condoms, emergency contraceptives, injectables, oral contraceptives and to insert and remove IUCDs. Moreover, field workers were trained to mobilize the community by paying door to door visits, by providing counselling and referrals, and by providing pre-paid IUCD vouchers to the eligible women. Women's eligibility for vouchers was assessed using a standard tool, which had a set of nine questions including: number of meals per day; construction of house; fuel use for cooking purpose; family's monthly income; earning member in the family; dependent family members; water source;

Table 1. Selection of districts based on similar socio-demographic indicators, by province.

Indicators	Punjab		Sindh	
	Jhang	Khanewal	Badin	Dadu
Est. district population 2011 (in thousands)	3,599	2,626	1,463	2,175
Annual population growth rate (1981-98)	2.39	2.43-	2.26	2.65
% of pop. who are female aged 15-49	22	22	24.7	22.6
Contraceptive Prevalence Rate	18.1	24.2	8.0	24
% of women who are literate	50	56	32	42
Average household size	6.3	6.6	7.0	6.5
Number of hospitals	5	8	4	6

Source: Development Statistics Sindh & Punjab 2008; Multiple Indicator Cluster Surveys 2003 and 2007.

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sanitation; access to reproductive health services. These vouchers were redeemed against a free IUCD insertion, follow up visits and removal services.

Study Methodology

a) Study objectives

To evaluate the effectiveness of two-pronged approach using the social franchise programme and vouchers in increasing modern contraceptive awareness and its use in rural areas of Pakistan.

b) Study area

This study was conducted in four districts across Punjab and Sindh provinces, including two intervention districts (where new social franchises were opened) and two control districts. Jhang (Punjab) and Badin (Sindh) were the intervention districts, while Khanewal (Punjab) and Dadu (Sindh) were the control districts. Study sites were selected based on the key socio-economic, demographic and reproductive health indicators. Four districts in each province were selected on the basis of poor wealth quintiles. Then one district was selected randomly for intervention in Punjab and Sindh and one for control (see Table 1).

c) Intervention

The intervention had a two-pronged approach – analyzing both social franchising and the voucher scheme introduced by MSS. Table 2 shows the main components of the intervention.

The recruitment process began with a desk review in which communities located at least 30 kilometres away from district headquarter hospitals in the study district were assessed for their needs based on multiple indicators such as total population, number of healthcare providers and demand for family planning (FP) and reproductive health (RH) services etc. After the identification of potential Private Sector Providers (PSPs), we held initial meetings with around three times more PSPs than the number actually required. Many PSPs did not meet the eligibility criteria, some were reluctant to be part of the network, a few did not attend the training, and others dropped

Table 2. Main intervention components.

Suraj social franchise	
No components	Description
1	<p>Training on reproductive health/ family planning and post training evaluation</p> <p>Medical: reproductive health and family planning, counselling, quality of services, and IUCD insertion and removal. Business: basic budgeting skills, record keeping, stock management, branding, marketing and voucher management. The training is followed by post training evaluation, conducted by an external consultant (medical doctor).</p> <p>Field workers are local community members; they undergo training on family planning methods, voucher distribution systems and data recording. They pay door to door visits, raise awareness and generate referrals and distribute vouchers for IUCD to eligible women, identified through poverty scale.</p>
2	<p>Field worker mobilisation (FWM)</p> <p>Providers are branded 'Suraj' clinics while marketing is done through FWM, posters, wall paintings, leaflets, etc. The 'Suraj' logo, is displayed prominently in Urdu outside all clinics.</p>
3	<p>Branding/Marketing</p> <p>Vouchers are worth PkRs 200 (US\$2.27) and are only for IUCD (insertion, follow up and removal). Vouchers are distributed by field workers to eligible women. They are redeemed at a Suraj clinic; later the reimbursement is sent to the provider against her claim.</p>
4	<p>Voucher for long term contraceptive method (IUCD)</p>

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out due to other reasons. We held an average of three face-to-face meetings with each PSP. They were informed about the Suraj network and at the same time they were assessed on following criteria:

- health facility owned or staffed by a female;
- provider lives in the same community;
- provider is interested in providing family planning services;
- provider must have formal medical qualifications;
- there must be adequate facility infrastructure (e.g. space to perform family planning services, availability of required instruments/equipment and essential amenities such as running water and electricity, and sanitation and waste disposal facilities); and
- provider must be willing to adhere to the study protocol (i.e. attend training, record keeping and reporting, and compliance with medical standards.)

The last criterion was not considered in the selection of control PSPs because they were not given any exposure such as medical training, field workers and vouchers. However, they were asked to share quarterly service statistics on a consolidated reporting format.

A total of 16 PSPs were recruited for this study and all of them were qualified Lady Health Visitors (LHVs) who is a mid-level health provider with a two year diploma in general healthcare provision and safe motherhood services. Each PSP was located approximately 30 kilometres away (in any direction) from the city center in the predominantly rural area

and covered a population of 16,000-20,000. The minimum distance between any two Suraj providers was large enough to avoid the spillover effect. It is important to note that none of these providers were providing any FP services through vouchers before the baseline survey. They were new Suraj Social Franchise providers established for this study.

d) Impact measurement

The study used a quasi-experimental pre- and post survey design with the control arm. A baseline survey was conducted in all intervention and control areas in February 2009, comprising a sample of 4,992 married women of reproductive age (MWRA, 15–49 years) living within a two to three kilometre radius of the intervention and control group service provider centre. The catchment area of each provider was mapped (allotting unique household numbers). Using a systematic approach, every second household was included, preceded by a random selection of first household. Using a 'pick out of the hat' method, only one MWRA was interviewed in each household. Another cross-sectional survey was conducted during July and August 2010 in the same catchment areas, 18 months after the intervention had begun. A total of 4,003 MWRAs were interviewed using the same sampling technique and strategy, with the only exception being that every fourth household was selected to maintain sample representativeness. The same sampling technique was employed in the control arm. The sample was equally divided between study arms and within each PSP's catchment area.

e) Data collection and management

We developed, piloted and used a structured questionnaire. The socio-demographic variables, indicators used for the evaluation of intervention included: awareness; lifetime use and current use of contraception; current use of IUCD; and unmet need for family planning. We also calculated the satisfaction of social franchise clients during the survey conducted after the intervention phase. The questionnaire was translated in Urdu and pre-tested in a different community with similar characteristics. The same questionnaire was used for the endline survey with some addition of questions pertaining to intervention. All the forms were checked for completeness, logical errors, and unclear or irrelevant responses on a daily basis. The principal and co-investigator closely monitored the entire activity to ensure data quality and adherence to the study protocol. On average, each interview took 30–35 minutes to complete. Data was double entered in Visual FoxPro version 6.0.

f) Statistical analysis

We calculated simple frequencies and proportions for the continuous variables, which were used for the analysis of general characteristics. We used Pearson chi-square to test the association between women's satisfaction with wealth quintile and age. For the calculation of the socio-economic index, we used principal component analysis, with variables such as: household has electricity; type of roof, wall and floor material; household water source; fuel use for cooking purpose; and the possession of household assets (television,

radio, refrigerator, bicycle, car, room cooler, washing machine, motor cycle, and water pump). Since, we used a quasi-experimental design for the control arm of this study, which has a limitation of non-random assignment of individuals to control and intervention groups. Therefore, to isolate the effect of the intervention, we calculated difference-in-differences estimates.

The key reason for using difference-in-differences estimates is because the change may inherently happen over time. Therefore, having a control group allowed us to capture this inherent change (without any intervention) and to subtract it from the change brought by the intervention to find the net effect of intervention. More specifically, this method compares the change in outcome indicator in the intervention arm of the study versus the change occurring in the control arm. We calculated absolute differences in percentages from the baseline and the endline; then we worked out the net effect by subtracting the intervention absolute difference from the control. We used multi-level random intercept logistic regression to test the net effect of the intervention accounting for the observed and unobserved time-in-variant characteristics, as well as the time-varying factor between intervention and control sites.

We included communities/clusters as level two variables with multilevel modelling, which allowed us to control for intra-class correlation and cluster/community level indicators. We regressed the individual outcome against a dummy variable (created by taking the product of time [baseline and endline] by study arm [intervention and control]). We estimated a separate model to keep each contraceptive method as an outcome variable. The analysis was adjusted for other socio-demographic indicators such as wealth quintiles, education levels for women, number of members living in the house, number of living children and also the province of residence. We used Stata version 11 for descriptive analysis and models estimation.

g) Ethics statement

Written, informed consent was taken from all the study participants. Confidentiality and anonymity was ensured. All the completed questionnaires were locked away and kept safely by the principal researcher. The study protocol including the written consent form, was reviewed and approved by the Research & Metrics Department of Marie Stopes International, London, UK and that of Marie Stopes Society Pakistan office.

Results

A total of 4,992 married women of reproductive age (2,483 at baseline and 2,509 at endline) were interviewed in the intervention arm of the study, while 4,003 women (1,984 at baseline and 2,019 at endline) were interviewed in the control arm.

Socio-Demographic Characteristics

Table 3 shows the characteristics of women interviewed at the baseline by intervention and control arm.

Table 4. Awareness about contraceptive methods.

	Intervention sites (%)		Control sites (%)		Absolute difference ¹ (% change)		Net effect ² (% change) (7)
	Baseline (1)	Endline (2)	Baseline (3)	Endline (4)	Intervention (5)	Control (6)	
Any method	88.7	96.6	92.7	94.2	7.9	1.5	6.4*
Modern method	88.4	96.6	91.0	94.2	8.2	3.2	5.0*
Traditional method	69.2	84.4	58.7	64.5	15.2	5.8	9.4*
Pills	86.7	95.8	90.0	93.7	9.1	3.7	5.4*
Condom	78.7	82.6	85.1	86.6	3.9	1.5	2.4*
IUCD	84.4	94.6	87.4	93.1	10.2	5.7	4.5*
Injection	85.1	96.3	89.8	93.3	11.2	3.5	7.7*
Female sterilisation	80.9	90.1	79.4	84.9	9.2	5.5	3.7*
Male sterilisation	62.3	71.5	31.0	31.8	9.2	0.8	8.4*
Periodic abstinence	67.2	73.4	52.9	54.2	6.2	1.3	4.9*
Withdrawal	68.0	72.7	48.4	50.5	4.7	2.1	2.6*
Number of cases	2,483	1,984	2,509	2,019			

¹ Absolute difference is the percentage changes from baseline to endline. ² Net effect is the percentage change in intervention group adjusting for the percentage change in control group. Statistical significance is calculated using multiple logistic regression adjusting for socio-economic quintiles, women's age, number of children, working women, women's education and province. P-value: * <0.001.

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Table 3. Percent distribution of study participants by selected socio-demographic characteristics according to study arms at baseline.

Characteristics	Intervention % (n=2,483)	Control % (n=2,509)
Mean age of women in years (SD)	30.5 (5.8)	31.9 (6.6)
No of living children		
0-2	38.9	37.0
3-4	29.8	26.9
5+	31.3	36.2
Women's education level		
No education	59.5	66.6
Primary	14.7	13.9
Middle	7.3	4.7
Secondary	10.4	7.5
Higher secondary	8.1	7.8
Working women		
Yes	10.5	9.7
No	89.5	90.3
Median household members	9	6

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a) Awareness of contraception

At the baseline, awareness regarding modern contraceptive methods was higher in the control population in comparison with intervention sites, while traditional methods (withdrawal and periodic abstinence) were more popular in the intervention sites. Pills and injections were the most commonly recognised methods in both the study arms. There was an increase in the awareness of each method within the intervention sites (see Table 4, column 5) as well as in the control sites (see Table 4, column 6). However, when compared with the control sites, the intervention population had significantly increased their

awareness of any contraception method with 6.0% (p-value <0.001), modern contraception with 5.0% (p-value <0.001). The highest change was observed in male sterilisation (vasectomy) with 8.4% (p-value <0.001) and injections with 7.7% (p-value <0.001). Table 4 shows more detailed results for all types of birth spacing methods. Moreover, women cited Suraj SF providers as the source of contraceptive awareness: 69.9% had ever used contraceptives and 57.0% reported to be a current user, compared with 56.8% and 40.6% respectively of those who had heard of contraception from any other provider - p-value <0.001 for both.

b) Ever use and current use of contraception

Table 5 shows the changes in the ever use, contraceptive prevalence rate (CPR), method mix and unmet need for contraception. At baseline, the CPR in the intervention and control sites was almost similar. At the endline survey, the CPR had increased to 48.0% (column 2) and use of modern method to 43.2%; the net effect (column 7) showed a 19.6% (p-value <0.001) increase in CPR and 22.7% (p-value <0.001) increase in modern use after adjusting by control sites. Moreover, the intervention also significantly reduced the use of traditional methods (withdrawal and periodic abstinence) by 3.1% (p-value 0.003). Among the modern methods, the highest percentage change was observed in IUCD use, with 11.4% (p-value <0.001). Column 7 also shows a statistically significant increase in the lifetime use of any contraception and of any modern method by 25.2% and 28.4% respectively. Moreover, the unmet need for contraception was reduced in both the study arms. However, when compared with the control sites, the intervention sites showed a substantial reduction in the unmet need by 7.6% (p-value <0.001).

Table 5. Ever use and current use of contraceptive methods.

	Intervention sites (%)		Control sites (%)		Absolute difference ¹ (%) change)	Net effect ² (%) change)
	Baseline (1)	Endline (2)	Baseline (3)	Endline (4)	Intervention (5)	Control (6)
Ever use of any contraception	30.3	57.3	37.8	39.6	27.0	1.8
Ever use of any modern method	22.1	53.4	32.8	35.7	31.3	2.9
Contraceptive Prevalence Rate	27.2	48.0	28.5	29.7	20.8	1.2
Current use						
<i>Any Modern method</i>	18.3	43.2	23.9	26.1	24.9	2.2
Pills	1.9	5.3	2.2	3.3	3.4	1.1
Condom	5.4	11.4	5.8	5.3	6.0	-0.5
Injection	2.1	6.3	4.2	5.0	4.2	0.8
IUCD	1.9	13.7	3.0	3.4	11.8	0.4
Female sterilization	7.0	6.5	8.9	9.2	-0.5	0.3
Male sterilization	0.0	0.0	0.0	0.1	0.0	0.1
<i>Any Traditional method</i>	8.9	4.8	4.6	3.6	-4.1	-1.0
Periodic abstinence	0.04	0.9	0.2	1.1	0.9	0.9
Withdrawal	8.5	3.6	4.1	2.1	-4.9	-2.0
Others	0.4	0.4	0.3	0.3	0.0	0.0
Unmet need for contraception	35.0	22.2	35.7	30.5	-12.8	-5.2
Number of cases	2,483	1,984	2,509	2,019		

¹ Absolute difference is the percentage change from baseline to endline². Net effect is the percentage change in intervention group adjusting for the percentage change in control group. Statistical significance is calculated using multiple logistic regression adjusting for socio-economic quintiles, women's age, number of children, working women, women's education and province. P-value: * <0.001 ; ** <0.01 .

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c) Source of contraception

In the intervention sites, the majority of contraceptive users were receiving services from the government health facilities at baseline, then from the private health facilities, drug stores and outreach workers. At endline, more than half of the contraceptive users cited a Suraj provider as the preferred source of services. On the other hand, the share of government

Table 6. Source of contraception.

	Intervention site		Control site	
	Baseline (n=464)	Endline (n=864)	Baseline (n=607)	Endline (n=535)
Govt. health facility	44.2	15.6	34.1	45.0
Private	32.5	14.0	32.6	24.3
Outreach worker	5.8	4.5	11.7	19.3
Drugstore	9.3	8.0	11.9	4.1
Others (TBA, friend, relative)	8.2	5.7	9.7	7.3
Suraj provider	–	52.2	–	–
Total	100	100	100	100

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health facilities and outreach workers also increased from 34.1% to 45.0% and 11.7% to 19.3% respectively, as shown in Table 6.

d) Share of social franchise centres and vouchers for IUCD only

A sub-group analysis of women who reported to be a current IUCD user during the endline survey showed that 76.4% of them had received insertion service from a Suraj provider, whereby 34.7% were those who received it for free (through an IUCD voucher scheme) and 41.7% paid out-of-pocket for the services. Almost a quarter of them cited other sources such as the government health facilities, private clinics or Traditional Birth Attendants (TBA).

e) Contribution of voucher and field worker in the uptake of contraception

Of all the women interviewed during the endline survey in the intervention sites, nearly 28% reported to have received the contraceptive services from a social franchise provider and were referred by a field worker: 8.9% were referred with vouchers (for IUCD), 20% were referred without vouchers (for any contraceptive service); while 3.8% were walk-in clients, as shown in Figure 1.

f) Satisfaction with social franchise services

Of all the women who received services from the social franchise, 96% reported to be satisfied. The most often cited reason for being satisfied was the 'quality of advice/information received' (31.4%) and then the 'affordable/cheap price' (27.3%). Around 98% of Suraj clinics clients reported that they would recommend the services to friends and relatives. A sub-group analysis by women's age and wealth quintile was performed, which showed that approximately 97% of women among the 15–24 age group and the 25–34 age group were satisfied, while 93.8% of women in the 35–49 age group reported satisfaction with Suraj services (p-value=0.15). There was no significant association found between wealth quintile and women's satisfaction with Suraj services (p-value=0.69).

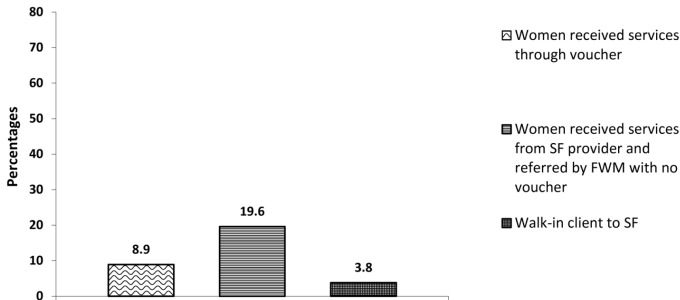


Figure 1. Percent distribution of women who received contraceptive services from Social franchise, by their source of motivation [Endline survey: n=1984].

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Discussion

Social franchising has gained increasing attention in recent years in low income countries. However, the existing evidence has not been considered as strong enough to promote the concept [13,14,24]. To address this gap, the current study attempts to assess the effectiveness of social franchising to promote family planning, especially long term contraceptive methods, in the rural areas of Pakistan.

Although we found slight differences in the socio-economic and demographic characteristics between the intervention and control populations; the intervention had a substantive effect on the key outcome indicators: increasing the awareness and use of the modern contraceptives, more noticeably of the IUCD, and reducing the unmet need for family planning services. This is in concordance with the findings of several other studies [13–15,27]. However, given the varied socio-cultural and demographic context of different regions, it is strongly felt that the output based or performance based financing for promotion of the reproductive health services would need more research [28,29]. This domain must be explored further before making it an advocacy tool, particularly with regard to its inclusive nature and reaching out the actual poor; and also the ability of franchisees to sustain financially. Recent evidence shows that the providers need a high degree of motivation in order to serve the poor under the franchise agreement [30]. Effective monitoring, though an uphill task, is an imperative for assuring the standards, quality and responsiveness of the services delivered under the franchise model. This is the only way to build trust amongst the users of the services who then become brand ambassadors. The field workers played a key role in referring the clients to the social franchise provider in our study. Community level health workers have always been instrumental in terms of reaching out to the disadvantaged groups [31,32]. The high level of satisfaction of the women who received contraceptive services from the social franchise providers can also be considered as one of the outcomes of medical and business training and continuous monitoring of the

field staff; and this has been endorsed by many other studies as well [12,13,33,34].

Despite the encouraging evidence revealed through the findings of this study, there was a certain difficulty in measuring or controlling for important confounding variables. This became even more difficult for the unmeasured confounding variables. This means that this investigation suffers some limitations such as non-random selection of intervention and control sites, as well as the effect of unmeasured confounding variables. Moreover, the study was conducted in only four districts with 16 providers, therefore generalizability may not be possible for the entire provinces.

Conclusion

The findings of this study support the suitability of the Suraj social franchise model in promoting the awareness and use of modern contraception by increasing the accessibility to quality and affordable family planning services for underserved communities. The results reinforce the success of a two-pronged approach – generating demand through field workers and vouchers, and addressing the need through training of providers to deliver quality FP services. Our findings can be generalised in similar settings. Furthermore, it would be desirable to have an assessment of health outcomes associated with social franchise services and cost-effectiveness of this model. This would help to ascertain the effectiveness, limitations and potential of scaling up of social franchise models in other parts of the country.

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Author Contributions

Conceived and designed the experiments: SKA BTS W. Hameed MB JA. Performed the experiments: SKA BTS W.

Hameed GM W. Hussain MI AA. Analyzed the data: SKA BTS W. Hameed MI. Contributed reagents/materials/analysis tools:

W. HAMEED. Wrote the manuscript: SKA BTS W. Hameed MB.

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Engaging with community-based public and private mid-level providers for promoting the use of modern contraceptive methods in rural Pakistan: results from two innovative birth spacing interventions (Article 4)

RESEARCH

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Engaging with community-based public and private mid-level providers for promoting the use of modern contraceptive methods in rural Pakistan: results from two innovative birth spacing interventions

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Abstract

Background: Family planning (FP) interventions aimed at reducing population growth have negligible during the last two decades in Pakistan. Innovative FP interventions that help reduce the growing population burden are the need of the hour. Marie Stopes Society - Pakistan implemented an operational research project - 'Evidence for Innovating to Save Lives', to explore effective and viable intervention models that can promote healthy timing and spacing of pregnancy in rural and under-served communities of Sindh, Punjab and Khyber Pakhtunkhwa provinces of Pakistan.

Methods: We conducted a quasi-experimental (pre- and post-intervention with control arm) study to assess the effectiveness of each of the two intervention models, 1) *Suraj* model (meaning 'Sun' in English), which uses social franchises (SF) along with a demand-side financing (DSF) approach using free vouchers, and 2) Community Midwife (CMW) model, in promoting the use of modern contraceptive methods compared to respective controls. Baseline and endline cross-sectional household surveys were conducted, 24 months apart, by recruiting 5566 and 6316 married women of reproductive age (MWRA) respectively. We used Stata® version 8 to report the net effect of interventions on outcome indicators using difference-in-differences analysis. Multivariate Cox proportional hazard regression analysis was used to assess the net effect of the intervention on current contraceptive use, keeping time constant and adjusting for other variables in the model.

Results: The *Suraj* model was effective in significantly increasing awareness about FP methods among MWRA by 14 % percentage points, current contraceptive use by 5 % percentage points and long term modern method - intrauterine device (IUD) use by 6 % percentage points. The CMW model significantly increased contraceptive awareness by 28 % percentage points, ever use of contraceptives by 7 % percentage points and, IUD use by 3 % percentage points. Additionally the *Suraj* intervention led to a 35 % greater prevalence (prevalence ratio: 1.35, 95 % CI: 1.22–1.50) of contraceptive use among MWRA.

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Conclusion: *Suraj* intervention highlights the importance of embedding subsidized FP services within the communities of the beneficiaries. The outcomes of the CMW intervention also improved the use of long-term contraceptives. These findings indicate the necessity of designing and implementing FP initiatives involving local mid-level providers to expand contraceptive coverage in under-served areas.

Keywords: Family planning, Birth spacing, Contraception, Vouchers, Community midwives, *Suraj*, Rural Pakistan

Background

Population growth in Pakistan presents significant challenges. Contraceptive prevalence rates (CPR) and fertility rates have largely remained unchanged, or have shown slow and insufficient improvements, during the last two decades [1]. Currently Pakistan has an estimated population of over 190 million people [2] and is the sixth most populous country [2, 3]. A high burden of population in developing countries with limited resources such as Pakistan makes resource allocation to health and development all the more difficult in the presence of other competing necessities [3, 4]. The challenge of high population growth in Pakistan necessitates the use and deployment of innovative plans that are effective in curtailing the future increase in population.

There is a rural–urban differential in key fertility and family planning (FP) indicators such as in Pakistan. The total fertility rate (TFR) is high recorded at 3.8 births per woman between 2010 and 2012 [5]. Urban–rural stratification indicates the TFR in rural areas (4.2 births woman) to be considerably higher than in urban areas (3.2 births woman) [5]. Additionally, the Pakistan Demographic and Health Survey (PDHS) 2012–13 reports a current CPR of 35 % for all contraceptive methods and a CPR of 26 % for modern method use with an urban (44.8 %) and rural (30.7 %) differential of 1.5 fold [5]. A high TFR combined with traditionally low CPR levels have resulted in a high unmet need for contraception in Pakistan [6] indicated by 20 % of currently married women of reproductive age (15–49) who desire to delay or limit their next birth [5].

The penetration of FP interventions in rural areas has remained lower compared to urban setting(s) demonstrated by the higher TFR and unmet need in rural areas [7]. With close to 63 % of the population living in rural areas in Pakistan [5, 8], there is considerable room for introducing FP interventions in targeted rural communities.

Context

The World Health Organization (WHO) recommends engaging the private sector in FP promotion, considering its role in health care, including reproductive health (RH) service delivery in most settings [9]. In Pakistan's context, less than half (45 %) of FP service provision through the public sector means that the private sector is meeting a significant proportion of contraceptive demand in the country [10]. However, the involvement of the private

sector in FP promotion and delivery, although desirable, has limitations. The price and quality of family planning products – especially long term products, vary and are a constraint for potential FP method users in low income countries [9].

The World Health Organization (WHO) has suggested that, in order to overcome the lack of contraceptive services in regions of the world, the implementation of contracting out, social franchising and voucher schemes are of value [9]. Social franchising (SF) in combination with demand-side financing (DSF) based free voucher is an approach advocated to overcome financial constraints in order to increase access to, and uptake of, FP services [11]. Social franchises are mid-level private-provider networks and are considered to be effective business models having the potential to rapidly expand health services, promote access and contribute to national health goals [9].

Integration of FP service provision with existing public sector health service delivery mechanisms at the community level is an alternative approach, aiming to increase FP access and uptake for underserved communities. The National, Maternal, Newborn and Child Health (MNCH) program of Pakistan aims to improve MNCH indicators by deploying community based health workers known as Community Midwives (CMWs) [12]. CMWs are selected from communities they are most likely to stay in and work [10]. These CMWs are trained to provide individualized care to pregnant women, monitor their physical, emotional and social well-being, taking appropriate action within available resources, providing guidance to community members about maternal health issues, identifying conditions necessitating referrals and making those referrals to relevant practitioner [10]. The Lady Health Worker (LHW) program was assigned a parallel function role with the MNCH led CMW program or in other words the LHWs role was expanded in order to make child birth/delivery referrals for CMWs as well as to facilitate use and support of FP services by women in their catchment areas [12]. However, the available evidence suggested that the CMW program had difficulties in showing to show significant improvements in maternal health indicators due to weak linkages between these two programs [12]. Integration of FP service provision with existing CMW-provided reproductive health services can possibly ensure a continuum of care for the recipients. The training of CMWs and their close proximity to women has the potential to improve contraceptive access and uptake.

Enhancing the availability of these products and services in underserved areas is essential to improving national level FP indicators such as contraceptive prevalence rate including modern contraceptive uptake and reducing unmet need. The delivery of the products and services has brought about improvements in FP method uptake in urban settings [5]. It is essential to devise ways and means that address this problem in rural, hard to reach and underserved areas.

In order to produce evidence-based learnings for policy and practice for Maternal and Newborn Health in Pakistan, the Department of International Development (DFID), British Government and Australian Agency for International Development (AusAID) jointly funded a Maternal and Newborn Health Programme in Pakistan called 'Research and Advocacy Fund (RAF)' with a central objective for "Improved practices and supporting policies related to MNH affecting poor and marginalized people in Pakistan. The objective was to be achieved through large and small grants for Research and Advocacy in MNH; thereby linking evidence to policy and practice" [13].

Under this initiative, two intervention models were designed by Marie Stopes Society Pakistan as research initiatives for the RAF funding namely - 1) Social Franchising in combination with demand-side financing led voucher schemes, and 2) integration of FP services on-term in particular with existing reproductive health services provided by community midwives - CMWs at the community level present an opportunity to test interventions aimed at improving FP indicators in hard to access remote areas [14, 15]. Recent evidence, from Pakistan, shows that family planning interventions, incorporating social franchising in combination with voucher scheme, have been instrumental in raising awareness and enhancing the use of intrauterine devices (IUDs) in study areas [10]. Prior to recommending a similar scaling up of this approach at the national level, given the variation in social and health seeking practices in different geographical areas of Pakistan, it was important to assess whether these findings are replicable in other districts also. In this context, therefore Marie Stopes Society (MSS) - Pakistan, implemented a 41-month (including 24 months of intervention) operations/operational research project titled 'Evidence for Innovating to Save Lives' [14–17]. The project's aim was to explore effective and viable intervention models to promote healthy timing and spacing of pregnancies in rural and under-served communities of Sindh, Punjab and Khyber Pakhtunkhwa (KP) provinces in Pakistan [14–17].

Objectives of the research project

The study was conducted to 1) to assess and compare the effectiveness of an intervention model, a private provider partnership i.e. Suraj social franchise model, with a control group, and 2) to assess and compare the effectiveness of an intervention model, FP integration in the existing MNCH services provided by Community midwives intervention model, with a control group, in promoting the use of modern contraceptive methods.

Box 1 Primary and secondary outcomes

Intervention	Primary outcome	Secondary outcome
Suraj model	Uptake of modern contraceptive methods	Awareness of contraceptive methods
Community Midwives model	Uptake of modern contraceptive methods	Awareness of contraceptive methods

Intervention description

a) Study setting: Intervention and control arms

The project investigators employed a quasi-experimental (pre and post intervention with control) mixed method research study with sequential implementation at design level [14, 17]. The overall study design comprises of two (02) Qualitative and two (02) Quantitative data collection components or surveys.

Hence, the present paper only describes the Quantitative 2a and 2b surveys i.e. the Baseline and Endline comparison on selected indicators as presented in Fig. 1 below.

Kindly refer to the below study design flow chart as Fig. 1 to understand the study components as the present paper describes the quantitative baseline and endline results:

The study was conducted in eight districts of Sindh, Punjab and KP provinces of Pakistan. Within the districts, Marie Stopes identified rural and under-served Union Councils (UCs) for inclusion in the study. Districts were selected based on key socioeconomic, demographic and reproductive health indicators (Table 1). Interventions were purposefully allocated: in Sindh, district Naushero Feroze was selected as an intervention (*Suraj* model) district and Nawabshah as a control district. In Punjab province, districts Pakpattan and Rajanpur were selected as intervention districts for the CMW model while district Khanewal was identified as intervention district for *Suraj* model whereas district Bahawalpur served as the control district. For KP, district Haripur served as an intervention (*Suraj* model) district while district Abbottabad was the control.

b) Suraj model - intervention arm

MSS established a private health providers' network branded as '*Suraj*' (meaning 'Sun' in English) in the intervention districts [10]. The model is a partnership between MSS and private local health service providers (mainly mid-level) for the provision of quality contraceptive services. Ten *Suraj* providers per district were selected. Each *Suraj* provider operated a health care facility, covering a population ranging from 12–16,000 that resided within a 3–4 km radius around the health facility. The *Suraj* providers were located at an average distance of 40–50 km from District Head Quarter (DHQ) hospitals. In order to minimize any spill-over effect between areas of *Suraj* providers, it was ensured that the minimum distance between two providers was large enough.

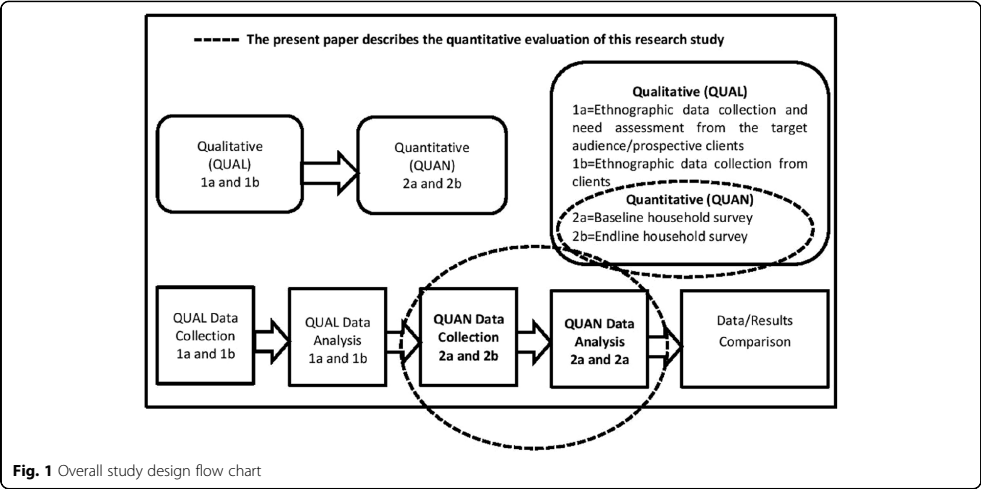


Fig. 1 Overall study design flow chart

The selection and training of *Suraj* providers was a three step process. First, mapping of districts was conducted to ascertain the existing number of health care facilities and providers in a given district. Second, providers were selected for training by arranging individual meetings with MSS field teams and collection of information on provider eligibility criteria (see Table 2) [10]. For the details of *Suraj* intervention components, refer to Table 4.

Third, *Suraj* SF providers were imparted training to improve their skills for provision of quality FP services, and enable them to look after the business side of their ventures.

c) CMW model - intervention arm

In contrast to the *Suraj* model, the community midwives - CMW intervention model was an arrangement between

MSS and CMWs for the provision of quality contraceptive services in the community. We obtained a list of CMWs from the Maternal Newborn and child Health (MNCH) program and ten CMW providers for each district were selected. Each CMW provider covered a population ranging from 7000 to 12,000 that resided within a 3–4 km radius around the facility which is operated by a provider. The CMW providers were located at an average distance of 40–70 km from the district headquarter hospital. The selection of CMW ensured a minimum distance between any two CMW providers in order to minimize any spill-over effects. The selection and training of CMW providers was also a three step process similar to that adopted for *Suraj* providers CMW provider eligibility criteria are listed here (Table 3). For the details of CMW intervention components, refer to Table 4.

Table 1 Comparability of intervention and control districts

Indicators	Province							
	Sindh		Lower Punjab				Khyber-Pakhtunkhwa	
	Intervention	Control	Intervention			Control	Intervention	Control
	Naushero Feroze (Suraj)	Nawabshah	Khanewal (Suraj)	Pakpattan (CMW)	Rajanpur (CMW)	Bahawalpur	Haripur (Suraj)	Abbottabad
Estimated population size	1,087,571	1,071,533	1,286,680	2,068,490	1,103,618	2,433,091	692,228	880,666
% of female Pop. Age 15–49	22.2	22.6	21.9	22	20.2	21.4	23.8	23.7
CPR (modern method)	20.8 %	15.4 %	17 %	19 %	11 %	24 %	29.7 %	29.1 %
% literate	39.1	34.1	49	42	34	37	53.7	56.6
% of households with electricity	69.3	75.5	68	76	59	50	76.3	75
% of households with access to potable water	23.6	23.6	12	15	8.5	16	49.6	29.9
No. of UCs	51	50	101	64	47	108	45	46

Table 2 Provider eligibility criteria - Suraj intervention model

- Provider should be female (preferably married) aged 18–35
- Preference was for non-MNCH midwives, however if none were available LHV's or nurses were considered for inclusion
- Provider had at least ten years of education, preferably with science subjects
- Preference if provider was a native and practicing in the same area
- Had more than two years of work experience in FP/RH
- Provider was willing for partnership, expansion of quality services and business
- Provider was willing to be checked for her work, report, audit etc.
- Provider was willing to provide the physical infrastructure to meet the basic needs of a standard FP service Centre such as privacy for clients, proper place for examination, waiting area, enough ventilation and light arrangement and a sterilization area

d) Control arm

The recruitment for providers in control districts was a three step process. First, mapping was initiated to get information on the existing number of health care and family planning (FP) facilities and providers in terms of distance and accessibility to women. Second, an MSS team comprising district and regional personnel identified the Union Councils (UCs) based on locally available records. Within each Union Council an MSS team member met with different key stakeholders such as pharmacists, drug stores, UC Mayors, farmer-councilor, community based organizations, influential personalities and others to capture key information on population, location of private providers, Union Council boundaries, number of schools, male and female literacy, number of healthcare centers' such as basic health units, rural health centers and tertiary care hospitals. Third, a series of meetings with each provider/facility was conducted to invite the providers for participation in the study. Providers were considered eligible for participation provided the following criteria were met:

a) Health facility owned or staffed by a female; b) provider lived in the same community; c) provider was interested in providing family planning services; d) provider must have formal medical qualifications; e) there must be adequate facility infrastructure (e.g. space to perform family planning services, availability of required instruments/equipment and essential amenities such as running water and electricity, and sanitation and waste disposal facilities); and f) provider must be willing to

Table 3 Provider eligibility criteria - CMW intervention model

- Permanent resident of rural areas
- Female, preferably married between 18–35 years of age
- Had at least ten years of education, preferably with science subjects
- Experience of working in the community
- Certification with Pakistan Nursing Council (PNC) and registered with MNCH
- Willing for partnership, expansion of quality services and business
- Willing to be checked for her work, report, audit etc.
- Willing to provide services on standardized rates

adhere to the study protocol for control sites (i.e. record keeping and reporting).

The providers in the control arm were not given any exposure to study interventions. A total of 3 Rural, 10 Basic centers and 14 CMWs were recruited for this study. Each facility/provider was located approximately 30 km away (in any direction) from the district headquarter hospital in the predominantly rural area and covered a population ranging between 8000–12000 for CMWs and 35–40,000 for basic and rural health centers.

The minimum distance between any two facilities/providers was large enough to avoid a spill over effect. For the details of intervention components, refer to Table 4.

Methods**Study duration**

As mentioned earlier, the research project was a 41 months initiative commencing in October, 2010 and ending in March, 2014 including 24 months of intervention (i.e. service provision) [14, 17].

Endline evaluation study design

Pre (baseline) - and post-intervention (endline) cross-sectional surveys were conducted to assess the impact of interventions on the use of modern contraceptive methods. A baseline household survey was conducted prior to the implementation of the interventions (a benchmark for future evaluations of the project's key performance indicators). Towards the end of project interventions, an endline cross-sectional household survey was conducted to gauge the impact of the two interventions by measuring the same set of indicators including reproductive health and family planning Awareness, behavior and practices of the respondents.

a) Study participants

At the baseline, married women of reproductive age (MWRA) between 15–49 years of age with at least one child less than 2 years of age were included in the study and interviewed. The endline survey included two groups of MWRA, 1) MWRA between 15–49 years of age and with at least one child less than 2 years of age and 2) MWRA between 15–49 years of age irrespective of the number of children. MWRA who were mentally or physically handicapped and were unable to give an interview, or who refused to provide informed consent or were unmarried/separated/widowed were excluded.

b) Sample size

The overall sample size for baseline survey was 5566 comprising of 1995, 1435 and 2136 MWRA recruited from the Suraj, community midwives (CMW) and control catchment areas respectively. For baseline a minimum of

Table 4 Intervention components

Intervention items	Description	Inclusion in Suraj model	Inclusion in CMW model	Control
1 Training on reproductive health/family planning and post training evaluation	Medical: reproductive health and family planning, counselling, quality of services, and IUD insertion and removal; Business: basic budgeting skills, record keeping, stock management, branding (excluded for CMW), marketing, and the voucher management (excluded for CMW). The training was followed by post training evaluation conducted by an external consultant (a senior medical doctor).	Yes	Yes	No
2 Female community mobilizer (FCM) <i>Each service provider was complemented with one FCM</i>	An FCM was also a local resident of the community; she underwent training on FP methods, voucher distribution system, and data recording. She paid door to door visits, raised awareness, generated referrals and distributed vouchers for the IUD to eligible women, identified through poverty scale.	Yes	Yes	No
3 Male community mobilizers (MCM) <i>There is one MCM per 10 service providers in a district</i>	An MCM was a local resident of the district; he underwent training and was responsible to target male community members. He formed community support groups which comprised key community stakeholders and conducted frequent Mohallah (locality) meetings	Yes	Yes	No
4 Voucher for long- term contraceptive method (Intra- uterine device)	A voucher was worth PK Rs 200 (US\$2.27) and only for IUD (insertion, follow-up and removal). A voucher may be redeemed at Suraj clinic; later the reimbursement was sent to the provider against her claim. Free voucher provision was based on a wealth based poverty assessment tool which was managed by the Field Community Mobilizers in the field before distributing vouchers. The said tool ask questions about wealth status including household structure, number of household members, number of meals, number of dependent members, sanitation, access to reproductive health services, daily household income, source of fuel used for cooking, source of drinking water. Clients received a voucher if their score fell between the minimum score of 9 and 20 (inclusive) on a scale of 27.	Yes	No	No
5 Branding/Marketing	Providers were branded 'Suraj' clinics while marketing was done through FCMs, posters, wall paintings, leaflets, etc. The 'Suraj' logo was displayed prominently in Urdu outside all clinics.	Yes	No	No

70 interviews were conducted per cluster or service provider catchment area. For endline, sample size calculations were run separately for two groups based on anticipated change in CPR: 1) MWRA and 2) MWRA with a child under the age of 2 years. The key indicator (contraceptive prevalence rate - CPR) being assessed in each required a separate sample size calculation. Sample size was calculated for treatment groups rather than districts. The calculation is presented below:

$$n = \frac{deff \times \frac{(z_{\alpha} + z_{\beta})^2 p_1(1-p_1) + (p_2(1-p_2))}{d^2}}{(1-l)}$$

$$n = \frac{2 \times \frac{(2.241 + 0.842)^2 (0.303(1-0.303) + (0.403(1-0.403)))}{0.12}}{(1-0.1)}$$

The sample size for MWRAs with young children was based on a comparison between odds ratios. We

took the most conservative measure, adjusted for a pooled p of 0.05, that resulted in non-overlapping CIs based on a 10 % increase from the mean baseline modern CPR figures by intervention arms compared to a 2 % increase from mean baseline modern CPR in controls. Table 5 below shows the estimated sample for two different types of respondents by districts.

c) Sampling strategy

We used probability proportional to population size (PPS) technique within each of the three study arms to select study participants. Each target area of study districts was considered as a separate stratum. The data collection was conducted within the same catchment population of the study sites for both the baseline and the endline surveys. Prior to data collection, all the households (within 4–5 km radius) around each selected healthcare facility were independently allotted a unique

Table 5 Names of districts and number of interviews

Target respondents	Sindh		Punjab				Khyber Pakhtoonkhwa	
	Noshero Feroze (Suraj)	Nawabshah (control)	Pak Pattan (CMW)	Rajanpur (CMW)	Khanewal (Suraj)	Bahawalpur (Control)	Haripur (Suraj)	Abbotabad (control)
Mothers (currently married) having at least one <2 year child	380	380	570	570	380	380	380	380
Currently married women of reproductive age 15-49 years	320	320	480	480	320	320	320	320
District wise Total	700	700	1050	1050	700	700	700	700
Grand Total				6300				

identifier. A list of households with unique identifiers in the intervention and control areas comprised the sampling frame of households which were selected using simple random techniques through statistical package for social sciences (SPSS) version 17.0. A household was considered as a primary sampling unit at both baseline and endline surveys. If more than one MWRA, meeting survey criteria, were identified in a randomly selected household, only the first one (or if she refused, then the next one) was recruited for data collection.

d) Data collection and management

The baseline data were collected during March-July 2011 while endline survey was conducted between July-August, 2013. We adapted the questionnaire from the Pakistan Demographic and Health Survey (PDHS) 2006–07 with modifications to measure use of any contraceptive methods. The questionnaire was designed to capture information on socio-demographic characteristics, awareness of reproductive health (RH) and family planning (FP), FP practices, and health seeking behaviours, health care access and FP needs of study participants. The questionnaires were translated into Urdu and pre-tested prior to commencement of data collection. Completed questionnaires were checked for completeness and logical errors. Reliability checks helped ensure that similar data were received. Principal and co-Investigators routinely visited field to ensure the quality of data. Forms were checked for logical errors, missing values, and unclear responses during those visits. All survey data were double-entered to ensure the quality of data and minimize entry and logical errors using a specifically designed data entry programme on FoxPro version 6.0.

e) Data analysis

We used SPSS software version 17.0™ to analyse the data and generate tables from a list of survey variables for descriptive analysis. The analysis was performed for MWRA with a child less than 2 years of age - a subgroup of the sample. This was done to ensure

comparability with the baseline information collected on a similar group of MWRA.

Descriptive statistics were computed for socio-demographic variables and potential associated factors. Frequencies, proportions, means and standard deviations were obtained as appropriate. Where needed, continuous variables were categorized through important cut-off-points and variables such as total number of children, years of education and age were categorized based on commonly used categories.

Stata® version 8 was used to assess the effect of interventions (Suraj SF model vs. control and CMW model vs. control) on outcome indicators through Difference-In-Difference (DID) analysis. Univariate DID's were estimated employing the following steps: a) at first, we calculated the change (from baseline to endline) in the control arm and the change (from baseline to endline) in the intervention arm; b) we then estimated the net effect of intervention by subtracting the change in control arm from the change in intervention arm. Similar procedure was followed for different key indicators.

We conducted multivariable analysis, to determine factors associated with current contraceptive use (dependent variable) in each intervention arm, using Cox proportional hazard regression keeping time constant adjusting for clusters. Prevalence ratio with 95 % confidence interval (CI) was computed for each independent variable by likelihood ratio test for significance of estimated regression coefficients. Variables with $p < 0.25$ on univariate analysis were considered for a stepwise multivariate analysis. Wald statistic and likelihood ratio test were used to assess the significance of variables and models respectively, towards obtaining a parsimonious and meaningful model. The analysis was adjusted for independent variables such as age, education, province, number of children and social economic status.

F: Ethics statement

Verbal and written (participants' signature or thumb impression) informed consent were obtained from the study respondents. Personal identifiers were not recorded to

ensure confidentiality. Designated authorized personnel had completed hard copies of the questionnaires under safe keeping. Electronic version of the data was stored on password protected computers. The project was approved by the Program Oversight Committee of Research and Advocacy Fund (RAF). The ethical approval for the research study was provided by the National Bioethics Committee (NBC) of Pakistan (Ref no: 4-87/10/NBC-43/RDC/).

Note: Brief information describing design and methods of study is also published in a separate paper/s [17].

Results

We present findings for married women of reproductive age (MWRA), with a child less than 2 years of age, recruited at baseline (5566) and endline (2892).

a) Socio demographic characteristics

Table 6 describes the socio demographic characteristics of MWRA. The mean age of MWRA at the baseline and endline was 28.0 ± 5.5 and 29.1 ± 5.6 respectively. The average marriage age (age at first marriage) of MWRA between the two time points was around 20 years. Illiteracy proportions for MWRA demonstrated a drop of 8 % points at the endline (Table 6). MWRA who reported working increased slightly by 2.7 % at the endline. A concomitant increase in unskilled employment and agricultural work by their husbands is also noted (Table 6) and might be explained by an increase in seasonal agricultural work.

b) Contraceptive methods awareness

At the baseline, awareness was relatively lower in community midwives - CMW areas than Suraj areas; however, at endline awareness about pills, condoms, injectables, and IUDs increased to above 80 % in both the intervention arms, leading to a greater increase in overall awareness (from 61.3 % at baseline to 94.4 % at endline) in CMW areas than Suraj areas. In Suraj intervention areas, overall awareness about contraceptive methods improved from the baseline (77.6 %) to endline (97.6 %) ($p < 0.001$). The largest increase in awareness levels was reported for Intra Uterine Devices - IUDs (absolute percentage change: 29.2 %) followed by contraceptive pills (absolute percentage change: 25.2 %). Male sterilization and implants were the least known methods across the three study groups (Table 7).

c) Ever and current contraceptive use

Ever and current contraceptive use patterns for MWRA are described in Table 8. MWRA in the Suraj intervention arm reported a 13.7 % points increase in current

contraceptive use from 34.0 % at baseline to 47.7 % at end line ($p < 0.0001$). Current contraceptive use in the CMW intervention arm increased from 17 % at baseline to 24.6 % at endline ($p < 0.0001$). Method mix indicates that the use of modern methods among the MWRA in the Suraj intervention model increased by 7.6 % ($p < 0.0001$) while it increased by 6.1 % ($p < 0.0003$) among MWRA in the CMW intervention model (Table 8).

d) Impact analysis

Suraj intervention versus control

At the endline, the CPR of the Suraj intervention group was 48 % and resulted in a net CPR increase of 5 % ($p < 0.05$) (Table 9). This net increase in CPR among MWRA of the *Suraj* intervention model can be explained by the significantly increased use of IUDs (6 %) ($p < 0.001$), and a concomitant significant reduction in use of withdrawal method (-1 % $p < 0.001$) and condoms (-3 % $p < 0.001$) (Table 9). A net increase of 14 % ($p < 0.01$) among MWRA who had heard about contraception demonstrates positive impact of the *Suraj* intervention model on contraceptive awareness (Table 9).

Community midwives - CMW intervention versus control

The results demonstrate a significant positive effect of CMW intervention on contraceptive awareness, ever use, and use of modern long term contraceptive methods such as IUDs (Table 10). The net CPR in the CMW areas remained unchanged from the baseline to the endline (Table 10). However, modern methods usage showed a net significant increase of 3 % in IUD use. Additionally, a net decrease of 4 % in withdrawal usage was also observed in CMW intervention areas (Table 10). A similar positive effect of CMW intervention was observed on contraceptive awareness which increased by a net 28 % ($p < 0.001$).

e) Factors associated with current contraceptive use

Suraj intervention model

MWRA in *Suraj* intervention arm had a 35 % greater prevalence (prevalence ratio (PR): 1.35, 95 % Confidence interval (CI): 1.22–1.50) of current contraceptive use compared to their counterparts in the control arm while adjusting for other factors (Table 11). Older MWRA (35+ years, PR: 1.21, 95 % CI: 1.05–1.39), those with education (1–8 years [PR: 1.22, 95 % CI: 1.07–1.38] and secondary to higher [PR: 1.43, 95 % CI: 1.26–1.62]) and greater number of children (3–4 [PR: 1.42, 95 % CI: 1.26–1.60] and 5+ [PR: 1.54, 95 % CI: 1.34–1.76]) were more likely to use contraception than their counterparts in the control arm (Table 11).

Table 6 Socio-demographic characteristics of respondents

Characteristics	Baseline	Endline	<i>P</i> -value (Baseline vs Endline)	Endline		
	All participants 5566 (%)	All participants (<i>N</i> = 2892) (%)		Suraj Intervention (<i>N</i> = 1105) (%)	CMW Intervention (<i>N</i> = 712) (%)	Control Arm (<i>N</i> = 1075) (%)
Age of MWRA						
15–19 years	3.0	1.6	<0.0001	2.1	1.1	1.5
20–24 years	19.0	18.9	0.9114	17.5	18.4	20.7
25–29 years	33.0	33.8	0.4589	34.8	27.1	37.2
30–34 years	27.0	25.3	0.0926	26.4	30.3	20.9
35–39 years	14.0	15.5	0.0632	16.1	16.0	14.6
40–44 years	3.0	4.2	0.0039	2.6	6.3	4.5
45–49 years	1.0	0.6	0.0593	0.5	0.7	0.7
Mean age ± SD (median) years	28.0 ± 5.5 (28)	29.1 ± 5.6 (30)	<0.0001	28.8 ± 5.3 (28)	29.9 ± 5.9 (30)	28.8 ± 5.6 (28)
Age at time of marriage (mean ± SD)	20 ± 3.4	19.8 ± 3.3	0.009	20.3 ± 3.2	19.5 ± 3.5	19.6 ± 3.4
Ethnicity						
Urdu	7.0	5.5	0.0079	8.9	2.7	3.9
Sindhi	15.0	17.8	0.0009	23.6	0.3	23.4
Punjabi	29.0	26.5	0.0153	34.5	25.0	19.2
Hindco	22.0	19.1	0.0019	22.4	0.6	27.8
Saraiki	24.0	29.0	<0.0001	7.3	71.3	23.3
Others (Pashto, Kashmiri, Balochi)	2.9	2.2	0.0578	3.3	0.1	2.3
Education status of the MWRA						
Illiterate	55.9	48.0	<0.0001	40.4	66.4	43.5
Can read or write only/less than 1 class	1.6	3.8	<0.0001	3.1	5.3	3.4
Primary (1 to 5)	15.5	16.0	0.5485	17.9	10.7	17.7
Middle (6 to 8)	7.7	9.4	0.0071	11.2	6.2	9.7
Matriculation and Higher	19.3	22.8	0.0002	27.4	11.5	25.7
Employment status of the MWRA						
Housewife	93.1	90.4	<0.0001	95.6	83.3	89.8
Working	6.9	9.6	<0.0001	4.4	16.7	10.2
Employment status of Husbands						
Unemployed	4.6	2.9	0.0002	3.8	1.4	2.9
Skilled Employment	60.3	52.5	<0.0001	63.2	37.6	52.1
Unskilled Employment	27.9	30.1	0.0338	22.8	43.6	28.6
Agriculture/farming	7.0	14.6	<0.0001	10.2	18.8	16.4

Community midwives - CMW intervention model

MWRA aged more than 35 years had significantly increased prevalence ratios of current contraceptive use (PR: 1.36, 95 % CI: 1.07–1.72), followed by MWRA aged 31 to 35 years (PR: 1.25, 95 % CI: 1.00–1.54). The CPR showed significant increase with higher levels of education i.e. current contraceptive use was highest among MWRA having secondary or higher education (PR: 2.26, 95 % CI: 1.91–2.66) followed by MWRA with 1–8 years of education (PR: 1.86, 95 % CI: 1.59–2.18) compared to those without any education. MWRA with 5 or more children had significant increase in current contraceptive

use (PR: 1.81, 95 % CI: 1.45–2.27) as compared to MWRA having no children or up to 2 children (Table 12).

Discussion

Findings of this quasi-experimental study demonstrate that both FP intervention models, i.e. the *Suraj* SF model along with demand-side financing vouchers, and the integrated FP services with existing CMW providers model at the community level, are effective in improving key FP indicators such as women's awareness of FP methods, ever use and current use of contraceptives besides the use of long term

Table 7 Contraceptive method awareness among MWRA

Characteristics	Baseline			Endline		
	Suraj Intervention (N = 1995) (%)	CMW Intervention (N = 1435) (%)	Control Arm (N = 2136) (%)	Suraj Intervention (N = 1095) (%)	CMW Intervention (N = 712) (%)	Control Arm (N = 1075) (%)
Awareness of contraceptive method						
Any contraceptive method	77.6	61.3	88.3	97.6	94.4	93.9
Pills	68.7	45.9	80.4	93.8	88.6	87.0
IUDs	54.4	28.6	55.3	83.6	82.3	74.0
Injectables	65.1	42.4	73.9	89.0	86.1	83.3
Implant	15.4	11.2	20.1	36.6	43.1	38.5
Condom	60.4	34.9	66.0	76.7	72.2	80.7
Female Sterilization	51.1	26.0	52.9	72.2	75.3	78.0
Male Sterilization	30.6	17.7	29.4	28.9	44.9	37.6
Withdrawal	36.7	14.1	36.4	42.4	49.6	51.9
Periodic abstinence	36.9	15.5	39.9	39.5	48.6	47.3
Awareness of where to get contraceptives						
Any modern method	67.8	43.1	76.5	96.5	89.6	88.7
Pill	55.4	29.4	64.9	91.0	76.8	79.4
IUD	44.5	17.6	47.0	80.2	68.4	66.5
Injection	52.7	27.0	61.9	86.2	74.4	77.0
Implant	13.9	4.0	16.2	36.9	38.1	33.7
Condom	51.8	22.9	54.6	74.4	61.5	73.6
Female Sterilization	39.1	15.4	42.5	68.3	63.5	69.4
Male Sterilization	23.6	9.1	23.7	26.6	36.8	31.0

contraceptives such as IUDs, in hard to reach remote areas of Pakistan.

Our findings indicate that the *Suraj* SF intervention model was instrumental in eliciting a significant net increase of about 14 % ($p < 0.001$) in awareness about FP methods among MWRA. Previous evidence from Pakistan shows that FP interventions, such as social franchising incorporating FP service delivery through a voucher scheme, have been successful in raising FP awareness and the use of IUDs including improvements in the IUD continuation rates [10, 18, 19]. Recently in the year 2012 in Pakistan, a social franchising initiative along with free contraceptive vouchers significantly increased the awareness of modern contraceptives among women by 5 % in intervention areas [10]. Increase in CPR is reportedly rooted in increased Awareness levels of all contraceptive methods especially modern methods and places to obtain them [20]. Additionally, we found a net increase of 5 % ($p < 0.001$) in the current contraceptive use and 28.5 % increase in ever use of modern contraceptive. The results corroborate with the earlier study conducted in Pakistan in similar settings [10]. In our study IUD use among MWRA in the *Suraj* SF intervention recorded a net increase of 6 % ($p < 0.001$) similar

to a significant increase of 11.1 % previously recorded in the uptake of IUDs by MWRA, which were being promoted with vouchers [10]. The significantly increased usage of IUDs in *Suraj* intervention areas may be explained by the accompanying decrease in the usage of traditional method of withdrawal. Regression analysis further identified that the *Suraj* SF intervention model led to a 35 % significantly greater prevalence of current contraceptive use among MWRA compared with control.

Current contraceptive use in *Suraj* intervention areas was also found to be associated with higher education, parity and socio-economic status. These observed changes indicate the effectiveness of *Suraj* interventions and reach of the program in increasing contraceptive use among MWRA in *Suraj* areas. From programmatic view point, an encouraging aspect of increased knowledge and awareness of MWRA about contraceptive methods is the successful awareness raising efforts by MSS Field Health Educators who were the agents of information in this regard. This is encouraging programmatic since it shows that enhancing the capacity and efficacy of frontline workers can greatly impact perceptions about contraception that ultimately translate into increased and consistent usage of these methods [21, 22].

Table 8 Ever and current contraceptive use reported by MWRA

Characteristics	Suraj Intervention			CMW Intervention			Control arm		
	Baseline (N = 1995) (%)	Endline (N = 1095) (%)	p value	Baseline (N = 1435) (%)	Endline (N = 712) (%)	p value	Baseline (N = 2136) (%)	Endline (N = 1075) (%)	p value
Ever use of contraception ^a									
Any method	49.9	65.2	<0.0001	30.2	41.9	<0.0001	48.3	53.2	0.0088
Pills	10.3	13.3	0.012	7	9.8	0.0238	8.6	10.3	0.1152
IUD	5.3	12.1	<0.0001	4.3	8.3	0.0002	5.8	5	0.3494
Injections	12.3	15.2	0.0233	7.2	14.5	<0.0001	10.1	12.1	0.0845
Condom	23.3	23.2	0.9498	8.2	8.7	0.6936	19.6	21.1	0.3169
Implant	0.4	0.9	0.0793	0.2	1	0.0189	0.2	0.7	0.0265
Female Sterilization	4.3	3.6	0.3452	2.1	3.1	0.1567	3.4	5	0.0278
Male Sterilization	0.2	0.4	0.4652	0.6	0.3	0.1799	0.1	0.7	0.0035
Traditional Method ^b	14.5	19.9	0.0001	7.4	12.1	0.0003	15.5	22.1	<0.0001
Current use of contraceptive ^c	34	47.7	<0.0001	17.1	24.6	<0.0001	26.9	35.2	<0.0001
Any Modern method	30	37.6	<0.0001	14	20.1	0.0003	24.1	28.7	0.0048
Pills	3.8	5.1	0.087	3.1	2.5	0.4355	2.9	3.7	0.2219
IUD	3	8.3	<0.0001	2.1	4.1	0.0078	3.3	3.4	0.8816
Injections	6.3	6.7	0.6648	3.7	5.3	0.0829	5.1	5.6	0.5495
Condom	13.8	13.5	0.8165	3.6	4.9	0.1493	9.6	11	0.2134
Implant	0.3	0.5	0.3817	0.1	0.8	0.0066	0.3	0.4	0.7401
Female Sterilization	2.9	3.4	0.4414	1.2	2.4	0.0368	2.9	4.5	0.0188
Male Sterilization	0	0.2	0.1255	0.2	0	0.5533	0	0.1	0.3348
Traditional method ^b	3.9	10.2	<0.0001	3	4.5	0.0749	2.8	6.5	<0.0001

^amultiple responses
^bTraditional Methods include withdrawal, abstinence and Lactation Amenorrhea Method (LAM)
^ccurrent contraceptive use was asked from all MWRA

Table 9 Difference-in-difference results for key indicators between Suraj intervention arm and control arm

Indicators	Control		Suraj Intervention		Absolute difference (% change) ^a		Net effect (% change) ^b
	Baseline (%)	Endline (%)	Baseline (%)	Endline (%)	Control	Suraj	
Ever use of any contraceptive	48	53	50	65	5	15	10***
Ever heard of any contraceptive	88	94	78	98	6	20	14***
Current use of any contraceptive	27	35	34	48	8	13	5*
Current contraceptive method of choice							
Any Modern method	24	28	30	38	4	8	4
Pill	3	4	4	5	1	1	1
IUD	3	3	3	8	<1	5	6***
Injections	5	6	6	7	1	1	<1
Condom	2	6	3	4	4	1	-3***
Withdrawal	10	11	14	14	1	0	-1

P-value: ***p < 0.01; **p < 0.05; *p < 0.1
^aAbsolute difference is the percentage change from baseline to endline
^bNet effect is the percentage change in intervention group adjusting for the percentage change in control group

Table 10 Difference-in-difference results for key indicators between CMW intervention arm and control arm

	Control		CMW Intervention		Absolute difference (% change) ^a		Net effect (% change) ^b
	Baseline (%)	Endline (%)	Baseline (%)	Endline (%)	Control	CMW	
Ever use of any contraceptive	48	53	30	42	5	12	7**
Ever heard of any contraceptive	88	94	61	94	6	33	28**
Current use of any contraceptive	27	35	17	25	8	8	0
Current contraceptive method of choice							
Any Modern method	24	28	14	20	4	6	2
Condom	10	11	4	5	1	1	0
Pill	3	4	3	3	1	0	-1
IUD	3	3	2	5	0	3	3**
Injection	5	6	4	5	1	2	1
Withdrawal	2	6	2	3	4	1	-4***

P-value: ***p < 0.01; **p < 0.05; *p < 0.1

^aAbsolute difference is the percentage change from baseline to endline

^bNet effect is the percentage change in intervention group adjusting for the percentage change in control group

Table 11 Multivariate-Cox proportional hazard analysis of factors associated with current contraceptive use among married women with at least one child < 2 years in *Suraj* intervention and control areas across Pakistan

Variables	Current contraceptive use		
	Prevalence ratio	95 % CI	P Value
<i>Suraj</i> Intervention < is this an interaction term?>			
Control	1	-	-
Intervention	1.35	1.22–1.50	<0.001
Education			
Illiterate	1	-	-
Class 1 to 8	1.22	1.07–1.38	0.002
Secondary and higher	1.43	1.26–1.62	<0.001
Province			
Sindh	1	-	-
Punjab	0.90	0.80–1.02	0.094
KPK	0.87	0.76–0.99	0.039
Total children			
0–2	1	-	-
3–4	1.42	1.26–1.60	<0.001
5+	1.54	1.34–1.76	<0.001
Socio-economic Status			
Lowest SES	1	-	-
Middle SES	1.54	1.33–1.77	0.000
Highest SES	1.97	1.72–2.26	0.000
Age in years			
<25	1	-	-
>25 to <= 30	0.99	0.89–1.13	0.983
>30 to <=35	1.12	0.95–1.31	0.171
>35	1.21	1.05–1.39	0.009

Increased Awareness levels have also translated into the understanding and demand creation for contraception that is long term rather than shorter term methods indicated by enhanced IUD related Awareness and usage. The effectiveness of *Suraj* SF intervention model is a critical finding due to the importance of long term contraceptive use in ensuring desirable spacing between births and reducing unwanted pregnancies.

Table 12 Multivariate-Cox proportional hazard analysis of factors associated with current contraceptive use among married women with at least one child < 2 years in CMW intervention and control areas across Pakistan

Variable	Current contraceptive use		
	Prevalence ratio	95 % CI	P value
Age in years			
<25	1	-	-
>25 to <= 30	0.98	0.80–1.18	0.812
>30 to <=35	1.25	1.00–1.54	0.044
>35	1.36	1.07–1.72	0.012
Education			
Illiterate	1	-	-
Class 1 to 8	1.86	1.59–2.18	<0.001
Secondary and higher	2.26	1.91–2.66	<0.001
Total children			
0–2	1	-	-
3–4	1.86	1.53–2.25	<0.001
5+	1.81	1.45–2.27	<0.001
CMW Intervention			
Control arm	1	-	-
CMW arm	1.00	0.81–1.24	0.952

The CMW model was successful in several aspects. We found that the CMW intervention model had a significant positive effect on contraceptive awareness and ever use. The CMW intervention model increased the contraceptive awareness among MWRA by a net 28 % ($p < 0.001$) in the intervention arm from baseline to end line. The CMW model also resulted in an 8 % increase in CPR between baseline and endline. However, the net effect was nullified when CPR in the control arm was taken into account. We also found that while the CMW model did not significantly affect the overall CPR i.e. both traditional and modern methods combined, the model did significantly increase the use of long term contraceptive method - IUDs among MWRA by a net 3 % ($p < 0.05$). The method mix of modern contraceptives use highlights a shift towards long term contraceptive methods among MWRA in CMW areas. The CPR was associated with higher levels of education in the CMW intervention model where MWRA with secondary or higher education had a 2.26 times greater prevalence of current contraceptive use. Considering the greater prevalence of current contraceptive use among MWRA who have at least 3 children, are educated and older than 30 years in CMW intervention areas, it appears that these determinants are driving the 3 % net increase in IUD use in the CMW arm.

Among the two intervention arms, the *Suraj* intervention model showed the most encouraging results. The current contraceptive use was the highest at 48 %; a proportion that is exceptionally encouraging since it is 13 % higher than the national averages [5], pointing towards the effectiveness of strategies adopted through this intervention. Women were generally appreciative of the quality of counseling in managing side effects and resultant fewer clinic visits besides availability of free FP (IUD) services [19]. They highly valued cleanliness, privacy, and confidentiality, sterilization of instruments and ease of communication with *Suraj* providers [19]. On the provider side, IUD insertion and infection- prevention training have been reported to enhance provider ability in providing IUD services while at the same time having a positive impact on their reputation in local communities [19]. *Suraj* providers have previously identified that the role of female and male community mobilizers is of critical importance in mobilizing the community and increasing their FP clientele [19]. The impact on contraceptive use by MWRA in *Suraj* areas and specifically the significant increase in IUD use by MWRA in both the *Suraj* and CMW intervention arms is indicative of a need to adopt similar strategies for public contraceptive promotion programs. In addition both intervention models also demonstrated high IUD method continuation rates [16, 17], providing a strong rationale for scaling up of *Suraj* as well as CMW intervention at the national level to promote modern

contraception. An earlier study also documented similar improvements in the IUD continuation rates at 12-months period (18.8 %) after using *Suraj* model as an intervention along with free vouchers which is significantly lower than the national trend of 26 % [18]. However, this will entail comprehensive training of not only the health care providers, but community based mobilizers as well who have direct access to potential clients in targeted communities. This finding from our study corroborated a 2002 national survey that married women living within 5km of community-based workers who have direct access to potential clients were significantly more likely to use modern reversible methods than those with no access [23]. The *Suraj* voucher scheme has the potential to have a national level impact on FP service uptake however, three key factors will determine the reach of the voucher program (i) keeping management costs low, (ii) inducing a large demand-side response among the two low socio-economic quintiles, and (iii) achieving a quality of care that translates a greater number of facility-based deliveries into a reduction in maternal morbidity and mortality [24].

In addition to training and capacity building, financial incentives are an important factor in encouraging women to adopt contraceptive methods [25]. The findings emphasize that approaches like *Suraj model*, when complemented with vouchers and community mobilization efforts, can improve the utilization of long-term contraceptive methods among rural and underserved women.

Evidence suggests that financial incentives can enhance demand, as well as impact the quality and quantity of maternal health services [25]. This is possible as financial incentives can be useful in overcoming health system and financial barriers that prevent women from accessing services and providers from delivering quality maternal care [24]. Vouchers deliver subsidies to individuals who otherwise would have to seek the services of an unskilled provider or most likely would not have sought care [26]. Social franchising complemented with targeted voucher schemes not only improves access to FP services but also helps reduce inequalities in health services and enables the extremely poor or financially vulnerable population groups to avail these services [27].

Overall, both *Suraj* and the CMW intervention models not only demonstrated increase in the use of long term contraceptive method – intra uterine device (IUDs) among the married women of reproductive age but based on a very recent evidence piece from a nested study from this same project confirms that both *Suraj* and CMW providers are similarly capable of ensuring higher IUD method continuation rate at different intervals [16, 17]. For example, at 12-month interval, the cumulative probability of IUD continuation in *Suraj* and CMW models were 85 % and 94 %, respectively; and likewise it was 82 and 80 % at 24 months. Such low

discontinuation rates are well below the national average [5, 17]. Hence, it is proposed that both the government and private sectors may consider training the community midwives as well as to engage with the non-regulated private sector mid-level providers to promote the use of IUDs in Pakistan which presently is very low – 2.3 % [5].

The present findings somewhat also confirms the alarming need of trained and qualified female healthcare providers for long term reversible method of contraception at local health facilities instead of periodical fertility camps arranged by government or private sector [16]. This need was identified during a pre-project qualitative inquiry/needs assessment (QUAL 1a – refer to Fig. 1) by the general population – men and women of reproductive age residing in the similar project study areas/sites [27]. The project showed uptake and continuity of long term IUDs, with attempts to address access, affordability, availability about modern contraception. The project was also able to involve men as identified in the needs assessment in order to meet women and couples needs to fulfill their fertility and reproductive health objectives [27].

The results should be interpreted with caution. Quasi-experimental designs using pre and post intervention analysis can have some limitations. The study clients are not randomly assigned. However, pre-post intervention analysis with control is internationally accredited for use in situations where controlled trials are not feasible due to logistic, financial or other ethical reasons. This was a field project in a real life situation and due to the nature of the intervention i.e. vouchers and provision of contraceptive services made it difficult to blind the study participants.

We ensured that there was no spill over within different intervention areas by choosing areas at a minimum distance from each other. The difference in cultural background of participants from the intervention and control areas is a potential limitation. However, since the intervention and control areas are located within the same province we believe the differences would be minimal with a consequently limited impact on study findings. Another potential limitation is the presence of competing health providers, providing family planning services, operating within the areas of project health providers. Selecting a health care facility for the project where no other service providers exist is difficult. To address this limitation we had a control group to assess the impact of routine practice in health facilities towards family planning. Therefore, we are confident that the increase in outcomes in our study was due to the project intervention(s).

The findings of the study can be generalized to other settings with similar context. Besides taking into account the intervention details, replication will need to take into account the local cultural sensitivities as well as the local health system structure where the research is expected to be replicated.

Conclusion

The successful implementation of *Suraj* intervention scheme highlights the importance of demand generation in tandem with provision of low cost family planning services embedded within the communities of the beneficiaries. The FP service integration with existing CMW providers approach also has some benefits in improving FP uptake (especially IUD) at the community level with increased probability of method continuation. Since the CMW interventions were not subsidized or free, the approach may be sustainable in the long term ensuring access to FP services for the underserved population segments. In addition, having dedicated and full-time community health workers or lady health workers (LHWs) for modern contraceptive services such as IUDs can facilitate connecting prospective and current users with the respective facility for building a strong referral system – either by increasing the existing LHWs numbers or introducing new cadre of FP field workers.

It will be beneficial to conduct further research on evaluating the FP integration approach in order to identify factors that can facilitate potential expansion of the approach in other areas of Pakistan with explicit focus on costing perspectives.

Abbreviations

CMW: community midwife; DSF: demand-side financing; FCM: female community mobiliser; FP: family planning; IUD: intrauterine device; KP: Khyber Pakhtunkhwa; LARC: long-acting reversible contraceptives; MSS: Marie Stopes Society; MWRA: married women of reproductive age; TFR: total fertility rate; WHO: World Health Organization.

Competing interests

The authors declare that they have no competing interests.

Authors' contribution

Conceived and designed the experiments: SKA, W Hameed, GM and JA. Performed the experiments: SKA, WH, GM, GA, MI, OMF, SA, W Hussain and AA. Analyzed the data: HBH, W Hameed, SKA, MI, W Hussain. Contributed materials/analysis tools: SKA, W Hameed, EM, and HBH. Wrote the manuscript: SKA, W Hameed, HBH, GM, OFK, JA, SA, EM, MA and MT. Intellectual contribution: EM, MA and MT. Authors GM and MI have same contributions. All authors read and approved the final manuscript.

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Rates of IUD discontinuation and its associated factors among the clients of a social franchising network in Pakistan (Article 5)

RESEARCH ARTICLE

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Rates of IUCD discontinuation and its associated factors among the clients of a social franchising network in Pakistan

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Abstract

Background: Modern Intrauterine contraceptive device (IUCD) is very safe, highly effective reversible and inexpensive family planning method which offers 5-10 years of protection against pregnancy. The contraceptive use in Pakistan has been merely 30% for over a decade with IUCD being the least used method. Higher discontinuation rates are documented in developing countries; however no such data is available for Pakistan. Marie Stopes Society (MSS) established a social franchise outlets network branded as 'SURAJ' (Sun) in Pakistan to provide quality family planning services. This study attempts to determine IUCD discontinuation rates and its associated risk factors. Using a semi-structured questionnaire, a cross-sectional study was conducted with 3000 clients who availed IUCD services from *Suraj* provider 6, 12 and 24 month back. Data were analyzed in SPSS 17.0; adjusted prevalence ratios were calculated to see associations between discontinuation and its risk factors.

Case presentation: We found that 22.7% of the IUCD acceptors experienced some health problem; while the overall discontinuation rate was 18.9% with average time of usage of 7.4 (SD \pm 5.8) months before discontinuation. Half of them showed health concerns (49.8%); of which a majority (70.2%) returned to *Suraj* provider for IUCD removal. Women living in Punjab, residing at a travelling time of 30-60 minutes and no previous use of contraceptive are more likely to discontinue IUCD. However, among total women 81.7% still expressed willingness to avail IUCD services from *Suraj* provider in future, if needed.

Conclusion: The findings suggest a need for training the providers and field workers to prevent early discontinuation of IUCD among the *Suraj* clients and by addressing the health concerns through proper counseling, continued follow-up and immediate medical aid/referral in case of complications.

Keywords: Intra-uterine contraceptive device, Clients' satisfaction, Contraception, Family planning counseling, Social franchising

Background

Modern Intrauterine device (IUCD) is very safe, highly effective (99%) during first year [1] and inexpensive family planning method [2]. It is reversible, requires little effort on the part of the user once inserted, and offers 5-10 years of protection against pregnancy. IUCD's wider use would reduce the overall number of unintended pregnancies more than any other method.

Globally, after sterilization (19%), approximately 13% of all women of reproductive age use the IUCD, making it the second most popular contraceptive [3].

However, it has a bad reputation in some countries with its adverse effects exaggerated and the advantages often under-stated [4]. Fears about side effects, concerns about infection and infertility, lack of technical training for providers, and the time and costs involved in providing services combine to discourage use of IUCDs in many countries [5]. Some studies revealed that up to 80 percent of IUCD users complain of increased menstrual bleeding and pain. However, research conducted by FHI

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in 23 developing countries, indicates that Copper T IUCD-related bleeding disturbances tend to decrease after the first few months of use [6]. On the whole, researches around the world indicate the difficulty of IUCD use, continuation, within first year removal [7,8]. Introducing or reintroducing a contraceptive requires attention to policy, counseling and service delivery, on one hand, and to the public and potential users' knowledge and perceptions, on the other. A comprehensive approach that brings well informed clients together with good-quality services will help ensure a successful IUCD program [3].

The context

Pakistan is one of the most densely populated countries with a population exceeding 180 million with majority of the population (65%) living in rural areas [9]. Moreover, Pakistan's population growth at 1.9% per annum is much higher than that of its South Asian neighbors. It currently has the largest cohort of young people in its history (25 million, aged 15-24) and subsequent cohorts are projected to be even larger. Moreover, more than half of the women in Pakistan enter into marriage before reaching age 20 and one-third marry before they are 18 years of age [10]. However, the country lags far behind on development indicators, particularly with regard to maternal and child health [11]. Seeking health care from a quality services outlet would mean an extra financial burden, resulting in inequities in access to care and low utilization of needed services and products [12].

Against almost universal contraceptive awareness, overall contraceptive prevalence is reported to be at 29.6%; while, the use of modern contraceptive methods is reported to be even lower at 21.7%. Moreover, almost half of currently married women have used contraceptives (modern or traditional methods) at one time, indicating that a significant share of women have discontinued use of family planning. The higher total fertility rate at 4.1 as against 3.1 wanted total fertility rate indicates that on average women in Pakistan bear at least one unwanted pregnancy in their lifetimes [10]. In 2001, after male condoms, IUCDs were the most popular reversible modern contraceptive method in Pakistan, representing 17% of the method mix, compared with 11% in the mid-1980s [13]. However, according to a national survey in 2003, the awareness pertaining to IUCD is quite low at 74.8% compare to overall contraception knowledge, and interestingly, IUCD is the only method whose awareness among population has reduced. Likewise, the use of IUCD has also reduced from 4% in 2000 to 2.3% [14].

The most common contraceptive methods in use in Pakistan are either permanent or have low effectiveness,

these include: female sterilization (8.1%), traditional methods such as rhythm and withdrawal (8%), and condoms (7%). Contraceptive use is even lower among young and rural women. Twenty five percent of the people living with unmet need for contraception; meeting this demand can have immediate effect reducing Pakistan's total fertility rate (TFR) to three births per woman thereby putting it on the trajectory for reaching replacement fertility in the near future. Moreover, the median birth interval is 29 months and that can potentially be addressed through the long term reversible method in Pakistan [10].

Rationale for the study

Under the auspices of Marie Stopes Society (MSS) a health providers' network branded as '*Suraj*' (meaning 'sun' in English), with an innovative Output Based Aid (OBA) voucher scheme for IUCD services has been established. The model is essentially a partnership between MSS and private local health services providers and aims to increase demand, access, choices and quality services of family planning for rural, underserved and poor communities, similar to a "social franchise model". MSS *Suraj* network is operating in total eighteen 18 districts (6 each; in southern & northern Punjab, and Sindh). In each district the network ranged from 4-7 providers those are located in the far-flung, rural and underserved areas of the district, and each provider covers a total of 15,000 to 25,000 population. In each district the minimum distance between any two *Suraj* providers is large enough to ensure no spill-over effect. The *Suraj* network forged partnerships with 100 Private providers which mainly included Lady Health Visitors. The providers belonged to and were practicing in rural, poor and underserved areas. *Suraj* providers were trained and accredited to provide condoms, emergency contraceptives, injectables, oral contraceptives and to insert and remove intrauterine contraceptive devices (IUCDs). Since its inception the *Suraj* network has provided nearly 106,943 IUCDs in its catchment area including 30% through vouchers and 45% are to the women, referred by field worker mobilization (FWM). Thus, in order to identify strategies for augmenting the efficiency and effectiveness of this program, this study was an attempt to assess the frequency of discontinuation of IUCDs, its reasons. Moreover, clients' level of satisfaction, and accessibility to the services were also assessed.

Objectives of the study

The main objective of this study was to assess the outcomes of IUCD use and to determine the factors associated with IUCD discontinuation among women clients of *Suraj* clinics.

Methodology

Study design & setting

A cross-sectional study was conducted in nine districts of Sindh and Punjab Provinces (6 from Punjab & 3 from Sindh). The districts from Punjab province included Bahawalnagar, Jhang, Kasur, Lodhran, Sheikhpura, and Sialkot; while from Sindh, Umerkot, Hala/Matiari and Tando Muhammad Khan were included in this survey. Geographically, Bahawalnagar, Jhang and Lodhran are situated towards the southern part of Punjab province whereas Kasur, Sheikhpura and Sialkot are more towards the northern region of the province. In each district, a sample of *Suraj* providers was selected for this survey.

Sampling

A multi-stage sampling procedure was employed. At first, three districts were randomly selected proportionally from each region (southern & northern Punjab, and Sindh). Within each district, we selected *Suraj* centres that had (averagely) performed at least 25 (monthly targets) IUCDs in three selected cohort (i.e. 6 month, 12 month and 24 month back). The purpose for choosing 6 month was to compare the findings with an outreach evaluation conducted by MSS earlier [15], while 12 and 24 month discontinuation rates were to compare with other developing countries [16-18]. The daily record registers of each selected provider for these specific cohorts were obtained from the field and entered on an Excel sheet (version 2007). Finally taking into account the operational and financial factors, from a list frame of women (who received IUCD), a total sample of 3000 clients were randomly selected after stratification by type of client; which represent 55% of voucher clients and 45% clients referred by field worker marketing. Since the model itself was innovative and MSS employed the voucher distribution for the first time; therefore the purpose to keeping higher share of voucher clients in selected sample was to validate the distribution of voucher.

Inclusion criteria

Women of reproductive age (15-49 years) who had received IUCD services from *Suraj* centre either 6, 12 and 24 month ago (i.e. in July 2010, December 2009 or January 2009) and were willing to give informed verbal consent were included in the study.

Ethical approval

The study protocol was reviewed and approved by the Research & Metrics Department of Marie Stopes International, London, UK.

Data collection tool

We adapted and contextually revised a semi-structured questionnaire to capture socio-demographic information, discontinuation rates, reasons for discontinuation, complications and side-effects, follow-up mechanism,

accessibility to removal services, service switching behaviour, and level of satisfaction with IUCD and the *Suraj* provider. Similar questionnaire has been used in the studies conducted in Philippines and Vietnam in 2009 and 2010 respectively [17,18]. The same questionnaire was used by MSS in an earlier survey conducted in outreach/rural areas; whereby the tool has already been tested in the similar settings.

Data collection and management

The entire data collection was done by a private consultant in January 2011. The local area enumerators were hired and trained on the questionnaire. Face-to-face interviews were conducted at clients' home in privacy. In order to gain more reliable data, before the interview, the local FWM and the enumerator encouraged the client to provide honest responses. On average, each interview took 20 minutes.

Measures were taken to ensure the quality of collected data. All the forms were checked for completeness, logical errors, unclear or irrelevant responses on daily basis. Monitoring visits were also made by the Principal investigator to ensure quality of data and adherence to study protocol. The data entry and cleaning was done by hiring a different consultant to keep the processes unbiased. The software also restricted for the must filled entries and extreme values. Double entry was performed by two different operators and validated using Visual FoxPro version 6.0.

Statistical analysis

Using SPSS 17.0, the descriptive frequencies, proportion and means were run for socio-demographic indicators. Prevalence ratios (PR) were estimated, using Cox regression keeping the time variable constant [19], to see the associations between discontinuation and its risk factors. All the variables that showed p-value upto 0.25 were included for multivariable analysis [20]. A p-value of less than 0.05 was considered as statistically significant. The data for IUCD insertion and discontinuation data were counted as single-record.

Case presentation

We approached 3000 women, of those 2789 (92.7%) participated in the study. The reasons for non-response included wrong address, house locked, women migrated or died. There were almost no refusals. The details of stages of sampling are shown in Table 1 below.

Socio-demographic characteristics

Of 2789 women interviewed, 76.3% were from Punjab, 67.4% aged > 25 to ≤ 35 years, and had no formal education (59.7%). More than half (56.1%) availed services free of cost (through a voucher). Around 23% women had four children, just ahead of those who had three children (20.2%).

Table 1 Sampling framework and approach for recruiting women for the study

Multi-stage sampling procedure	1 st stage	2 nd stage	3 rd stage	
	Randomly selected districts, by stratification of region	→ <i>Suraj</i> providers/centres having healthy client flow in July 2010, December 2009 and Jan 2009	→ <i>Number of clients availed IUCD services in Jul 2010, Dec 2009, and Jan 2009 from the 39 selected providers</i>	→ Random selection of clients from a list after stratification by type of client
Selection at each stage	Nine (9) districts out of 18 districts	Thirty nine (39) <i>Suraj</i> providers from 52	All 4011 IUCD clients (R-2013; V-1998)	3000 were selected (R-1347; V-1653)

Information and use of IUCD

Majority of the women had heard about IUCD by word of mouth, mostly from FWM (80.4%), an IUCD client (9%) and from some other sources (3.3%) such as medical camps, posters, family members etc. Similarly, in terms of factors behind choosing IUCD as a long term contraception method, encouragement by FWM or by a satisfied IUCD client is observed to be the most popular reason (43.3%), followed by 'believing in long-term effectiveness' of method (33.1%). Median time to get to the *Suraj* facility was 26 minutes. Moreover, 98% of the IUCD acceptors were informed by providers about the place to refer in case of any complications, and 54.8% did consult a health worker in the community after IUCD insertion. A majority (83.5%) of women opted for IUCD after completing their families, 10.5% opted when they had male child, while only 5.8% opted when they had a female child.

Experiences of health problems among IUCD acceptors

We found that 634 (22.7%) of the IUCD acceptors experienced some health problem. Of those who faced any health problems, 286 (38.7%) cited heavy bleeding, followed by pain 225 (30.4%) and irregular bleeding 122 (16.5%). Others felt nausea, raised blood pressure, weakness, weight gain etc. Of those who felt some side effect, around half 337 (53.1%) went to *Suraj* centre while 143 (22.5%) did self treatment and 155 (24.4%) reported that they did not require any treatment for these problems.

Discontinuation of IUCD, reasons, accessibility and level of satisfaction with services

The overall discontinuation rate was reported at 526 (18.0%). We found that 167 (22.7%) women in 24 month cohort, 180 (18.8%) at 12 months cohort and 179 (16.3%) at 6 months cohort discontinued using an IUCD at the time of survey. Of them, the average time of IUCD use was 7.4 (SD \pm 5.8). Nearly 22% couldn't recall the duration of use before IUCD removal.

Of the women who discontinued, nearly half 283 (49.8%) of the respondents cited health concerns (including excessive bleeding, pain and irregular bleeding) as the main reason for discontinuation, followed by

desire for more children at 193 (34.0%). In addition, 44 (7.7%) discontinued due to their husbands' dislike or in-laws' opposition, whereas 19 (3.3%) switched to permanent method. IUCD expulsion, suggestion by an unhappy IUCD user and method failure were also reported as some of the reasons for IUCD removals with 28 (4.9%).

We found that majority [368 (70.2%)] returned to *Suraj* provider for the removal services, followed by other private clinics at 89 (16.9%). Only 36 (6.8%) got it removed from government facility, 30 (5.7%) reported that it came out itself while the rest sought removal services from lady health worker and traditional birth attendant (*Dai*). Moreover, 513 (97.5%) women found it very easy or not difficult to acquire removal services as it took less than an hour for almost all respondents [478 (90.0%)] to avail removal services. Moreover, 371 (70.5%) got this service free of cost and among those who paid median was PkRs60 (0.69\$). We found that, large [2280 (81.7%)] proportion of women expressed willingness to avail IUCD service from *Suraj* provider in future, if needed; whereas 298 (10.7%) women were not willing to use this service in future while the rest were not sure about it. Moreover, 2709 (97.1%) said that they are by and large satisfied and that they will recommend this service to their relatives or friends.

Factors affecting discontinuation of IUCD

The Univariate analysis in Table 2 shows that women > 35 to \leq 45 years age group; women not using any contraceptives before IUCD insertion; women experiencing health problem after IUCD insertion; women received IUCD 24 month ago, have high chances of discontinuation. In addition, women living in the proximity of *Suraj* provider and having sons born are more likely to discontinue. We found no significant difference in IUCD discontinuation versus education of the woman or between the women availing the IUCD service free of cost (through voucher) and those paying out of pocket (referred by FWM).

Multivariate analysis in Table 3 shows a high adjusted prevalence ratio of discontinuation for women

Table 2 Association between socio-demographic, services and reproductive factors and IUCD discontinuation

Variables	IUCD Discontinuation			
	N	Overall	PR	(95% C.I.)
		n (%)		
Region				
Sindh	689	80 (11.6)	1	–
Southern Punjab	814	194 (23.8)	2.1	1.6-2.7*
Northern Punjab	1286	252 (19.6)	1.7	1.3-2.2*
Age of women				
> 15 - ≤ 25	422	72 (17.1)	1	–
> 25 - ≤ 35	1880	344 (18.3)	1.1	0.8-1.4
> 35 - ≤ 45	487	110 (22.6)	1.4	1.01-1.9*
Number of children				
≤ 2	590	119 (20.2)	1	–
3	564	93 (16.5)	0.8	0.6-1.1
4	631	104 (16.5)	0.8	0.6-1.1
5 or more	1004	210 (20.9)	1.0	0.8-1.3
Family status				
Completed family	5	2 (40.0)	1	–
No children	293	74 (25.3)	2.2	0.6-8.4
Boy(s) only	163	32 (19.6)	1.4	1.1-1.8*
Girl(s) only	2328	418 (18.0)	1.1	0.8-1.6
Education of women				
No formal education	1665	298 (17.9)	1	–
Primary	682	133 (19.5)	1.1	0.9-1.3
Secondary	349	74 (21.3)	1.2	0.9-1.5
Inter or post	94	21 (22.3)	1.3	0.8-1.9
Service availed				
Referred by FWM (paid out of pocket)	1225	213 (17.4)	1	–
Free of cost (thru voucher)	1564	313 (20.0)	1.2	1.0-1.4
Type of IUCD				
Copper-T	790	134 (17.0)	1	–
Multi-load	1999	392 (19.6)	1.2	1.0-1.4
Reason for choosing IUCD				
Others	217	31 (14.3)	1	–
Accessibility	277	58 (20.9)	1.4	0.9-2.3
Long term effectiveness side effect	1173	212 (18.1)	1.3	0.9-1.8
Suggested by FWM or satisfied client	1122	225 (20.0)	1.4	1.0-2.0
Time taken to get to the Suraj facility				
More than 60 minutes	200	16 (8.0)	1	–
30 to60 minutes	683	122 (17.9)	2.5	1.5-4.2*
Less than 30 minutes	1906	388 (20.4)	2.2	1.3-3.8*
Status of contraception before IUCD insertion				
Using a contraceptive method	1127	186 (16.5)	1	–
Not using any method	1662	340 (20.5)	1.2	1.04-1.5*
Experience health problem after IUCD insertion				
No	2154	236 (11.0)	1	–
Yes	635	290 (45.7)	4.2	3.5-5.0*
Receiving of IUCD				

Table 2 Association between socio-demographic, services and reproductive factors and IUCD discontinuation (Continued)

24 month	736	167 (22.7)	1	–
12 month	957	180 (18.8)	1.1	0.9 -1.5
6 month	1096	179 (16.3)	1.5	1.2 - 1.9*

* Statistically significant

experiencing any health problem after IUCD insertion; women from both zones of Punjab, women not using any contraception at the time of IUCD insertion and those residing at a distance of less than an hour's travel from the *Suraj* centre.

Service switching behavior

Of all the IUCD acceptors 1662 (59.6%) were not using any method before the insertion of index IUCD. Out of those who were using some form of contraception before switching IUCD, majority switched from short-term contraceptives such as condoms 455 (16.3%), oral pills 271 (9.7%), injection 250 (9.0%) and withdrawal 129 (4.6%).

Majority of the women who discontinued IUCD [299 (56.8%)], did not switch to any other contraceptives. Others switched to short term method such as condoms 73 (13.9%), pills 34 (6.5%), and injection 15 (2.9%); while 74 (14.1%) and 24 (4.6%) moved to periodic abstinence and tubal ligation, respectively. Among those who didn't switch to another method, nearly half (47%) desired to

get pregnant, and 31.7% didn't share the reason; while rest of the women cited various reasons such as a forthcoming surgery, husband's demise, fear of side effects etc.

Discussion

Study shows that IUCD is mainly preferred by women aged between 25 to 35 years, once their desired family size is completed. Physical access seems to be of no issue as most of the women reported travelling less than half an hour to get to the facility for insertion or removal of IUCD, indicating the way program is increasing access to the services for the community. In addition, a significant proportion of the women reported FWM and the satisfied clients as a major source of their knowledge and motivation to use IUCD services which shows the importance of word of mouth, quality of care and the doorstep services by FWMs.

The duration of IUCD use before discontinuation [average 7.4 (SD 5.7) months] among the IUCD acceptors with the main reason being health concerns (including excessive bleeding, pain and irregular bleeding) conforms with the findings of Bangladesh and Vietnam studies [18,21].

The present study demonstrated that age is increasingly associated with discontinuation, while number of children showed no relationship with discontinuation. The findings are similar to the study conducted in Vietnam [18]. However, women education had no association with method discontinuation, which agrees with the Bangladesh study [16]. Moreover, women using a method before IUCD insertion are more likely to continue the method as compared to the women using no method before IUCD insertion. Experiencing any health problem is the most important factor associated with discontinuation. Discontinuation rates among voucher and non-voucher clients were same, which indicates that the vouchers were distributed to eligible women after proper need assessment. Moreover, the higher discontinuation among women may be attributed to the lack of accessibility to removal services as the programme targeted the rural areas, and the dependency of IUCD user on healthcare provider (for insertion and removal). The early discontinuation may be due to side effects, as they normally occur early, following to insertion [22]; therefore it can be expected to see higher early

Table 3 Association between socio-demographic, services and reproductive factors and IUCD discontinuation

Variables	APR*	(95% C.I.)
Status of contraception before IUCD insertion		
Using a contraceptive method	1	–
Not using any method	1.4	1.2-1.7*
Experience health problem after IUCD insertion		
No	1	–
Yes	4.5	3.8-5.3*
Region		
Sindh	1	–
Southern Punjab	2.0	1.5-2.6*
Northern Punjab	1.7	1.3-2.2*
Time taken to get to the <i>Suraj</i> facility		
More than 60 minutes	1	–
30 to 60 minutes	2.7	1.7-4.5*
Less than 30 minutes	2.6	1.6-4.4*
Receiving of IUCD		
24 month ago	1	–
12 month ago	1.4	1.1-1.7*
6 month ago	1.2	1.0-1.5

APR: Adjusted prevalence ratio

discontinuation followed by low discontinuation. However, in this case 24 month discontinuation was found significantly different from 6 month rate. This could possibly be because of the completion of two years of birth spacing, which is nearly the median birth spacing time in Pakistan [10].

The source of method information and motivation to choose IUCD was the FWM. The discontinuation was low compared to discontinuation rates in other Asian countries [16,18,23,24]. The main reasons for discontinuation included side-effects and desire for more children. The discontinuation rates can be further reduced through training of FWM and *Suraj* provider on counseling techniques. In addition, more frequent follow-up visits should be paid to the clients by FWM during the initial 6-8 month after IUCD insertion to assure and reassure the users that the problems are temporary and are not going to continue for long.

Conclusion

Such interventions and strong counseling for promoting the use of long term contraceptive methods is one solution to prevent high discontinuation [25]. Such an approach might help in resolving the multi-factorial issue of high unmet need for contraception in Pakistan [26]. In addition, more frequent follow-up visits should be paid to the clients by FWM during the initial 6-8 month after IUCD insertion to assure and reassure the users that the problems are temporary and are not going to continue for long. The study highlights the need to provide counseling to the women to switch to any suitable contraceptive method of their choice, in case they get IUCD removed. Furthermore, a qualitative study should be conducted to appreciate and catalogue the perceptions, beliefs and attitudes of the clients regarding IUCD discontinuation.

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Authors' contributions

SKA & WH was involved in conception and design of the study, analysis and interpretation of the literature, and prepared the draft; BTS added literature and reviewed the analyzed content; MB contributed in revising it critically for substantial intellectual content; GM, WS, IS and AA supervised the data collection, data cleaning and initial analysis. All authors read and approved the final manuscript.

Competing interests

The authors, though, are affiliated with the organization that implemented the programme; however they neither come under nor are not part of programme team. The study was conceptualized and conducted by them independently without any consultation with the implementing team.

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IUD discontinuation rates, switching behavior, and user satisfaction: findings from a retrospective analysis of a mobile outreach service program in Pakistan (Article 6)

IUD discontinuation rates, switching behavior, and user satisfaction: findings from a retrospective analysis of a mobile outreach service program in Pakistan

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Background: In Pakistan, the uptake rate for the intrauterine device (IUD) is very low at 2.5%. The most popular modern contraceptive methods in Pakistan are female sterilization and use of condoms. The Marie Stopes Society established its mobile outreach service delivery program with the aim of increasing use of modern quality contraceptive services, including the long-term reversible IUD, by women living in hard-to-reach areas. The present study attempts to assess IUD discontinuation rates and associated factors, including switching behavior and level of satisfaction with this type of service delivery.

Methods: Using a cross-sectional approach, we contacted 681 women who had received an IUD from the Marie Stopes Society mobile outreach program during July and August 2009. Successful interviews were conducted with 639 of these women using a structured questionnaire. The data were analyzed with Stata 11.2 using simple descriptive Chi-square and Cox proportional techniques.

Results: Analysis revealed that 19.4% (95% confidence interval 16.3–22.5) of the women discontinued use of their IUD at 10 months and, of these women, the majority (69.4%) cited side effects as the main reason for discontinuation. Other factors, such as geographical catchment province, age of the woman, history of contraceptive use before IUD insertion, and side effects following insertion of the device, were found to be significantly associated with IUD. Amongst the women who had their IUD removed, 56.5% did not switch to any other contraceptive method, while 36.3% switched to either short-term or traditional methods, such as withdrawal, rhythm, and folk methods. Degree of satisfaction with the device was also significantly associated with discontinuation.

Conclusion: Early discontinuation and not switching to another contraceptive method increases the risk of unplanned pregnancy. Health care workers should be trained in managing clients' concerns about the IUD to prevent discontinuation and providing counseling services for clients to select an alternative contraceptive method if they decide to discontinue.

Keywords: intrauterine device, mobile outreach services, discontinuation, Pakistan

Introduction

The intrauterine device (IUD) is one of the most effective of the modern methods of contraception, is reversible, and can be used for an extended period of time.¹ Worldwide, the rate of IUD use is 14%, with the highest rates of use in Asia (18%), followed by Europe (12%).² Because of a lack of accurate and up-to-date information, this method of contraception is underused in some parts of the world.³ Although IUD use reaches 40% in some countries, like China, Uzbekistan, and Vietnam, rates are

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low in other parts of Asia, and particularly so in Pakistan (Table 1).²

Despite being the sixth most populous country in the world, with a population of 174 million and an annual growth rate of 1.8%,⁴ Pakistan lags well behind most countries in terms of human development, with an overall ranking of 105 in the Human Development Index; this index provides a composite measure of three dimensions of human development: living a long and healthy life (measured by life expectancy), being educated (measured by adult literacy and enrolment at the primary, secondary and tertiary level) and having a decent standard of living (measured by purchasing power parity and income).⁵ Although the National Maternal and Child Health Policy comprehensively focused on the maternal, newborn, child health, human resources development, and family planning components of service delivery, it unfortunately failed to achieve the anticipated results.⁶ Furthermore, Pakistan is a country in which approximately 28,000 maternal deaths occur annually due to preventable pregnancy-related complications, with hemorrhage, obstructed labor, puerperal sepsis, and toxemia of pregnancy being the major causes of mortality.^{7,8} In 2008, Pakistan was reported to be amongst the six countries that contribute to more than 50% of maternal deaths worldwide.⁷ Moreover, an estimated 890,000 induced abortions occur annually in Pakistan, with one in seven pregnancies being terminated by induced abortion.⁹

On the other hand, the unmet need for contraception in Pakistan stands at 25% and the total fertility rate is 4.1, where one in four is an unwanted birth. However, the total fertility rate increases to 4.5 amongst rural counterparts and

Table 2 Percentage distribution of contraceptive method mix in Pakistan²

Contraceptive method	Percent of method mix
Female sterilization	24.1
Male sterilization	0.0
Pill	7.0
IUD	9.3
Injectable	10.0
Implant	0.0
Condom	20.0
Rhythm	5.2
Withdrawal	22.2
Folklore method	1.1

Abbreviation: IUD, intrauterine device.

5.8 amongst the poorest group, where more than one birth is considered unwanted.⁸ Current use of modern contraception is around 19%,² with the most common contraceptive methods being either permanent (female sterilization) or short-term (use of condoms). Use of long-term reversible methods is very low or negligible, with only 2.5% of married women using the IUD (Table 2).² The aforementioned indicators are worse among the rural population, which comprises two-thirds of the total population of the country.

During 2001, IUD was the second most popular reversible modern contraceptive method used in Pakistan, representing a 17% share of the method mix, compared with 11% in the mid-1980s.¹⁰ Surprisingly, awareness of the IUD and its use among the population has reduced over time,² and, as a result, the IUD currently accounts for only 9.3% of the method mix.² Moreover, its use is lower still in the rural population.^{2,8} There are no data available to account for this downward trend in awareness and utilization of the IUD in Pakistan over this period of time, but it might have been caused by emphasis on the part of the public sector and vertical programs on permanent and short-term methods. Because use of long-term contraception is very low in Pakistan, it is important to know the IUD discontinuation rate in particular, in view of the fact that it is more cost-effective than a contraceptive implant. Both worldwide¹¹ and in Pakistan, there are scant data on IUD use; surveys across several countries often do not capture this information, including the last Pakistan Demographic and Health Survey.⁸ However, a recent survey conducted in 2011 with clients of Social Franchise Network (ie, a business model in which a franchising organization provides licenses to the independent providers or service delivery outlets to operate under its brand name¹²) in Sindh and Punjab provinces documented IUD discontinuation rates of 16.3%, 18.8%, and 22.7% after 6, 12, and 24 months, respectively.¹² In addition, a small-scale, double-blind clinical study in Pakistan

Table 1 Rates of intrauterine device (IUD) use in Asian countries²

Country	Use of IUD (%)
Afghanistan	1.0
Bangladesh	0.9
Bhutan	3.4
India	1.7
Iran	7.6
Maldives	0.8
Nepal	0.7
Pakistan	2.5
Sri Lanka	0.3
Philippines	3.7
Jordan	22.6
Turkey	16.9
Kazakhstan	36.2
Indonesia	4.9

documented 6-month and 12-month discontinuation rates of 3% and 8%, respectively, for the Multiload (copper 375 IUD; Multilan AG, Pfäffikon, Switzerland) and 6-month and 12-month discontinuation rates of 11% and 7%, respectively, for the Copper-T (copper 380 IUD; Medico Techno PTE Ltd, Singapore).¹³ Unpublished data from a survey of 29 districts in Pakistan also report 12-month IUD discontinuation rates of up to 23%.¹⁴

The research evidence demonstrates that addressing unmet needs for contraception can have a positive impact on maternal mortality, and converting users of short-term contraceptive methods to long-acting methods like the IUD can significantly reduce unwanted pregnancies and pregnancy-related maternal deaths.⁶ The Pakistan Population Policy also seeks to promote contraception by improved access to quality reproductive health services.⁸ However, at the health services level, lack of access to and availability of contraceptives, trained staff, quality of care and responsiveness, outreach, and services have been identified as the key reasons behind the high unmet family planning needs in Pakistan.⁶ According to recent data, more than 30% of primary care facilities in Pakistan are not operational.¹⁶ As a result, limited services are provided to the rural and periurban population.¹⁷ Along with poor quality services, limited access has been largely held responsible for the low rates of contraceptive use.¹⁸

The Marie Stopes Society (MSS) established its mobile outreach program in the early 1990s in order to increase access and provide coverage for women living in hard-to-reach areas, particularly targeting poor and underserved women with limited access to primary care health facilities and a high unmet need for family planning. The mobile outreach model provides a wide range of quality contraceptives at an existing public health facility through its community health workers, who in most cases are female. Where no facilities are available, outreach teams work from a tent or a van. The duration of the outreach camp clinic and the frequency with which the outreach team return to each location depend on the local level of demand. According to Marie Stopes International (MSI),

MSI uses a mobile outreach model to provide affordable (or free), high quality LAPM [long-acting and permanent method] services to women living in rural and hard to reach areas. Sensitization and demand-generation are conducted in advance of outreach visits, often with assistance from community health workers. In most MSI programmes, the mobile outreach teams make use of existing public health clinics or hospitals but in some cases they use other facilities such as schools. Where no facilities are available, outreach

teams work from a tent or a van. The frequency with which outreach teams return to certain locations, as well as the duration of each visit, depends on the level of demand. The general MSI mobile outreach team is comprised of five individuals: two nurses, a sexual and reproductive health counselor, one healthcare assistant and one driver/nurse aid, but this varies by country. MSI outreach programmes are expected to implement high quality clinical standards and rigorous follow-up systems that allow women to access medical advice post-procedure. According to MSI clinical standards, women should be given appropriate pre and post procedure counseling on how to deal with side effects, when to come back for a follow-up visit, and where and how to seek medical advice when needed. MSI outreach programmes provide the full range of contraceptive methods. In many cases, the government partner where outreach is taking place already offers short term methods and therefore MSI complements this service provision by focusing on unavailable methods (usually LAPMs). In 2010, 73% of LAPMs provided by MSI (globally) were delivered via outreach services.¹⁹

Outreach programs are widely criticized for not providing backup support for their clients and for a lack of continuity of care,²⁰ so the MSS implements a rigorous follow-up system accessible to women needing post-procedural advice. Generally, where the MSS outreach service is operating, public health facilities either provide no contraceptives or offer only short-term methods, so the MSS focuses more on the less readily accessible long-term methods, including the IUD. In 2009, the MSS provided a total of 34,360 IUD services across Pakistan. The objective of the present study was to assess the socioeconomic profile of IUD users at mobile outreach services, along with discontinuation rates and reasons for discontinuation at 10 months following insertion, switching behavior, and level of satisfaction with the service.

Materials and methods

Design and setting

A cross-sectional study was conducted at six randomly selected districts in the Sindh (Nawabshah and TandoAllayar) and Punjab provinces (Rawalpindi, Khanewal, Bhawalpur, and Lodhran). The sociodemographic characteristics of each district varied according to the geographic location in each province.

A multistage cluster sampling strategy with stratification was used to select the study participants. At first, two provinces (Punjab and Sindh) were purposively selected from four, and Balochistan and Khyber Pakhtoonkhwa were dropped due to a bad law-and-order situation. Six districts were selected randomly from a pool of 59 districts across

the Sindh and Punjab provinces as a feasible sample in view of the practical constraints of time, budgeting, and logistics. All the women (n = 681) who received IUD services through the MSS mobile outreach program in the 9–10-month period surveyed (July–August 2009), aged 15–49 years, and willing to give their informed consent, were invited to participate in the study. Lists of these women, including their contact details, were obtained from the MSS management information system. The study protocol was reviewed and approved by the Research, Monitoring and Evaluation Department of Marie Stopes International, London, UK.

Data collection and management

We located the selected study participants via MSS outreach workers who, in most cases, were local residents and those mainly responsible for increasing awareness and demand for contraceptive services among the target population. We made three attempts to contact households found to be locked (ie, no one at home) or with women away from home temporarily at the time of our visit. The third attempt to contact such households was made on the last day of the survey, to have the maximum probability of contacting the women selected for this survey.

For data collection, we used the same semi-structured questionnaire as that used in a previous study conducted in the Philippines.²¹ The questionnaire included items on client profile, discontinuation of contraception according to method and reasons for this, source used for removal, method-switching behavior, and client satisfaction with the services provided by the MSS. For cultural reasons, we engaged and trained local female enumerators to use the questionnaire. These enumerators conducted face-to-face interviews with the study participants in the privacy of their own homes, and each interview took 15–20 minutes on average. No case was reported where a woman experienced a life-threatening complication requiring hospitalization and resulting in disability, incapacity, or death. Interviews were carried out in April 2010. Data were double-entered into Visual FoxPro version 6.0 (Microsoft Corporation, Redmond, WA, USA). The survey data were not linked to medical records because very minimal information is captured on the patient register at the time of service provision.

Statistical analysis

Descriptive analyses were run to analyze sociodemographic and health service indicators. Potential risk factors for IUD discontinuation during the follow-up period were sought using univariate and multivariate Cox regression. The aim

of this analysis was to determine the adjusted effect of each potential risk factor on the outcome, so the multivariate model was developed by simply including all potential risk factors irrespective of their statistical significance (*P*-value) level. The Pearson Chi-square test was also used to test for an association between degree of satisfaction and IUD discontinuation. Data for IUD insertion and discontinuation were counted as a single record. Stata version 11.2 (Stata Statistical Software, Release 11; StataCorp LP, College Station, TX, USA) was used for the analysis.

Results

A total of 681 women were approached, of whom 639 (93.8%) gave their informed consent to be interviewed. Forty-two women were excluded because of relocation from the area (n = 18, 2.6%), inability to be located due to incomplete contact information (n = 11, 1.6%), and being away from their homes at the time of the survey (n = 13, 2.0%). The results reported here are based on data from the 639 women who were successfully interviewed.

Approximately two-thirds of the women interviewed were from the Punjab province. Their mean age was 30 ± 4.7 years, and half of them had no formal education. One-fifth had 1–2 children, 43% had 3–4 children, and 37.9% had at least five children (Table 3).

Long-term effectiveness of the device was cited by the majority (66.0%) of the women as their reason for choosing an IUD for contraception. A further 16.7% of women reported

Table 3 Sociodemographic characteristics of women who had an IUD inserted between July and August 2010

Characteristics	(%)
Province	
Punjab	67.5
Sindh	32.5
Age distribution (years)	
>19–25	16.9
>25–35	71.1
>35–49	12.1
Mean ± SD	30 ± 4.7
Education level	
No formal education	50.9
Primary	32.9
Secondary	13.0
Post-secondary	3.3
Number of live children	
1–2	19.4
3–4	42.7
5+	37.9
Mean ± SD	4.1 ± 1.8

Abbreviations: IUD, intrauterine device; SD, standard deviation.

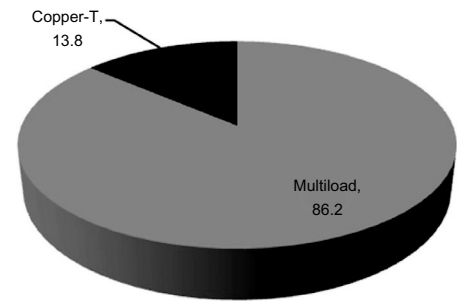


Figure 1 Percentage distribution of clients using IUD by its type.
Abbreviation: IUD, intrauterine device.

accessibility as their reason for choosing an IUD, 11.7% cited encouragement by their community health worker, 9.2% mentioned affordability, 8.8% reported fewer side effects with the IUD, and the remaining 5.5% had chosen the IUD as a result of encouragement by someone else who was satisfied with the IUD as a method of contraception. Most (88.4%) of the women had heard about the outreach program from MSS staff, 2.7% from a previous outreach client, 2.4% from a government clinic or health worker, 1.9% from a private doctor, and the remaining 4.7% from other sources. Eighty-six percent of the women had a Multiload and 13.8% had a Copper-T (Figure 1). Approximately 97% of the IUD users were informed by a service provider about where to go to report side effects or complications.

When followed up at 10 months, nearly one-fifth (19.4%, 95% confidence interval [CI] 16.3–22.5) of the women had discontinued IUD use at a mean (\pm standard deviation) duration of 7.7 ± 2.1 months. At the end of the first month, the IUD discontinuation rate was 1.9%, which increased up to 5.3% by the end of the third month. Importantly, the highest rate of IUD discontinuation (15.5%) was recorded at the sixth month following insertion. By the end of 10 months, 19% of the IUD users had discontinued using the IUD (see Table 4).

Among the women who had had their IUD removed, the majority (69.4%) cited side effects (bleeding 45.2%, pain and other side effects 12.1%) as the main reason for discontinuation. Fifteen percent had had their IUD removed because they wished to become pregnant, 4% reported that their husband or another family member disapproved of the device, and 4.8% reported switching to a permanent method after expulsion of the device. IUD removals were mostly performed by government facilities (41.9%), followed by private facilities (34.7%), then MSS clinic and traditional birth attendants (8.9% each). Finding IUD removal services was reported to be “very easy” or “easy” by 94.6% of the women, and almost four-fifths reported that they had had to travel less than 1 hour to have their IUD removed. Further, three-fifths of the women had had their IUD removed free of charge, while the median amount charged for those who paid for this service was 50 Pakistani rupees (US\$0.56).

The univariate and multivariate analysis in Table 5 shows that women in the Punjab province had a significantly higher risk (1.84, 95% CI 1.21–2.81; $P = 0.005$) of IUD discontinuation compared with women from the Sindh province. Similarly, women aged 25–35 years and 35–49 years of age were more likely to discontinue the IUD than women aged ≤ 25 years. Moreover, women not using any contraceptive method before the IUD had a significantly higher risk (2.41, 95% CI 1.63–3.55; $P < 0.001$) of discontinuation than women who had been practicing contraception. Women who experienced side effects after IUD insertion had a significantly higher likelihood (9.78, 95% CI 6.21–15.38; $P < 0.001$) of having their IUD removed than women who had not experienced side effects. Number of live children, educational status, and type of IUD were not associated with IUD discontinuation.

Three-fifths of the women reported that they did not experience any side effects after insertion of their IUD. Among those who did experience side effects, 45.7% reported bleeding, 28.7% reported pain, 16.1% reported discharge, 7.9% reported

Table 4 Life table analysis for crude cumulative discontinuation probabilities

Time (months)	Women with IUD at beginning of study period (n)	Women who discontinued IUD (n)	Probability of discontinuation	Cumulative probability of discontinuation
<1	639	12	0.0188	0.0188
2	627	15	0.0235	0.0423
3	612	7	0.0110	0.0532
3–6	605	65	0.1017	0.1549
6–10	540	25	0.0391	0.1941
>10	515			

Abbreviation: IUD, intrauterine device.

Table 5 Unadjusted and adjust hazard ratios for IUD discontinuation at 10 months, by sociodemographic and other reproductive health risk factors

Characteristics	Unadjusted HR (95% CI)	P-value	Adjusted HR (95% CI)	P-value
Province				
Sindh	I		I	
Punjab	1.42 (0.99–2.04)	0.056	1.84 (1.21–2.81)	0.005
Age distribution (years)				
≤25	I		I	
>25–35	2.62 (1.37–5.02)	0.004	4.83 (2.32–10.07)	<0.001
>35–49	1.39 (0.58–3.35)	0.458	2.96 (1.09–8.08)	0.034
Education level				
No formal education	I		I	
Primary	0.93 (0.62–1.41)	0.744	0.81 (0.53–1.23)	0.323
Secondary	1.30 (0.78–2.15)	0.315	1.33 (0.77–2.31)	0.310
Intermediate and post-secondary	1.63 (0.71–3.78)	0.252	2.06 (0.85–4.99)	0.117
Number of live children				
1–2	I		I	
3–4	0.93 (0.57–1.52)	0.785	0.62 (0.36–1.06)	0.078
5+	1.12 (0.70–1.82)	0.646	0.65 (0.37–1.12)	0.117
Type of IUD				
Multi-load	I		I	
Copper-T	1.27 (0.78–2.04)	0.335	1.48 (0.88–2.49)	0.138
Contraception use before IUD insertion				
Using a contraceptive method	I		I	
Not using any method	1.43 (1.00–2.06)	0.050	2.41 (1.63–3.55)	<0.001
Experienced side effects post-IUD insertion				
No	I		I	
Yes	7.22 (4.66–11.21)	<0.001	9.78 (6.21–15.38)	<0.001
Reason for choosing IUD (most influential)				
Suggested by someone	I		I	
Self-perceived	0.88 (0.55–1.39)	0.794	0.94 (0.58–1.52)	0.794

Abbreviations: CI, confidence interval; HR, hazards ratio; IUD, intrauterine device.

infection, and 1.6% reported nausea or allergy. The majority (57.9%) of women with side effects visited a doctor or went to the hospital, 22.1% used self-medication, and 20.1% did not seek any medical advice. Of those who required medical assistance, only 5.9% reported difficulty in obtaining it.

More than half (52.9%) of the women who had an IUD inserted had not used any form of contraception previously.

Table 6 Method-switching behavior among women who underwent IUD removal

Contraceptive method after IUD removal	Method use before IUD insertion			Total
	Nonuser	Short-term method	Traditional	
Nonuser	55	15	0	70
Short-term	8	26	3	37
Traditional	7	1	0	9
Permanent	5	4	0	8
Total	75	46	3	124

Abbreviation: IUD, intrauterine device.

Approximately 40.5% of the women had switched from some form of short-term method (injection 13.8%, pill 11.1%, condom 15.7%), and a further 6.6% were practicing periodic abstinence to avoid pregnancy. Amongst the women who had had their IUD removed, 56.5% did not switch to any other contraceptive method. Whilst 29.8% of the women switched to some form of short-term method, 7.3% of the women had opted for a permanent method, and 6.5% reported switching to a traditional method of birth control, such as withdrawal, rhythm, or folk methods.⁸ Table 6 shows the methods to which the women switched after having their IUD removed.

Of all the women, 85.3% reported being satisfied or very satisfied with the IUD insertion service, while around 7.0% felt neutral and/or unsatisfied. Nine out of ten stated that they would use the IUD in the future if necessary, and 95% said that they would recommend the IUD to friends and relatives.

Importantly, discontinuation of the IUD was found to be significantly associated with measures of patient satisfaction. Among women who discontinued the IUD, nearly half (49.2%) were satisfied or very satisfied with it compared with a reported satisfaction rate of 94.0% in women who were still using the method ($P < 0.001$). Moreover, among the women who discontinued use of the IUD, 23.4% reported that they would not recommend the IUD to friends or relatives, in contrast with 0.6% of the women who continued to use the IUD ($P < 0.001$). Similarly, among the women who continued to use the IUD, 88.5% said they would readily use the IUD again in the future if necessary, while 29.0% of those who had had their IUD removed reported the same ($P < 0.001$).

Using total outreach service data provided by the MSS for 2009, ie, for 34,360 devices inserted, the estimated percentage change in IUD use was calculated for Pakistan. Calculations based on 24 million married women of reproductive age in the country showed that outreach services increased the IUD use nationally by 6.8%. A percentage increase of 5.5% was observed after adjusting for the discontinuation rate of 19.4% indicated by this study. Lastly, even taking into account a 6.2% nonresponse rate among women who discontinued the IUD, the outreach services still increased IUD use by 5.1%.

Discussion

There is considerable disparity in health indicators between urban and rural areas in Pakistan.⁸ The current health system in Pakistan has failed to achieve its desired outcomes. The ideal situation would be an improved health care system that facilitates access to family planning services, but taking services to the household doorstep is necessary in the meantime.¹⁶ Outreach programs for family planning have been used with success in developing countries to bridge this urban–rural divide and increase access to contraceptive information, supplies, and services.²² A multicountry review of mobile outreach services shows that these programs aim to reach the most poor and rural populations with provision of high-quality services.²³ IUDs are an effective long-term contraceptive with remarkably low adverse events, which are easily countered by the health benefits women and their families experience from the prevention of unintended pregnancy.²⁴ The present study indicates that most of the women surveyed received their IUD through mobile outreach services, were aged 25–35 years, had no formal education, and had more than two live children.

The majority cited “long-term effectiveness” as a reason for selecting the IUD as a family planning method. This trust in the IUD emphasizes the need and improving availability of this long-term reversible contraceptive method in the rural areas of Pakistan. In addition, our study confirms “word of mouth” as a prominent source of awareness about mobile outreach services, as suggested by previous studies.^{12,26}

Provision of family planning via outreach programs raises the issue of continuity of a contraceptive method.²⁰ A discontinuation rate of 19.4% at 10 months was documented in this study, which is lower than the 12-month discontinuation rate of 33% reported for Bangladesh,²⁵ but is consistent with a previous study conducted in rural Pakistan among clients at a facility-based social franchise network (19.0%).¹² Further, our discontinuation rate is higher than that reported in the Philippines (12.9%)²¹ and Vietnam (12.1%).²⁶ Our discontinuation rate in the 3 months following insertion was around 5%, which increased to 15% after 6 months, and increased further to 19% by 10 months of use. On the whole, comparison of our discontinuation rate with those in other studies indicates that the MSS program in Pakistan is able to maintain adequate continuation of the IUD as a contraceptive method.

The main reason for IUD discontinuation, ie, bleeding, was found to be consistent with previous studies conducted in a similar setting.^{12,21,23,25,26} It was encouraging that none of the study participants experienced any adverse events. Experiencing side effects after IUD insertion was found to be strongly associated with discontinuation of the device (adjusted hazards ratio 9.82). Given that the mean time to discontinuation of the IUD was 7.7 months, we recommend that outreach workers visit women fitted with an IUD more frequently. Higher discontinuation rates (adjusted hazards ratio 4.86) amongst women aged 25–35 years may reflect a desire for pregnancy, because this is the most fertile age group in Pakistan.⁸ Moreover, the higher discontinuation rate (adjusted hazards ratio 2.99) among women older than 35 years may be due to menopause.²⁷

Of the women who had their IUD removed, 56.5% did not switch to any other form of contraception, and not using contraception after IUD removal (excluding the estimated 15% of women wishing to become pregnant) leaves 41% at risk of unwanted pregnancy.^{28–30} Moreover, 36.3% of IUD users switched to less effective (short-term or traditional) birth control methods. The poor satisfaction reported by women who had discontinued IUD use needs further investigation to clarify how these women perceived the quality of care they

received, because this may help to identify ways to improve services and continuation of effective contraception.

The findings of the present study show that 97% of women fitted with an IUD were informed by a service provider about where to attend a follow-up visit in the event of complications. Amongst the women who discontinued use of an IUD, the majority attended either government or private facilities for removal, and 95% found it fairly easy to access removal services. Overall, our findings indicate that there is an adequate backup system in place for the clients of mobile outreach services in terms of providing services to women when needed.

Although this study yielded important information about the clients of a mobile outreach program, it also suffers from some limitations that need to be considered. The interviews were retrospective in nature, so the study findings are prone to recall bias. Moreover, data on indicators related to side effects were self-reported by the respondents, and not verified or confirmed by healthcare professionals. The relationship between risk factors and discontinuation in this paper is not causal, so the findings should be interpreted with caution. In addition, the study was conducted in only two provinces of Pakistan, and not throughout the entire country. Therefore, the results should be interpreted carefully and can only be generalized to communities having similar characteristics.

To the authors' knowledge, this study, conducted among clients of mobile outreach services, is the first of its kind in Pakistan. Our findings point to a high demand for long-term reversible contraception in rural areas. In order to minimize discontinuation, outreach health workers perhaps need to focus more on the high-risk women identified in this study and counsel them regarding continuation of this method, whilst providing important information on side effects and their management. Mobile outreach service providers would benefit from more training in managing clients' concerns about IUD to prevent their discontinuation and in counseling regarding use of another method for women who do discontinue the IUD. On the whole, use of the IUD services provided through the MSS mobile outreach during the study year increased by 5.0% nationally after adjusting for discontinuations. With an 80% method retention rate, our model, which primarily uses the existing setup for service provision and backup support for clients, may be of interest to stakeholders. Furthermore, prospective research should be conducted in the future to validate the findings of this study.

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Disclosure

The authors report no conflicts of interest in this work.

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Continuation rates and reasons for discontinuation of intra-uterine device in three provinces of Pakistan: results of a 24-month prospective client follow-up (Article 7)



RESEARCH

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Continuation rates and reasons for discontinuation of intra-uterine device in three provinces of Pakistan: results of a 24-month prospective client follow-up

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Abstract

Background: Long-acting reversible contraceptives, such as the intrauterine device (IUD), remain underutilised in Pakistan with high discontinuation rates. Based on a 24-month prospective client follow-up (nested within a larger quasi-experimental study), this paper presents the comparison of two intervention models, one using private mid-level providers branded as "Suraj" and the other using community midwives (CMWs) of Maternal Newborn and Child Health Programme, for method continuation among IUD users. Moreover, determinants of IUD continuation and the reasons for discontinuation, and switching behaviour were studied within each arm.

Methods: A total of 1,163 IUD users, 824 from Suraj and 339 from the CMW model, were enrolled in this 24-month prospective client follow-up. Participants were followed-up by female community mobilisers physically every second month to ascertain continued IUD usage and to collect information on associated factors, switching behaviour, reasons for discontinuation, and pregnancy occurrence. The probabilities of IUD continuation and the risk factors for discontinuation were estimated by life table analysis and Cox proportional-hazard techniques, respectively.

Results: The cumulative probabilities of IUD continuation at 24 months in Suraj and CMW models were 82% and 80%, respectively. The difference between the two intervention areas was not significant. The probability distributions of IUD continuation were also similar in both interventions (Log rank test: $\chi^2 = 0.06$, $df = 1$, $P = 0.81$; Breslow test: $\chi^2 = 0.6$, $df = 1$, $P = 0.44$). Health concerns (Suraj = 57.1%, CMW = 38.7%) and pregnancy desire (Suraj = 29.3%, CMW = 40.3%) were reported as the most prominent reasons for IUD discontinuation in both intervention arms. IUD discontinuation was significantly associated with place of residence in Suraj and with age (15–25 years) in the CMW model.

Conclusion: CMWs and private providers are equally capable of providing quality IUD services and ensuring higher method continuation. Pakistan's National Maternal Newborn and Child Health programme should consider training CMWs and providing IUDs through them. Moreover, private sector mid-level providers could be engaged in promoting the use of IUDs.

Keywords: Discontinuation, Family planning, Intra-uterine device, Social franchise

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Background

Long-acting reversible contraceptives (LARC), such as the intrauterine device (IUD), remain underutilised in Pakistan. LARC provide safe and effective protection against unintended pregnancies for an extended period of time with an added advantage of minimal user involvement. The dynamics of contraceptive usage in Pakistan point towards low usage of LARC, compared to short-term methods [1,2]. One of the possible reasons for low usage could be the fear of side effects [1,3,4].

The 2012–2013 Pakistan Demographic and Health Survey [1] reports a contraceptive prevalence rate of 35.4%, comprising 26.1% modern and 9.3% traditional method users. The most commonly reported methods used by married women of reproductive age (MWRA) include condoms (8.8%), followed by female sterilisation (8.7%), injectables (2.8%), IUDs (2.3%), pills (1.6%), and lactational amenorrhea (1.5%) [1]. Despite the evidence that long-term contraceptive methods, such as IUDs and implants, are more effective in reducing the total fertility rate (TFR) than short-term methods like condoms and pills [5], their use is less than desirable in Pakistan. On the other hand, female sterilisation, which is commonly used, is undertaken by women with an average age of 39 and only after 6+ children and thus may have limited impact on the TFR [6]. The greater reliance on short-term contraceptives in Pakistan lead to only a marginal decrease in the TFR from 4.1 in 2003–2006 to 3.8 births per woman in 2010–2012 [1,2]. The caveat with an increase in the contraceptive prevalence rate would be that, although desirable, it in itself is not the sole determinant for population reduction, which is in turn impacted by effective and persistent use of contraceptives. Changing the dynamics of contraceptive method mix with an increased share of LARC methods is therefore essential for achieving family planning (FP) goals in Pakistan.

High fertility and greater reliance on short-term contraceptive methods in Pakistan requires a rethinking of the FP strategy. Estimates suggest that only by switching 4% of current oral contraceptive users (about 100,000 MWRA) in Pakistan to IUDs or implants, more than 25,000 unintended pregnancies could be averted over a 5-year period [7]. If Pakistan is to achieve the FP 2020 commitments, it is imperative that the focus of FP interventions be reoriented towards enhancing IUD use (and other longer term methods such as implants) among young women in order to maximise the impact of IUD use on population stabilisation.

The Marie Stopes Society (MSS) Pakistan launched a quasi-experimental research project aimed at promoting healthy timing and spacing of pregnancies through increased use of IUDs in rural and under-served communities in eight districts in Punjab, Sindh, and Khyber Pakhtunkhwa (KP) provinces of Pakistan. These

activities were aimed at supplementing the Government of Pakistan's efforts targeting FP promotion and provision by providing a reliable evidence base with respect to effective FP intervention strategies that are relevant in the local context.

The 41-month (including 24 months of intervention) operations/operational research project tested two FP service delivery models: (1) the MSS social franchise model comprising a network of private FP and reproductive health service providers, branded as '*Suraj*' (meaning Sun in English) [8]; and (2) a Community Midwife (CMW) provider intervention model comprising a Government of Pakistan cadre of skilled birth attendants [9]. The CMW intervention model is a partnership between MSS and the Maternal Newborn and Child Health programme of the Ministry of Health for the provision of quality contraceptive services in targeted communities through CMWs. The two models were selected for the larger quasi-experimental study in order to assess and compare the effectiveness and efficiency of each of the two intervention models with a control group based on an increase in contraceptive use.

Previous studies exploring LARC continuation rates in Pakistan have relied on retrospective data that are prone to recall bias [1,2,10]. Therefore, in addition to the pre- and post-cross-sectional surveys conducted for the larger study, we implemented a prospective client follow-up, only in the intervention arms, to examine IUD continuation rates. We focused on IUDs (instead of another type of LARC such as implants) because Pakistan's national health policies do not allow the insertion of implants by a mid-level practitioner as it is considered a surgical procedure. Provision of LARC through the public sector CMW network was attempted for the first time in Pakistan through this project. Hence, prior to recommending a scaled up integration of LARC service provision with the CMW network at the national level, a study was warranted to test the effectiveness of the model in enabling continuous use of LARC by clients. The current study compared the effectiveness of the two interventions on IUD continuation at 24 months. Moreover, reasons of method discontinuation and its risk factors were studied in both of the intervention arms.

Methods

Study design and duration

The prospective client follow-up component was nested within the larger quasi-experimental research study. It was implemented in five districts in Punjab, Sindh, and KP provinces: the Suraj intervention model in districts Khanewal (Punjab), Nausheroferoze (Sindh), and Haripur (KP); and the CMW intervention model in districts Pakpattan (Punjab) and Rajanpur (Punjab). The Suraj model was implemented across three provinces of Punjab, Sindh, and KP while the CMW model was implemented

in Punjab province only because: (1) CMWs were not operational in Sindh province then and (2) there were practical constraints of time, budgeting, and logistics in KP province. The recruitment of the study participants started in March 2011 and continued until September 2011. All participants were followed every second month for 24 months with the last follow-up conducted in November 2013.

Selection of providers

A total of 50 service providers, 10 per district, comprising private providers in Suraj districts and CMW providers in CMW intervention districts were included in this study. All of the mid-level private providers were Lady Health Visitors with personal clinics because selection criteria for the Suraj network included (1) a proper clinic setup and (2) a practice in rural settings (at least 40 km away from District Health Quarter). Providers had a 2-year diploma in general healthcare provision and safe motherhood services. CMWs had no previous experience of delivering IUD services.

Intervention description

Providers in both of the intervention models received basic clinical training on FP from MSS and were supported by male (1 for 10 service providers) and female community mobilisers (an outreach worker). The intervention components for the Suraj model are presented in Table 1. The CMW model differed from the Suraj intervention in two key aspects. First, the CMW intervention model did not include a voucher scheme for IUDs. Second, it did not include branding/marketing of CMW facilities in the community.

Enrolment of study participants

The first 50 women who were new acceptors of long-term or short-term contraceptive methods at each of the Suraj and CMW FP service facilities were asked to participate in the study. They were followed-up every 2 months for 24 months by respective MSS female community mobilisers in Suraj and CMW areas. Overall, 2,500 women were recruited for the study; however, the current analysis was performed amongst a subset (1,163) of the women who had received IUDs at the time of the recruitment. With a sample of 1,163 women (824 in Suraj and 339 in CMW), and assuming 22% cumulative probability of IUD discontinuation at 24-months [10], we could detect a difference of approximately 7 percentage points with 80% power.

Two types of clients were included in Suraj areas, (1) women paying out-of-pocket who had been referred to providers by Field Community Mobilisers for FP services, and (2) women who received a voucher for free IUD services after being assessed for wealth using a poverty ranking tool by the Field Community Mobilisers. The poverty ranking tool inquired about wealth status including the number of meals per day, household structure, number of household members, number of dependent members, source of fuel used for cooking, source of drinking water, sanitation, access to reproductive health services, and daily household income. Clients received a voucher if their score fell between the minimum score of 9 and 20 (inclusive) on a scale of 27.

Data collection

During the follow-up visit, women were asked questions about current contraceptive use (including start date), method switching, method discontinuation (including stop date), reasons for discontinuation, method related

Table 1 Description of intervention

Intervention items	Description
1 Training on reproductive health/family planning (FP) and post-training evaluation	Medical training: Reproductive health and FP, counselling, quality of services, and IUD insertion and removal Business training: Basic budgeting skills, record keeping, stock management, branding, marketing, and the voucher management The training was followed by a post-training evaluation conducted by an external consultant (medical doctor)
2 Female community mobiliser (FCM) Each service provider was complemented with one FCM	The FCM was a local resident of the community and underwent training on FP methods, the voucher distribution system, and record keeping; she also paid door to door visits, raised awareness, generated referrals, and distributed vouchers for the IUD to eligible women, identified through a poverty scale
3 Male community mobilisers (MCM) There is one MCM per 10 service providers in a district	MCM was a local resident of the district; he underwent training and was responsible for targeting male community members; he formed community support groups comprised of key community stakeholders and conducted frequent <i>Mohallah</i> (neighbourhood) meetings
4 Voucher for a long-term contraceptive method (IUD)	A voucher was worth PKRs 200 (US \$2.27) and only for IUD (insertion, follow-up, and removal) services; a voucher could be redeemed at Suraj clinics; later the reimbursement was sent to the provider against her claim
5 Branding/marketing	Providers' clinics were branded as 'Suraj' clinics while marketing was done through FCM, posters, wall paintings, leaflets, etc.; a signboard with a 'Suraj' logo was displayed above the gates of the Suraj clinics

complications, and pregnancy occurrence in case of method discontinuation. Data from participants who were lost at the follow-up stage were censored at the time of their last completed interview. Face-to-face interviews were conducted at participants' homes in private except for the baseline interview, which was conducted at the healthcare facility.

The questionnaire was pre-tested in a similar setting and revised based on feedback. All female community mobilisers were trained on the questionnaire and were rigorously monitored during the course of data collection by the Principal (SKA) and Co-Investigators (WH, GM, and JA). Data entry operators were trained to observe the study protocol as well as data completeness, editing, and coding procedures. Data were entered using a specifically designed data entry programme using Visual FoxPro version 6.0. Local and central evaluation of collected data was carried out on a monthly basis.

Data analysis

Study outcomes

The primary outcome of the study was IUD continuation rate. We defined IUD continuation as women who had an IUD inserted till the last follow-up while women were considered as IUD discontinuers if they had either switched to another contraceptive method (either another long-term, permanent, or short-term method) or had simply got an IUD removed or discontinued contraceptive use altogether.

Statistical analysis

The Statistical Package for Social Sciences software version 17.0™ was used for data analysis. We computed means, standard deviations, frequencies, and percentages as appropriate to describe the socio-demographic characteristics of women participating in the study. Differences in women's characteristics and reasons for IUD discontinuation between intervention arms were assessed using χ^2 and Fisher's exact tests. We calculated the number of months of IUD use by capturing usage recorded between follow-up visits. Cumulative continuation probabilities were calculated for IUD usage using life-table analysis, a technique used to estimate survival probabilities (in this case, continuation probabilities) over time. Log rank and Breslow tests were run to determine differences, if any,

in IUD continuation survival distributions between the intervention models and between the two types of clients.

Cox proportional-hazard analysis was used to determine risk factors associated with IUD discontinuation in terms of hazard ratios for overall as well as for each of the two intervention models separately. Risk factors with level of significance (or *P* value) less than

Table 3 Socio-demographic characteristics of married women of reproductive age who had an IUD inserted between March and September 2011 by intervention model (Suraj vs. community midwives (CMW))

Indicators	Suraj intervention n = 824 (%)	CMW intervention n = 339 (%)	P value
Province			
Punjab	272 (33.0)	339 (100)	–
Sindh	270 (32.8)	–	–
Khyber Pakhtoonkhwah	282 (34.2)	–	–
Age of women, years			
15–25	232 (28.2)	71 (20.9)	<0.05
26–35	517 (62.7)	209 (61.7)	0.73
> 35	75 (9.1)	59 (17.4)	<0.05
Mean ± SD	28.9 (4.9)	31.0 (5.8)	<0.05
Women education level			
Illiterate	428 (51.9)	212 (62.5)	<0.001
Primary (1–5 years)	213 (25.8)	87 (25.7)	0.94
Secondary (6–10 years)	124 (15.0)	23 (6.8)	<0.001
Post-secondary	59 (7.2)	17 (5.0)	0.18
Monthly family income (PKR)			
≤ 3,000	106 (12.9)	51 (15.0)	0.32
3,001–6,000	331 (40.2)	130 (38.3)	0.56
6,001–9,000	212 (25.7)	67 (19.8)	<0.05
> 9,000	175 (21.2)	91 (26.8)	<0.05
Mean ± SD	7,493 (5,364)	8,375 (7,547)	<0.05
Number of living children ^a			
1–2	87 (14.5)	45 (16.1)	0.58
3–4	314 (52.2)	114 (40.7)	<0.001
5+	200 (33.3)	121 (36.4)	<0.01
Mean ± (SD)	4.2 (1.8)	4.5 (2.0)	<0.05
Age of last child, years			
Up to 1	286 (37.4)	177 (53.3)	<0.001
1–2	242 (31.6)	75 (22.6)	<0.05
> 2	237 (31.0)	80 (24.1)	0.07
Type of clients			
Voucher	582 (70.6)	—	–
Referral	242 (29.4)	339 (100)	–

^aMissing Suraj intervention = 229, CMW intervention = 59.

Table 2 IUD users by intervention model and district

District	Suraj (n = 824)	CMW (n = 339)
Khanewal	272 (33.0%)	–
Haripur	282 (34.2%)	–
Naushahro Feroze	270 (32.8%)	–
Pakpattan	–	226 (66.7%)
Rajanpur	–	113 (33.3%)

Table 4 Cumulative probability of IUD continuation by intervention model (Suraj vs. community midwives (CMW))

Interval, months	Suraj intervention			CMW intervention		
	Women with IUD entering interval	IUD continuation (cumulative probability)	95% CI	Women with IUD entering interval	IUD continuation (cumulative probability)	95% CI
0 to <6	824	0.92	(0.90–0.94)	339	0.98	(0.95–0.99)
6 to <12	753	0.85	(0.83–0.88)	331	0.94	(0.91–0.96)
12 to <18	681	0.83	(0.80–0.85)	314	0.89	(0.85–0.92)
18 to <24	655	0.82	(0.79–0.84)	292	0.80	(0.76–0.84)

<0.20 at the univariate level were considered for inclusion in the final model. The final multivariate model included adjustment for confounders that could potentially influence the outcome. The level of significance was set at a *P* value <0.05.

Ethics statement

Verbal and written informed consent was obtained from the study participants. Data were stored on password protected computers, accessible only by authorised personnel. In order to ensure confidentiality, individual identifiers were removed at the time of analysis. The ethical approval for the project was provided by the Ethics Review Committee of the National Bioethics Committee of Pakistan (Ref no: 4-87/10/NBC-43/RDC/).

Results

The distribution of study participants by districts and intervention models at baseline is presented in Table 2. A total of 824 women from the Suraj intervention and 339 women from the CMW intervention were included in the analysis. The loss to follow-up at the last visit was 2.4% (20/824) and 8.6% (29/339) in the Suraj and CMW intervention models, respectively. Study participants who were lost to follow-up were different from those who remained in the study in three aspects: they were more educated, had fewer living children, and the last child tended to be younger. In the Suraj model, 582 (70.6%) were voucher clients and 242 (29.4%) clients were paying out-of-pocket. In the CMW model, all clients were paying out-of-pocket.

Sociodemographic characteristics

Table 3 summarises the sociodemographic and reproductive characteristics of participating women in the Suraj and CMW intervention models. Women in the Suraj intervention model were significantly younger (*P* <0.05), less illiterate (*P* <0.001), had a lower average monthly family income (*P* <0.05), and fewer living children than women in the CMW intervention model.

IUD continuation rates by Suraj and CMW interventions

Table 4 shows that the cumulative probability of IUD continuation at the first two intervals was higher amongst women in the CMW intervention model (98% and 94%) than women from Suraj areas (92% and 85%). However, at 24 months, the cumulative probability of IUD continuation was similar in both the intervention arms with Suraj at 82% and CMW at 80%. The probability distributions of IUD continuation were similar in both intervention models (Log rank test: $\chi^2 = 0.06$, *df* = 1, *P* = 0.81; Breslow test: $\chi^2 = 0.6$, *df* = 1, *P* = 0.44).

IUD continuation rates by type of client (paying out-of-pocket vs. voucher)

We compared the cumulative probability of IUD continuation between paying out-of-pocket and voucher clients. Table 5 shows that clients who paid out-of-pocket for IUDs had higher likelihood of discontinuation within first 6 months of its use than clients who had received IUD through vouchers (87% vs. 94%, respectively). However, no statistically significant differences were found between method discontinuation in subsequent intervals. At the end of the follow-up period, 84% of voucher clients and 77% of paying out-of-pocket clients were

Table 5 Cumulative probability of IUD continuation by type of clients (paying out-of-pocket vs. voucher)

Interval, months	Suraj intervention			CMW intervention		
	Paying out-of-pocket			Voucher		
	Women with IUD entering interval	IUD continuation (cumulative probability)	95% CI	Women with IUD entering interval	IUD continuation (cumulative probability)	95% CI
0 to <6	242	0.87	(0.82–0.91)	582	0.94	(0.92–0.96)
6 to <12	207	0.81	(0.76–0.86)	546	0.87	(0.84–0.90)
12 to <18	182	0.78	(0.73–0.83)	499	0.85	(0.81–0.87)
18 to <24	175	0.77	(0.72–0.82)	480	0.84	(0.80–0.86)

reported to be continuing IUD usage (Table 5). The probability distribution of IUD continuation was significantly greater in voucher clients compared to clients who paid for the services (Log rank test: $\chi^2 = 5.23$, $df = 1$, $P < 0.05$; Breslow test: $\chi^2 = 6.0$, $df = 1$, $P < 0.05$).

Method switching behaviour among women using IUDs

We recorded a total of 147 and 62 instances of IUD discontinuation in Suraj and CMW intervention models, respectively. The proportion of women discontinuing IUD usage without switching to any other method was not significantly different ($P = 0.08$) by intervention models and was 40.1% for Suraj and 53.2% for CMW intervention models, respectively (Table 6). Women switching to injections were 28 (19.0%) and 11 (17.7%) for Suraj and CMW interventions, respectively. Condoms were the most common method adopted by women in both intervention models after IUD discontinuation (Table 6).

Table 7 describes the reasons for IUD discontinuation reported by women across Suraj and CMW interventions. Desire for more children (Suraj = 29.3%, CMW = 40.3%) and method-related side effects (Suraj = 57.1%, CMW = 38.7%) were reported as the most prominent reasons for IUD discontinuation amongst women in both intervention arms.

Risk factors for IUD discontinuation

Tables 8 and 9 present risk factors for IUD discontinuation in Suraj and CMW intervention models, respectively. For women in the Suraj model, analysis shows that IUD discontinuation was significantly associated with geographical location or place of residence of women while adjusting for age, income, number of children/MWRA, type of client, and age of last child (Table 6). Women from KP province had a significantly lower hazard to discontinue (higher hazard to continue) IUD use compared to their counterparts from Sindh (HR = 0.26, 95% confidence interval (CI), 0.13–0.53; Table 8). A similar analysis of women in the CMW model demonstrated that younger women in the 15–25 years of age

Table 6 Method-switching behaviour among women who discontinued IUD, by intervention model (Suraj vs. community midwives (CMW))

Contraceptive method after IUD discontinuation	Suraj intervention n = 147 (%)	CMW intervention n = 62 (%)	P value
Injections	28 (19.0)	11 (17.7)	0.83
Pills	11 (7.5)	2 (3.2)	0.25
Condoms	43 (29.3)	12 (19.4)	0.14
Permanent method/sterilisation	4 (2.7)	3 (4.8)	0.44
Abstinence	2 (1.4)	1 (1.6)	0.89
Discontinued contraceptive use	59 (40.1)	33 (53.2)	0.08

Table 7 Reasons for IUD removal by intervention model (Suraj vs. community midwives (CMW))

Reasons for IUD removal	Suraj intervention n = 147 (%)	CMW intervention n = 62 (%)	P value
Want more children	43 (29.3)	25 (40.3)	0.12
Worry about side effects	10 (6.8)	8 (12.9)	0.15
Heavy bleeding	33 (22.4)	8 (12.9)	0.11
Irregular bleeding	14 (9.5)	2 (3.2)	0.12
Pain	16 (10.9)	1 (1.6)	<0.05
Infection	11 (7.5)	5 (8.1)	0.89
Husband disagreement	9 (6.1)	3 (4.8)	0.72
IUD self-dislodged	5 (3.4)	2 (3.2)	0.62
Husband died	2 (1.4)	1 (1.6)	0.89
Others ^a	4 (2.7)	7 (11.3)	0.09

^aDid not want more children, sterilised, husband is abroad, spotting, weight gain, allergy, weakness, opposed by in laws, method not effective, method not available.

bracket had significantly greater risk of discontinuing IUD use compared to women older than 35 years of age, while adjusting for their education levels (HR = 2.44, 95% CI, 1.10–5.41; Table 9).

Table 10 presents adjusted hazard ratios for IUD discontinuation at 24 months estimated from combined datasets from both intervention sites. IUD discontinuation was associated with province: women living in KP province were less likely to discontinue use compared with women from Sindh province (Adjusted HR = 0.27, 95% CI, 0.13–0.54). Interestingly, no other potential factor showed a significant association with IUD discontinuation.

Pregnancy occurrence

During the 24-month follow-up period, 111 women reported becoming pregnant. Among these, 83.8% (93/111) became pregnant after IUD discontinuation, while 16.2% (18/111) reported conceiving during IUD usage. The probability distribution of pregnancy among IUD continuing women was significantly lower compared to women who had discontinued IUD use (Log rank test: $\chi^2 = 790.3$, $df = 1$, $P < 0.01$; Breslow test: $\chi^2 = 725.1$, $df = 1$, $P < 0.01$).

Discussion

The findings of this 24-month prospective client follow-up study indicate that both Suraj and CMW intervention models had very similar IUD continuation rates. At 12 months, the IUD continuation rate was higher in the CMW intervention (94%) than Suraj (85%). This trend changed at 24 months, when 82% and 80% of women in the Suraj and CMW models, respectively, reported IUD continuation. Although our data do not show one intervention to have a more significant impact than the other on IUD continuation rates, it is encouraging that both interventions

Table 8 Unadjusted and adjusted hazard ratios for IUD discontinuation at 24 months, by sociodemographic and economic factors (Suraj intervention)

Characteristics	Suraj intervention	
	Unadjusted HR (95% CI)	Adjusted HR (95% CI)
Age of women, years		
15–25	8.32 (2.62–26.48) ^a	2.55 (0.73–8.94)
26–35	4.17 (1.32–13.19) ^a	1.97 (0.60–6.43)
> 35	1	
Province		
Sindh	1	
Punjab	1.44 (1.01–2.05) ^a	0.97 (0.59–1.60)
Khyber Pakhtunkhwa	0.33 (0.20–0.55) ^a	0.26 (0.13–0.53) ^a
Monthly family income (PKR)		
≤ 3,000	2.34 (1.26–4.33) ^a	0.79 (0.33–1.91)
3,001–6,000	2.17 (1.29–3.65) ^a	1.03 (0.54–1.95)
6,001–9,000	1.84 (1.05–3.23) ^a	1.12 (0.57–2.20)
> 9,000	1	
Number of living children		
1–2	1.55 (0.86–2.81) ^b	1.30 (0.63–2.66)
3–4	1.03 (0.64–1.65) ^b	1.03 (0.60–1.75)
5+	1	
Age of last child, years		
Up to 1	1.78 (1.15–2.76) ^a	1.13 (0.63–2.01)
1–2	1.52 (0.95–2.40) ^b	1.47 (0.83–2.61)
> 2	1	
Type of client		
Voucher	1	
Referral	1.48 (1.06–2.07) ^a	0.99 (0.61–1.59)

^aSignificant at $P < 0.05$; ^bSignificant at $P < 0.20$.

were equally effective in maintaining higher IUD continuation rates compared to national data, which report the 12-month IUD continuation rate to be 75% [1].

Our findings are close to the earlier reported IUD continuation rate of 77.3% from a cross-sectional study in Pakistan [10]. The continuation rates in the intervention areas of this study are higher than those in other Asian countries [11,12]. High IUD continuation rates among women – served through the two intervention models – has important implications for the future of FP programmes, particularly with regard to the promotion and uptake of IUDs in the country and hence reduction of the fertility rate. It has been estimated that wider use of IUDs would reduce the overall number of unintended pregnancies more than any other modern contraceptive method [7].

Adjusted HRs showed no difference in the IUD discontinuation rates between vouchers and paying out-of-

Table 9 Unadjusted and adjusted hazard ratios for IUD discontinuation at 24 months, by sociodemographic and economic factors (community midwives (CMW) intervention)

Characteristics	CMW intervention	
	Unadjusted HR (95% CI)	Adjusted HR (95% CI)
Age of women, years		
15–25	2.18 (1.00–4.77) ^b	2.44 (1.10–5.41) ^a
26–35	1.01 (0.48–2.12)	1.11 (0.52–2.36)
> 35	1	
Education		
Illiterate	3.88 (0.53–28.15) ^b	4.36 (0.60–31.70)
Primary (1–5 years)	3.06 (0.41–23.19)	3.20 (0.42–24.29)
Secondary (6–10 years)	1.51 (0.14–16.63)	1.67(0.15–18.47)
Post-secondary	1	
Monthly family income (PKR)		
≤ 3,000	1.37 (0.67–2.79)	–
3,001–6,000	0.75 (0.40–1.41)	–
6,001–9,000	0.82 (0.39–1.75)	–
> 9,000		
Number of living children		
1–2	1.00 (0.42–2.40)	–
3–4	1.50 (0.81–2.76)	–
5+		
Age of last child, years		
Up to 1	0.91 (0.49–1.70)	–
1–2	1.06 (0.52–2.18)	–
> 2		

^aSignificant at $P < 0.05$, ^bSignificant at $P < 0.20$.

pocket clients, which is consistent with the previous study conducted in Pakistan [10]. This finding may indicate that the vouchers were probably distributed to women who had expressed a need for the FP method after proper assessment.

Moreover, the similarity of the IUD continuation rates between the Suraj and CMW models shows that strengthening health services supported with comprehensive capacity building training of mid-level providers on FP services, counselling, and ensuring reliable and smooth FP supplies can effectively enhance IUD continuation in Pakistan. Yet, we suggest further research should be conducted to understand how newly trained CMWs performed equally well on the provision of IUD compared with Lady Health Visitors who have more years of experience in this field.

The most common reasons for IUD discontinuation reported by the clients included desire to have more children and side-effects, such as heavy and irregular

Table 10 Adjusted hazard ratios for IUD discontinuation at 24 months, by sociodemographic and economic factors (for both intervention arms)

Characteristics	Adjusted HR (95% CI)
Age of women, years	
15–25	1.88 (0.92–3.83)
26–35	1.23 (0.66–2.31)
> 35	1
Province	
Sindh	1
Punjab	1.07 (0.66–1.75)
Khyber Pakhtunkhwa	0.27 (0.13–0.54) ^a
Education	
Illiterate	1.88 (0.66–5.31)
Primary (1–5, years)	2.02 (0.71–5.8)
Secondary (6–10, years)	1.58 (0.51–4.87)
Post-secondary	1
Monthly family income (PKR)	
≤ 3,000	1.08 (0.59–1.97)
3,001–6,000	0.85 (0.52–1.38)
6,001–9,000	0.94 (0.55–1.59)
> 9,000	
Number of living children	
1–2	1.18 (0.67–2.07)
3–4	1.17 (0.78–1.77)
5+	1
Age of last child, years	
Up to 1	0.97 (0.62–1.52)
1–2	1.25 (0.78–2.00)
> 2	1
Type of client	
Voucher	1
Referral	1.07 (0.66–1.72)
Mode	
Suraj	1
Community midwives	0.74 (0.44–1.23)

^aSignificant at $P < 0.05$.

bleeding, pain, and infections, which are consistent with research previously conducted in Pakistan and elsewhere [10–12]. The desire for children and method-related side-effects were cited by a greater proportion of women in both the Suraj and CMW intervention models. We also found that IUD discontinuation was strongly linked with pregnancy occurrence and method switching. Since we did not record information on the intent of the pregnancy it would be difficult to ascertain whether the pregnancies were because of contraceptive failure (and hence IUD discontinuation and removal) or a reflection

of a gap in contraceptive coverage while switching from IUDs to other methods. However, desire for children expressed by women as the major reason for IUD discontinuation may simply explain that the association is causal.

Substantial follow-up in both intervention models is the major strength of this study. In previous epidemiological cohorts, various authors have suggested follow-up rates of 50–80% as acceptable [13,14]. The study had few limitations. For example, there were differences in characteristics of women who dropped out of the cohort compared with women who had completed a 24-month follow-up. Moreover, the study did not have a control arm, which could have been compared with each of the intervention arms to isolate the true effect of the intervention. Finally, the analyses did not account for the differentials in provider characteristics between the two arms, where Suraj providers are established providers compared with CMW who were relative new cadre.

As this study was undertaken in rural areas of the eight districts of Pakistan, the findings should be generalised with caution. Further research to evaluate the IUD continuation rates with a broader and diversified base of women can provide viable research evidence on the factors that determine IUD continuation and the cost effectiveness of each intervention in order to promote inexpensive intervention models. Finally, qualitative research should be conducted to understand why women in KP were less likely to discontinue than women in Sindh.

Conclusion

The IUD continuation rate at 24 months was not significantly different between CMW and Suraj intervention models. The reasons for method discontinuation, including desire for more children and side effects, were found to be similar across the intervention arms and largely in line with published literature. The study findings demonstrate that trained mid-level private providers and outreach workers, supported with vouchers for free IUD services, in social franchising programmes can effectively promote IUD continuation. The findings also reveal that CMWs and Lady Health Visitors are equally capable of providing quality IUD services and ensuring higher method continuation. In light of these study findings, the government Maternal Newborn and Child Health programme could consider training CMWs on IUDs implementation and provision.

Abbreviations

CMW: Community midwife; FP: Family planning; IUD: Intrauterine device; KP: Khyber Pakhtunkhwa; LARC: Long-acting reversible contraceptives; MSS: Marie Stopes Society; MWRA: Married women of reproductive age; TFR: Total fertility rate; FCM: Female Community Mobiliser.

Competing interests

The authors declare that they have no competing interests.

Authors' contributions

All authors read and approved the final manuscript.

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Declarations

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Delivering post-abortion care through a community-based reproductive health volunteer program in Pakistan (Article 8)

DELIVERING POST-ABORTION CARE THROUGH A COMMUNITY-BASED REPRODUCTIVE HEALTH VOLUNTEER PROGRAMME IN PAKISTAN

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Summary. This qualitative study was conducted in May–June 2010 with women using post-abortion care (PAC) services provided by the Marie Stopes Society in Pakistan during the six month period preceding the study, more than 70% of whom had been referred to the clinics by reproductive health volunteers (RHVs). The aim of the study was to establish the socio-demographic profile of clients, determine their preferred method of treatment, explore their perceptions of the barriers to accessing post-abortion services and to understand the challenges faced by RHVs. The sample women were selected from six randomly selected districts of Sindh and Punjab. Eight focus group discussions were conducted with PAC clients and fifteen in-depth interviews with RHVs. In addition, a quantitative exit interview questionnaire was administered to 76 clients. Medical, rather than surgical, treatment for incomplete and unsafe abortions was preferred because it was perceived to ‘cause less pain’, was ‘easy to employ’ and ‘having fewer complications’. Household economics influence women’s decision-making on seeking post-abortion care. Other restraining factors include objection by husbands and in-laws, restrictions on female mobility, the views of religious clerics and a lack of transport. The involvement of all stakeholders could secure social approval and acceptance of the provision of safe post-abortion care services in Pakistan, and improve the quality of family planning services to the women who want to space their pregnancies.

Introduction

The World Health Organization defines unsafe abortion as a procedure for terminating a pregnancy carried out either by persons lacking the necessary skills or in an environment that does not conform to minimal medical standards, or both (World Health Organization, 1992). Worldwide, unsafe abortions were estimated at between 21 and 22 million in 2008, adding 2 million to the figure of 2003. There were approximately 210 million pregnancies in 2008. Therefore, one in ten pregnancies perhaps ended in

an unsafe abortion worldwide. Nevertheless, the global rate of unsafe abortion, at 14 per 1000 women aged 15–44 years, has remained unchanged since 2003; and it is even higher in developing countries, i.e. 23 per 1000 women (World Health Organization, 2011). Each year, an estimated 80,000 women die from complications of unsafe abortion, accounting for at least 13% of global maternal mortality. The burden of unsafe abortion lies primarily in the developing world; the highest rates are in Africa, Latin America and the Caribbean, and are quite alarming in South and South-East Asia (Warriner & Shah, 2006). Limited access to modern contraceptives and prohibited elective termination of pregnancy result in a significant number of deaths of women due to unsafe abortion (Belton *et al.*, 2009). The challenging target of the Millennium Development Goals to reduce maternal mortality by 75% by 2015 will not be possible without addressing the high toll of unsafe abortions. However, there are examples where the provision of post-abortion care services has significantly reduced the maternal mortality related to unsafe abortions, as well as enhancing access to modern contraceptives (Cobb *et al.*, 2001; Karen & Tesfaye, 2007).

In order to reduce maternal mortality and morbidity arising from unsafe abortions in countries with restrictive abortion laws, the participants at the 1994 United Nations International Conference on Population and Development (ICPD) agreed that women should have access to quality services for the management of complications arising from abortion. Subsequently, the original ICPD post-abortion care model was adopted and further developed by the Post-abortion Care Consortium. The Consortium defined post-abortion care as an approach for the reduction of mortality and morbidity from incomplete and unsafe abortions and resulting complications, and for improving women's sexual and reproductive health and lives (Post-abortion Care Consortium Community Task Force, 2002). Originally, the essential elements of post-abortion care (PAC) included emergency treatment of unsafe abortions and related complications; contraceptive and family planning services; and reproductive and other health care services. In 2002, the original model was updated and transformed from a medical to a public health model and two further elements – counselling and community and service provider partnerships – were added.

In Pakistan, a nationwide study conducted in 2002 found that nearly 890,000 out of 2.4 million unintended pregnancies were terminated by induced abortion, with an incidence rate of 29 per 1000 among women aged 15–49 years (Sathar *et al.*, 2007). A few years later, Pakistan's Demographic and Health Survey (2006–07) revealed that 6% of all maternal deaths can be attributed to abortion-related complications (National Institute of Population Studies & Macro International, 2008). Restrictive abortion laws in Pakistan have created a considerable reluctance among qualified health professionals to provide post-abortion care to women in need. Until 1990, the 1860 Penal Code of the British colonial era was in force. According to this abortion was a crime unless performed in good faith in order to save the pregnant woman's life. Article 312 of the Penal Code specified that any person performing an abortion was subject to imprisonment for three years and/or a fine; and if the woman was 'quick with child', the penalty was imprisonment for up to seven years and payment of a fine. The same penalty applied to a woman who caused herself to miscarry. The law was re-visited to re-frame its provisions in accordance with the principles of Islamic law. The law was amended and provisionally came into effect in 1991. Through a presidential ordinance, it became

a permanent law in 1996. As per the new law, categories of abortion offences are based on the stage of pregnancy. Under Islamic law, organs and limbs are usually deemed to be formed in the fetus by the fourth month of pregnancy. Abortion carried out before the organs of the fetus have formed is prohibited except when performed to save the life of the woman or to provide necessary treatment. At any later stage, termination of pregnancy is prohibited, except to save a woman's life or to provide necessary treatment to avoid complications (Hessini, 2007).

Nonetheless, there is a pressing need to increase access to quality post-abortion care services for women experiencing complications related to miscarriage and incomplete abortion in Pakistan. This is the only solution to reduce a considerable number of maternal deaths. Also, the strengthening of family planning services is imperative to address the huge unmet need for contraceptives, which when not fulfilled, leads to unwanted or untimed pregnancies (Shaikh, 2010).

The objectives of this study were:

- To establish the socio-demographic profile of clients receiving PAC services, either through surgical or medical treatment, and to determine their preferred method.
- To determine the factors affecting clients' satisfaction regarding PAC-M and PAC-S treatment.
- To explore the clients' perception of the nature and extent of barriers experienced while accessing PAC services
- To understand the challenges faced by the reproductive health volunteers (RHVs) in the field and to figure out strategies to overcome them.

Methods

This is an exploratory qualitative research study, conducted during May–June 2010, of women of reproductive age using the Marie Stopes Society (MSS) quality post-abortion care (PAC) services. This included women with complications related to miscarriage and unsafe or incomplete abortions, and cases referred by reproductive health volunteers (RHVs) deployed in the field by the Marie Stopes Society.

Sampling

The study was conducted in six randomly selected districts of Sindh and Punjab (three from each province). A total of eight focus group discussions (FGDs) were conducted with PAC clients and fifteen in-depth interviews (IDIs) were conducted with the reproductive health volunteers (refer to Table 1). A quantitative exit interview questionnaire was administered to the 76 PAC clients in the two provinces.

Data collection

The study team developed the FGD and IDI guides, and translated and pre-tested them. After slight changes in the phrasing of questions, the tools were finalized for data collection. The study protocol was reviewed and approved by Marie Stopes International. Research teams comprised female data collectors and FGD facilitators who

Table 1. Distribution of sample by district, Punjab and Sindh Provinces, Pakistan, May–June 2010

District	No. of FGDs with PAC clients	No. of IDIs with RHVs
Punjab		
Gujranwala	1	3
Faisalabad	2	3
Bahawalpur	1	2
Sindh		
Hyderabad	2	2
Nawabshah	1	2
Larkana	1	3
Total	8	15

had experience in field-based research and who were fluent in the local languages, Sindhi and Punjabi. Moreover, they were trained in reproductive health concepts and qualitative data collection techniques, and later supervised by the manager and the director of the research and metrics unit of MSS. In-depth interviews and focus group discussion were tape-recorded with the informed consent of respondents. The mean duration of each FGD was 1.5 hours, and each IDI lasted for approximately 1 hour. The focus group and the interview notes were first translated and transcribed in Urdu by the data collectors. Subsequently Urdu-to-English translation was done by the investigators.

Data analysis

From the node and sub-node analysis, the themes were generated using an adapted constant comparison analysis process (Glasser, 1965). This method is commonly used in grounded theory methodology, and is also applied as a method of analysis in qualitative research. It requires the researcher to take one piece of data (e.g. one interview, one statement or one theme) and compare it with all other pieces of data that are either similar or different. During this process, the researcher begins to look at what makes this piece of data different and/or similar to other pieces of data. Though there were hardly any inconsistencies, data collectors were made to sit together and decide if there were any, while translating from local to Urdu language.

The IDIs and FGDs were transcribed and translated into English verbatim and coded thematically. The interview transcripts were coded by utilizing a manual technique. These codes were refined and combined across transcripts to develop more general codes for further analysis.

Focus group discussions with PAC clients

The majority of the participants were between the ages of 25 and 35 years, with four children as a median number for both provinces. Most were housewives with two-thirds having an education between grades 5 and 10. The majority of households earn barely the minimum wage, i.e. Rs6000 per month (US\$70).

Knowledge of, and community attitudes towards, family planning and abortion

Almost all the participants had heard of modern contraceptive methods and considered family planning necessary for the health of a mother. All of them confirmed that abortion is considered as a sin in their respective communities and it is generally perceived that abortion is sought only in cases when the child is illegitimate. A few participants pointed out that even use of family planning is sometimes considered a sin in their communities. A woman from Punjab expressed:

People think that abortion is a murder and look down upon those persons who go for abortion. So it's better to have child spacing rather than having unwanted pregnancies and then abortions. Women who go for abortion are considered as having an illegitimate child.

A woman from Sindh said:

Family planning is also considered as a sin and it is believed that people will fall sick, if they use family planning products.

Women from Punjab had similar views. Nevertheless, most of the participants from Sindh and Punjab had a consensus on having fewer children. Another woman from Punjab said:

In past, six to eight children was a norm but the trend has changed and now fewer children are preferred. Ideally, the number of children should not exceed four.

Use of contraceptive and PAC

Most of the women in Sindh and Punjab had received one medical or surgical treatment as part of post-abortion care during the previous year. The majority of them reported having used a short-term contraceptive method (condom, pill or injection) before conceiving the unplanned pregnancy, and therefore had to go for unsafe abortion. A woman from Sindh said:

I have undergone cleaning of my womb, which was done by a local *dai* [untrained traditional birth attendant] 6 months ago because we were relying only on condoms before.

Some of the participants stated that method failure is also an important factor behind the increasing number of the unwanted pregnancies, most of which end in abortions. A woman in Sindh reported:

Method failure is a barrier towards the use of contraception. A woman in our community had an operation, yet she became pregnant. Thus people become disillusioned and develop distrust on the permanent contraceptive methods.

There were some participants who had two unsafe abortions in a year and they were not using any contraceptives before. A woman from Punjab said:

I went to get my womb cleaned from a local *dai* twice as somehow we were not using any contraceptive methods before abortion.

Cost incurred in using PAC services

By and large, most respondents reported that post-abortion care services were available in their vicinity either at some private centres or at NGO clinics. There were

very few women who did not know of any such service available nearby. Participants reported that the fees for PAC services varied from provider to provider (based on their qualifications and experience) and depended on the severity of the case: unsafe-abortion-related complications and/or delays, incomplete abortion and miscarriage. Most women from Punjab said that the cost of using PAC services in their areas was very high:

The providers of private sector charge Rs2000–2500 for the cases with minor complication during early pregnancy; Rs3000–4000 for cases with major complications during early pregnancy and Rs5000–10,000 in life-threatening situations.

Unlike Punjab, the charges for PAC services were relatively low in Sindh.

Method of choice and reasons for method preference

The majority of PAC clients in both provinces preferred the medical treatment method over the surgical one (84% in Punjab and 82% in Sindh). This is because it involves 'less pain', is 'easier to employ' and 'has fewer complications'. A woman said:

I chose the medical treatment because it is easy and there is no pain.

A very small number of respondents went for surgical treatment on the advice of the doctor because it suited them. A woman said:

I had undergone surgical treatment because *baji* (doctor/nurse) at the health centre advised me to go for it, based on the clinical examination done by her and severity of my condition.

Reasons for seeking PAC services

Unwanted pregnancy was mentioned as a common reason for undergoing unsafe abortion through a non-qualified provider because some participants already had young children and others considered their family to be complete. A woman in Punjab, who had used PAC services from NGO clinics, said:

I went for cleaning of my womb performed by a local *baji* because my children were very small and they needed proper care. It is difficult for a mother to take care of too many young children. But due to the complication and heavy bleeding of this unsafe procedure, I was referred to NGO clinic by a RHV where surgery was provided to me as the treatment for incomplete abortion.

Quite a few participants had undergone unsafe abortion because of financial constraints and were conscious of the fact that a large family would be a financial burden. These women then received PAC services from the NGO centre. A woman in Sindh said:

We are poor and already suffer from financial problems; therefore, I opted to terminate pregnancy through a local *dai* who used some herbs. But due to the complications resulting from the procedure, a local *baji* referred me to the NGO clinic for the treatment of complications.

Satisfaction with PAC services

Almost all of the participants found that their experience of seeking PAC services at the NGO centre was very positive and none of them reported any serious complications during the procedure. A woman in Sindh said:

The procedure was very good and I did not face any complication.

Most of the participants showed satisfaction with the overall expertise and co-operative attitude of the staff and the clean environment at the NGO clinic. They appreciated the counselling offered on post-abortion care, the detailed information received regarding possible complications, the reassurance about follow-up available in case of need and information about suitable contraceptive methods. A woman from Punjab said:

I had a wonderful experience with the staff that was courteous and caring; and they did remind me that I had to come for follow up.

A woman from Sindh expressed:

The staff was very helpful and co-operative. We were given complete details, advice, and all the necessary knowledge about treatment of complication arising from abortion performed by a local *dai*, related side effects, and follow up etc. We were also informed about all of the modern contraceptive methods.

Moreover, most of the participants, both in Sindh and Punjab, expressed their satisfaction with the service charges at the NGO clinics, except a few who considered them 'unaffordable'. Almost all the participants appreciated the quality of service and asserted that they would recommend the service to other women too. However, they suggested that they desired such clinics to reach out much more to be accessible to the maximum number of women in remote and rural areas.

In-depth interviews with RHVs

The reproductive health volunteers were employed by a local NGO for the purpose of increasing awareness of PAC by making door-to-door visits, and to make referrals to the clinics for quality PAC services for women who have already undergone an unsafe abortion and needed treatment to avoid complications. All of the RHVs in Punjab and Sindh were married women with considerable experience working in reproductive health. Their ages ranged from 25 to 40 years.

Providers of unsafe abortion and PAC

The RHVs in both Sindh and Punjab spoke about the lack of outlets for providing quality PAC services. An RHV from Punjab narrated:

... various private and government hospitals are providing family planning services; in addition there are local private providers who provide abortion-related services but none of them are trained to provide quality PAC services, except a local NGO clinic network which is MSS Pakistan. Due to lack of awareness and illiteracy, most of the women prefer to go to *dais*.

Similarly, an RHV from Sindh reported:

There are quite a few MBBS doctors and quacks providing family planning and even unsafe abortion services in backstreet clinics.

Another RHV from Sindh reported:

... *dais* use IUCD for abortions which causes excessive bleeding in some women and can even cause death.

Most of the participants recognized that abortion carried out by unskilled *dais* is unsafe as it can cause severe complications such as excessive bleeding, menstrual problems and even secondary infertility. They pointed out that women who had their abortion performed by *dais* came to the health facilities with post-abortion complications. One participant from Punjab reported:

I came to know of a case where a woman who had her abortion done by a *dai* had suffered severe bleeding for two months and now she is unable to conceive, somehow.

Community attitudes and preferences for PAC services

Community informants stated that women are increasingly becoming aware of quality PAC services provided in the areas where they live. A participant stated:

... most people in community prefer NGO services mainly because of the trained staff and the available facilities.

Community attitudes towards PAC are changing and now traditional birth attendants refer clients to the NGO clinics. An RHV said:

... we have started receiving quite a few cases referred by the local *dais*.

The RHVs from Punjab and Sindh said that in most cases, the client's available financial resources determine the choice of the provider for the PAC services. An RHV expressed:

... preference is given to health facilities solely on the basis of the fee charged.

Financial constraints lead to women seeking unsafe abortions, often at the expense of their health and perhaps even life. Another RHV said:

... a lot of women seeking PAC services end up with unsafe hands of *dais* as they offer services at the minimal charges.

The RHVs were of the view that the community attitudes towards PAC were diverse and mainly depended on the social and education background of the people. The educated have a relatively liberal view regarding PAC services. An RHV from Punjab said:

Educated people have no problems with people seeking post-abortion care. Majority are educated people in this area, therefore, there is an acceptance of post-abortion services.

However, religiously minded people or clergy consider abortion to be a grave sin and strictly oppose even the provision of PAC services. Another Punjabi RHV said:

They say it's a sin against God and we are interfering in it unnecessarily. But I don't care as my priority is client and her life. The clerics consider us murderers and hound us.

Reasons for seeking unsafe abortions

According to the majority of the RHVs in Sindh and Punjab, the main factors leading to unsafe abortion included financial constraints, complete desired family size and for saving a woman's life. As an RHV from Sindh put it:

Sometimes couples consider their family complete and therefore resort to pregnancy termination.

Another RHV from Punjab narrated thus:

People are under a lot of financial pressure compounded by household issues. They go for unsafe abortion instead of giving birth to a child which they cannot afford. I have heard about a case in the field where a woman had a serious problem like bleeding for 2 months and she was unable to conceive, she had visited a *dai*.

Similarly, an RHV from Sindh elaborated the financial constraints leading to unsafe abortion as:

Religious factor is not the reason always; the basic problem is the inability to afford the treatment and we cannot take these people to the centre since they don't have money. The lowest amount they can afford is Rs700–1000 whereas our charges are Rs1500–2000.

The other most common reason is an unwanted and untimely pregnancy due to the non-use, non-compliance or interrupted supply of contraceptives. One of them said:

... people don't practise family planning, end up with unwanted pregnancy and then opt for unsafe abortion.

They also suggested that unwanted pregnancies can be avoided by providing proper information and counselling to the women who are using various contraceptive methods regarding their correct use, side-effects and follow-up.

Challenges in promoting PAC services

According to the RHVs of both provinces, the major challenges in promoting utilization of quality PAC services were financial constraints, objection from in-laws, husbands and religious clerics, restrictions on woman's social mobility and a dearth of local transport. An RHV from Punjab maintained:

It is very difficult to convince the in-laws; mostly it is the mother-in-law and at times the husband.

One RHV from Punjab had a different viewpoint:

I think that religion is no more the main barrier. The problem is the inability to afford the quality treatment and we cannot take these people to the NGO-run health centre, which is relatively expensive.

A participant from Sindh said:

... there are quite a few women unable to go out of their houses as they are questioned by their in-laws and husbands; in most cases the in-laws are the main barrier.

One participant from Sindh pointed out:

... lack of transport facility is an obstacle in many of our areas. We need to provide transport facility to the women seeking treatment for complications. It will also make our field work easier.

They did not point out religion as the primary barrier.

Recommendations

Most participants (i.e. nine) suggested that satisfied clients should be approached to form an advocacy group. As one RHV in Sindh put it:

If a group of satisfied clients talks to other women, it will be able to convince them to consult quality PAC services when needed, and the women will not go to the *dais* anymore, who are unskilled providers.

Most of the RHVs emphasized that clinics or health facilities providing low-cost PAC services should be established close to, and accessible from, poor, under-served rural areas. This would discourage the use of back-alley, low-quality abortion services. Quality of PAC services was considered to be important factor that influences attitudes, so high quality should be maintained. They believe that the *mohalla* [neighbourhood] meetings are the best way to motivate people and for discussing the issues. Providing PAC services at home could also increase their acceptability and utilization. One of the RHVs commented:

... targeting influential people in the communities is crucial for the acceptability and promotion of PAC services.

They said that they were well supported by local union council officials and teachers and their wives when organizing meetings, discussion forums and promoting PAC services, and that their presence helped to convince people and arranging more camps (community support groups providing counselling and where sometimes mobile service teams provide onsite treatment).

Discussion

This study reaffirmed that knowledge about the advantages of family planning and birth spacing is adequate among Pakistani women; however, future interventions will have to focus on the actual barriers to increased uptake of contraceptives among those who badly need them and to save them from unnecessary abortions. More skilful counselling provided to family planning clients would help reduce non-compliance and method discontinuation due to the side effects of hormonal contraceptives. This would also reduce the high rates of method failures due to incorrect or inadequate knowledge of their use (Shaikh, 2010).

The findings of the focus group discussions with PAC clients and in-depth interviews with RHVs corroborate each other and provide important insights into the socio-cultural and economic conditions of the women seeking PAC services such as counselling, treatment and post-treatment contraception, and their perceptions about the two methods of treating incomplete abortion/miscarriage, i.e. medical and surgical. Medical treatment emerged as the preferred method, with justified reasons, as suggested by earlier studies (Gupta, 1998; Harvey *et al.*, 2001). Unwanted and untimely pregnancy was found to be the most common reason for seeking an abortion.

Private clinics, unskilled traditional birth attendants and unqualified medical practitioners are the main sources of unsafe abortion. Financial constraints remain an overarching factor such that women can neither afford the fees of trained private providers, nor use private transport to access a reputable health facility. Therefore, informal low-cost services appear to be the only option left for them. Social protection strategies or some modality of health financing, e.g. vouchers, must be thought out to address the issue of affordability and to ensure women's access to safe, clean and high-quality abortion services. Another major finding is the quality and responsiveness of the private sector, which is reflected by its level of use and client satisfaction. Despite the higher costs incurred, women still prefer to go to private sector clinics and providers, a finding validated by other studies (Barua & Apt, 2007; Qureshi, 2010).

Ensuring availability of services closer to villages or arranging transport for women may not only help to promote formal PAC service provision, but would also help to discourage back-alley, clandestine abortion providers. Encouraging results have been observed in similar programmes with such interventions (Burket *et al.*, 2000). There is, however, a need to regulate unqualified local private providers and medical practitioners involved in abortion provision. The RHVs could play an important role in this being motivated and incentivized to sustain this vital link between RHVs themselves and women.

The promotion of PAC services should involve institution of behaviour change communication strategies at the family level, and also with religious clerics because they have emerged as one of the major forces opposing PAC provision, somewhat more in Punjab than in Sindh. These challenges have been reported in other studies too (Ramaraio *et al.*, 2007; World Population Foundation, 2008). Social marketing is another strategy that would be a practical way of addressing cultural barriers to, and fears of, contraceptive uptake by women, and to create demand for quality post-abortion services (Gulzar *et al.*, 2008).

Conclusions

The study highlights the need and importance of promoting and implementing client-centred, quality post-abortion care services for poor, under-served women in rural Pakistan. Simultaneous interventions that work towards the social and economic empowerment of rural women is highly desirable. In the new policy scenario, especially after the devolution of the health sector to the provinces, key stakeholders have to be identified, sensitized and mobilized to address the issue of maternal morbidity and mortality resulting from unsafe abortions in Pakistan. Nonetheless, providing family planning information and counselling through community volunteers and offering

quality services through all reproductive health centres (public as well as NGO) could reduce the cycle of repeated unwanted pregnancies and unsafe abortions in Pakistan.

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Summary of key findings

Objective 1: To examine and document the determinants of uptake of modern family planning/contraceptive services in rural Pakistan assessing interventions related to integrated health financing models.

Article 1: Assessing predictors of contraceptive use and demand for family planning services in underserved areas of Punjab province in Pakistan: results of a cross-sectional baseline survey.

A cross-sectional baseline survey conducted in 2012 in Punjab Province to assess factors associated with contraceptive use determined that women's age, husband's education, wealth status, spousal communication, location of last delivery and a favourable attitude toward contraception influenced contraceptive use.

Most of the women had low socio-economic status and were younger than 30 years of age. Four-fifths of the women consulted private sector health facilities for reproductive health services; proximity, availability of services, and good reputation of the provider were the main predictors for choosing the facilities. Husbands were reported as the key decision-maker regarding health-seeking and family planning uptake. Overall, the current contraceptive use ranged from 17% to 21% across the districts: condoms and female sterilisation were widely used methods. Woman's age, husband's education, wealth quintiles, spousal communication, location of last delivery, and favourable attitude toward contraception have an association with current contraceptive use. Unmet need for contraception was 40.6%, 36.6%, and 31.9% in Chakwal, Mianwali and Bhakkar, respectively. Notably, more than one-fifth of the women across the districts expressed willingness to use quality, affordable long-term family planning services in the future.

Article 2: Women's empowerment and contraceptive use: the role of independent versus couples' decision-making, from a lower middle income country perspective.

A household cross-sectional survey conducted between May-June 2012 explored associations between the various dimensions of women's empowerment and contraceptive use. The study reported that women tend to get higher decision-making power with increased age, higher literacy, a greater number of children, or being in a household that has superior socio-economic status when it comes to contraceptive use. The measures for couples' decision-making for overall empowerment and for each dimension of it showed positive associations with couple methods as well as with female-only methods. The only exception was the measure of economic empowerment, which was associated only with the couple method.

Objective 2: To study and document the impact of integrated health financing models (interventions) on FP access and uptake in rural Pakistan by assessing:

Objective 2a: *the demand-side financing model, utilising vouchers complemented by social franchise providers;*

Article 3: Impact of social franchising on contraceptive use when complemented by vouchers: a quasi-experimental study in rural Pakistan.

A quasi-experimental pre- and post-intervention study with a control group conducted from 2009-2010 studied the impact of social franchising on contraceptive use when complemented by vouchers in rural Pakistan. Social franchising used alongside free vouchers for long-term contraceptive choices significantly increased the awareness of modern contraception by 5% in the intervention district. Similarly, the ever use of modern contraceptive increased by 28.5%, and the overall contraceptive prevalence rate increased by 19.6%. A significant change of 11.1% was recorded in the uptake of IUD s, which was being promoted with vouchers. Difference analysis showed an increase of 5% in any modern contraceptive method use between baseline and endline among treatment and control groups. The results show that the vouchers were effective in increasing the use of any modern method between baseline and endline by 8.2% ($p<0.001$). Additionally, the results show that IUD use increased by 10.2% ($p<0.001$) in the intervention group.

Article 4: Engaging with community-based public and private mid-level providers for promoting the use of modern contraceptive methods in rural Pakistan: results from two innovative birth spacing interventions.

A quasi-experimental pre and post intervention study with a control group conducted between 2010 and 2014 tested the effectiveness of two birth-spacing models, that engaged community-based public and private mid-level providers, on promoting the use of modern contraceptive methods in rural Pakistan. The Suraj model was effective in increasing the use of modern contraceptives by 8% while the CMW model increased the use of modern contraceptives by a net 6% at the endline. Similarly IUD use had increased in Suraj and CMW models by 5% and 3% towards the endline. Other findings of the study show that the Suraj model was effective in significantly increasing awareness about FP methods among MWRA by 14% percentage points, current contraceptive use by 5% percentage points and long-term modern method – IUD use – by 6% percentage points. The CMW model significantly increased contraceptive awareness by 28% percentage points, ever use of contraceptives by 7% percentage points and, IUD use by 3% percentage points. Multivariate-Cox proportional hazard analysis showed that the Suraj model led to a 35% greater prevalence (prevalence ratio: 1.35, 95 % CI: 1.22–1.50) of contraceptive use among MWRA.

Objective 2b: *the task sharing through CMW model, based on building public-private partnerships;*

Objective 2c: *the CHW model, that connects client with local health (FP) facility to enhance FP access and uptake including post-abortion FP*

Article 4: Engaging with community-based public and private mid-level providers for promoting the use of modern contraceptive methods in rural Pakistan: results from two innovative birth spacing interventions.

A quasi-experimental pre and post intervention study with a control group conducted between 2010 and 2014 tested the effectiveness of two birth-spacing models, that engaged community-based public and private mid-level providers, on promoting the use of modern contraceptive methods in rural Pakistan. The Suraj model was effective in increasing the use of modern contraceptives by 8% while the CMW model increased the use of modern contraceptives by a net 6% at the endline. Similarly IUD use had increased in Suraj and CMW models by 5% and 3% towards the endline. Other findings of the study show that the Suraj model was effective in significantly increasing awareness about FP methods among MWRA by 14% percentage points, current contraceptive use by 5% percentage points and long-term modern method – IUD use – by 6% percentage points. The CMW model significantly increased contraceptive awareness by 28% percentage points, ever use of contraceptives by 7% percentage points and, IUD use by 3% percentage points. Multivariate-Cox proportional hazard analysis showed that the Suraj model led to a 35% greater prevalence (prevalence ratio: 1.35, 95 % CI: 1.22–1.50) of contraceptive use among MWRA.

Article 8: Delivering post-abortion care through a community-based reproductive health volunteer programme in Pakistan

A qualitative study conducted between May and June 2010 through a community-based reproductive health volunteer programme in Pakistan explored preferred methods of treatment and perceptions of the barriers to accessing post-abortion services. The study reports that medical, rather than surgical, treatment for incomplete and unsafe abortions was preferred by women. It was also reported that household economics influence women's decision-making on seeking post-abortion care while factors restraining women from accessing post-abortion services include objection by husbands and in-laws, restrictions on female mobility, views of religious clerics and a lack of transport.

Objective 2d: *assessing the expanded outreach service model for far-flung communities*

Objective 2e: *assessing models useful in switching to, and continuing use of, LARC*

Article 6: IUD discontinuation rates, switching behaviour, and user satisfaction: findings from a retrospective analysis of a mobile outreach service program in Pakistan. /

A retrospective cohort study estimated the IUD discontinuation rates in August 2009 among the clients of a mobile outreach service programme in Pakistan. The study described IUD discontinuation rates of 19.4% at 10 months.

Objective 2e: *assessing models useful in switching to, and continuing use of, LARC*

Article 5: Rates of IUD discontinuation and its associated factors among the clients of a social franchising network in Pakistan

A retrospective cohort study estimated the IUD discontinuation rates at 12 months in January 2011 among the clients of a social franchising network in Pakistan. The study reported IUD discontinuation rates of 18.8% at 12 months.

Article 7: Continuation rates and reasons for discontinuation of intra-uterine device in three provinces of Pakistan: results of a 24-month prospective client follow-up.

A prospective cohort study was conducted between March and September 2011 to estimate the IUD continuation rates among clients of Suraj and CMW models accessing FP services in three provinces of Pakistan at 24 months. The study reported that IUD discontinuation was 18% and 20% among Suraj and CMW model clients respectively.

Chapter 4: Discussion

This chapter discusses a review of eight selected published studies on various integrated health financing models exclusively aiming to enhance FP access, uptake and quality in underserved communities in Pakistan. The discussion presents a contextualisation of the findings from the above-mentioned studies within the larger FP landscape in Pakistan in the order of the objectives as outlined in section 3.1.2 above. The discussion ends by making recommendations (in the form of Chapter 5) in light of Objective 3 of this thesis (*“ Objective 3: Formulation of recommendation for the development of health financing models that promotes FP access and uptake for married women”*) for the promotion of FP access and uptake by engaging the private and public health sectors.

The findings from this thesis demonstrate the potentially central role of private enterprise in facilitating improvements in access and innovation to FP services for underserved populations in rural Pakistan. The integrated health financing approaches such as social franchising, capacity building, demand-side financing through vouchers and comprehensive pre- and post-service counselling are the result of private sector enterprise led by NGOs (Articles 3-7).

In particular, the majority of women living in underserved areas have expressed their desire and willingness to use affordable long-term reversible and high-quality methods for contraception in the future (Articles 1 and 2). Essential lessons emerging from the review focus on the FP models and mechanisms that target hard-to-reach segments of the population, introduction of free/subsidised FP services and strategies that have the potential to increase contraceptive use (see Figure 19) have been discussed below, followed by a thematic discussion of key findings.

Figure 19: Process outlining how to accelerate modern family planning/contraceptive services access and uptake among married women in rural Pakistan



5.1 Determinants of modern family planning/contraceptive services uptake in Pakistan

As described in the earlier chapter/s, in Pakistan, the contraceptive use is determined by women's age, her education, husband's education, wealth status, spousal communication, parity, location of last delivery and a favourable attitude toward contraceptive use (Article 1). Additionally, an exploration of various dimensions of women's empowerment and contraceptive use reveals that women tend to get higher decision-making power with increased age, higher literacy, a greater number of children, or being in a household that has superior socio-economic status when it comes to contraceptive use (Article 2). On the other hand, the decision-making power of husbands and wives in Pakistan is, as demonstrated through research, not equal in relation to FP and contraceptive use (82). It can be argued that, since husbands have a critical role as the primary decision-makers concerning use of FP services (41, 82), this might be a possible reason for the slow uptake of FP services in Pakistan

5.2 Role of integrated health financing models

Within the context of health-care systems, whether in relation to maternal health or otherwise, the role of integrated health financing models is often central to the successful operation of such systems. To support the positive development of health-care services and to facilitate the improved performance of health systems, high-powered incentives⁸ as part of integrated health financing models have been offered (6). These "High-Powered Incentives" are generated through

⁸ High-powered incentives (HPI) are those in which a provider receives a high proportion of any profit or efficiency gain that they generate which is assumed to motivate them to expand their output and to use resources efficiently. In the public sector context, paying providers on the basis of salary (for individuals) or historical budgets (for institution) provides low-powered incentives because these payments are received regardless of whether or not the individual/institution works hard to achieve its objective. This can be contrasted with incentives facing a for-profit private organization (e.g. individual clinical practice or for-profit hospital), where because the owner has a residual claim on any profits generated, they are assumed to exert effort to maximize their return. While, Low-powered incentives are those in which there is little or no relationship between what a providers does and how much they are paid. Results based financing or pay for performance are some examples of HPI. So that if your give results or perform well then you will be paid in return well.

market transactions, in which efficiency gains from particular transactions flow directly to transacting entities (165, 166).

An additional factor that was tangible throughout the research (Articles 1-6) was the dichotomy between the private and the public health services sectors in Pakistan. Within Eastern Mediterranean countries including Pakistan, the private sector as signified by input of specific NGOs is considered as an important source of care for individuals of all socio-economic demographics, including the poorest quintiles of countries (49) due to the readily available access to services. But despite being the most common source of care for individuals of all socio-economic backgrounds, concerns have emerged related to the quality of care provided by the private sector in lower and middle-income countries including Pakistan. Concerns raised include apparently poor regulation and questionable standards (49, 167). Articles 1-6 described in this thesis therefore took into account these prevailing grey areas of the private sector and modelled such interventions that not only enhanced the poorly understood capacities but also ensured that these practices are regularly monitored. Health care is clearly rooted largely in monetary concerns, and despite an ongoing rise and prevalence of need, the interplay between private and public sectors, and the role of profit, largely mitigate the effectiveness of health-care systems and the services provided by them.

Financing and economics in health sector

The role of economics is one of the most important themes identified within this research, and demonstrates why developing nations may lag behind in health-care quality and service delivery. To support improvements in health-care systems, the World Bank has coined the term “Results-Based Financing”. Such efforts are defined by the World Bank as “a cash payment or non-monetary transfer made to a national or sub-national government, manager, provider, payer, or consumer of health services after predefined results have been attained and verified” (6). Investments into health-care systems that were not effective or properly governed have provided impetus for efforts such as those being engaged in by the World Bank.

RBF includes a variety of approaches to help improve upon the outcome of investments into health care. It often includes performance-based contracting, results-based budgeting, performance-based financing, demand or supply-side financing, vouchers, conditional cash transfers and health equity funds. The underlying purpose of such efforts is to ensure that investments into health care are accountable, in that the performance of related stakeholders must meet a predetermined level in order to achieve full payment and compensation (6). Inadequate funding (Article 8) for FP services on behalf of institutions, or inadequate capital to afford them on behalf of women, leads to a greater incidence rate of unsafe abortion, potentially leading to additional complications and costs (102). Approaches such as RBF are of value in ensuring that companies and other stakeholders being funded to improve upon health care are in fact achieving their objectives.

Not limiting to general health care, finding ways to address barriers and to improve the provision and utilization of FP worldwide has been challenging. To this end, RBF has emerged as a promising strategy to strengthen use and provide quality health services, including FP (168). RBF for FP aim to address hurdles on both the supply and demand sides of the equation in developing countries by incentivizing the provision of a variety of quality services while removing barriers to access for women in need of those services(6, 168). RBF supports progress on a path towards universal health coverage and within the context of family planning the whole idea is to level the playing field, so that all or specific contraceptive methods are equally readily available to the women seeking them. Incentives in RBF programs can come in a variety of forms – like subsidies or fees paid to clinics or vouchers given free or sold to women(6, 168).

Economics and businesses play a key role in designing integrated health financing models to address issues related to contraception and sexually transmitted infections (STIs). Voucher programmes that have been instituted are put in place largely out of economic

concerns. For example, a study of an STI voucher programme in Nicaragua found that the cost of STI treatment was markedly lower through the institution of a voucher programme, exhibiting the economic factors that go into such decisions. Efficiency, effectiveness and economy are important factors when addressing sexual and reproductive health care access and quality (169).

5.2.1. Targeting the underserved through demand-side financing vouchers complemented by social franchise providers

Voucher programmes facilitate access to services that are time-limited, well defined and reflect the priorities communicated by the communities in relation to health (145). Vouchers, when targeted to poor beneficiaries who otherwise would not capitalise on a service, are particularly effective at improving equity (145, 170). Voucher schemes have been found to produce largely positive results. In a study of such an initiative in Cambodia, voucher schemes have been associated with an increase of 10.1 percentage points in the probability of delivery in a public health-care facility. Among the poorest 40% of households, the increase in the prevalence of the probability of child birth in a public health-care facility was 15.6 percentage points (148). To provide structure, voucher programmes incorporate a governing body. A management agency, contracted providers and target populations also work together with the governing body to ensure that all stakeholders share the same incentive structure – that is, the transfer of subsidies from consumers to service providers. The result of such programmes is to achieve a strong effect upon the behaviour of both consumers and providers alike (145). Within areas that have been targeted by voucher programmes, the rate of facility-based births increases in both private and public facilities. Voucher programmes have been found to improve access to institutional delivery. The proportion of births occurring in the home decreased by 10% over the course of a one-year intervention in Kenya conducted by Obare, Warren, Abuya, Askew and Bellows in the year 2014 (146).

Voucher schemes improve upon overall access to FP services. However, the level of access varies depending upon the type of care.

To a lesser degree, voucher programmes also generate improvements in both antenatal and postnatal care. The effectiveness of a voucher scheme is governed by its fit with geographical and cultural contexts (148). Solutions to effectively shift practices concerning FP service access and use must take into account the various factors that may inhibit their success, including infrastructure and transportation issues. A study of the voucher scheme determined that demand-side vouchers in concert with supply-side financing programmes are capable of reducing the maternal mortality ratio (MMR) and increasing attended deliveries at an acceptable cost (171). In addition, the value of voucher programmes has been noted by a variety of stakeholders and also related research. Within all voucher programmes, a positive behavioural response has been observed (145). Voucher programmes have been found to be effective globally. A study of voucher provision in rural Bangladesh, for example, revealed significantly positive results. Poor voucher recipients were found to be 4.3 times more likely to deliver their baby in a health facility. Furthermore, poor voucher recipients were two times more likely to use skilled health personnel than more wealthy recipients (6). The value of voucher programmes within the context of supporting contraceptive use and targeting discontinuation has been broadly noted (80). Voucher programmes seek to directly influence the behaviour of both providers and consumers. The purpose of voucher programmes is to reduce the out-of-pocket expenses of target beneficiaries in addition to empowering beneficiaries by enabling them to choose from multiple providers. Under this model, providers share lessons learnt/success stories⁹, improving upon their level of accountability to beneficiaries. Inequities to accessing essential services among low-income and underserved groups are addressed through a reduction in the information and financial barriers facing these populations (170).

⁹On annual basis there are refresher trainings and workshops for the providers. Each provider or should i say high performing providers as well as low performing providers are/is required to share one success story along with sharing personal experiences from community support/acceptance and the effects of vouchers on their businesses. At that point of time both high and low performing voucher program providers are guided to increase /sustain their clientele, improving repute in vicinity/catchment areas through enhancing quality etc

MSS established a voucher scheme for FP services through a social franchising model Suraj in Pakistan to support contraceptive use, particularly for LARC (IUDs). The goal of the voucher programme, like the social franchise model, is to increase demand, access, quality services and choices for the FP needs of rural and underserved communities in Pakistan (61, 80, 134, 140, 142). Since the outset of the voucher programme (see Article 5) facilitated through the Suraj social franchise, some 107,000 IUDs were provided. Of those, 30% were provided through vouchers, while 45% were provided through referral (out-of-pocket, OOP) from field worker mobilisation (80). The analysis from Article 3 revealed that 76% of the current IUD users have received their services from a social franchise provider. Out of those, around 35% received it through free vouchers and 42% had paid OOP for the services (61).

Although within our papers, we have not directly assessed the quality aspect of the services provided by social franchise providers. But, it has been documented that improved service quality and efficiency contributed in increasing Marie Stopes International (MSI) affiliated social franchises access and uptake of LARC (10, 172). The quality was assessed in-terms of overall clinical audit scores and overall client satisfaction scores. For example, a body of evidence reported that at almost 40% MSI social franchise clinics, the clinical quality audit scores significantly improved i.e. from over 80% in 2011 compared with 84.1% in 2014 including a very high client satisfaction score (10).

An independent study which was conducted to better understand the quality assurance systems currently used in social franchises operated by PSI (Population Services International) and MSI affiliates including Suraj social franchise in Pakistan in order to determine if there are shared standards for practice or quality outcomes across programs, also reaffirms the above claim (173). This study suggests that PSI and MSI social franchises perceive quality assurance not as an independent activity, but rather as a goal that is incorporated into all areas of franchise operations, including recruitment, training, monitoring of provider performance, monitoring client experience and the provision of feedback. For example, this study found that the

quality assurance checklists were used at Suraj social franchise clinics operated by MSS Pakistan to ensure the instruments used for IUD insertion are sterilized properly and the IUD checklist includes items that aim to support clinical quality and to minimize infections (173).

Adoption of demand-side financing and risk pooling mechanisms for the provision of accessible and quality family planning services seems practical through public-private partnership and has been long advocated. In Pakistan, the provinces are currently developing medium-term budgetary frameworks, aligned with health sector strategy, to ensure the financing of programmes including FP. The next step is to have a specified line item for family planning in their health budgets. Provinces will raise additional resources to increase access to quality services by training staff in client-centred services and ensuring the availability of contraceptive supplies.

5.2.2. Task sharing through community midwives: building public-private partnerships

In order to compensate for the lack of care, and access thereto through the public sector, the concept of task sharing has been proposed. In the context of settings in which there is a lack of medical professionals, as is the case with Pakistan, the use of task sharing or task shifting is beneficial. Within the context of task sharing, those with less medical or paramedical training are used to provide some of the same services, with the same quality, as those with more training than them (174).

Task sharing has improved upon the value of care in rural communities by allowing limited medical personnel or mid-level providers to share tasks. There is facility-based and community-based task sharing, with either medical professionals sharing tasks within the same facility, or CMWs providing for the needs of citizens in their community that once would have been provided for by facilities (174). The findings from Articles 3-7 justify promoting task sharing from the reproductive health and family planning provision perspectives for women living in the underserved and rural areas of Pakistan, especially when there is documented scarcity of public

sector health facilities and professionals. These successful interventions were implemented as the private sector has been able to document best practices. Lessons learned related to high quality, professionalism, satisfaction and forthcoming willingness and referral for future programming through addressing demand and supply side barriers such as accessibility, availability and acceptability for modern family planning services. For example, Articles 3, 4 and 5 had implemented modified interventions by introducing a new cadre of mid-level social franchise providers (Suraj) in the underserved and rural communities where access to and availability of services have both been a prevalent issue. Capacity building, both clinical and business, was an integral part of their training curriculum, which in turn led to the success of this intervention.

Suraj social franchise provided pre-paid IUD vouchers to women who were eligible¹⁰. The network provided extensive numbers of lady health visitors, midwives and nurses, female and male mobilisers, comprised of patients since its inception and formed partnerships with others. The eligibility of women for the pre-paid IUD vouchers was determined through a standard and validated tool (175) comprised of questions, including: earning member of the family; number of dependent family members; water source; construction of house; number of meals per day; fuel used for cooking purposes; family's monthly income; water sanitation; and access to reproductive health services. The vouchers were used to provide free IUD insertion, in addition to follow-up visits and ultimately removal services (61). The findings from Articles 3-5 were able to conclude that Suraj social franchising as a private sector-led initiative has the potential to increase contraceptive uptake when coupled with a free

¹⁰ The project targeted women who were marginalized /underserved and did have control on household economy. Therefore, free IUD service vouchers were given to underserved/marginalized clients on poverty based assessment which was admissible to selected trained and qualified mid-level providers in their catchment/vicinity. Clients who were not found eligible on the poverty assessment were given a referral voucher so that they could avail OOP services from a trained qualified provider instead of ending in the hands of a quack.

voucher in a limited time duration (24 months) in rural and underserved areas of Pakistan, especially through enhancing the use of LARC – IUD (61, 80, 134, 142). In addition, the cumulative probability of IUD method continuation recorded through a 24-month prospective follow-up in Suraj (mid-level social franchise providers) intervention coupled by a community health worker and a free voucher was 82% (140). In the voucher versus out-of-pocket payment group, the voucher clients demonstrated much higher method continuity for IUD – 16% versus 23%; although all potential clients were offered the choice of all available FP methods, the majority opted for LARC (140).

Community midwife model – an example of public-private partnership

The main modification designed in the MNCH-led CMW programme was supplementing CMWs with a dedicated community health worker and the provision of exclusive family planning services (134, 140). Based on our results, the modified CMW model has been found to significantly increase contraceptive awareness by 28%, ever use of contraceptives by 7% and IUD use by 3% (134). In addition, conditions that require referrals were also identified and subsequently addressed by appropriate referrals to relevant practitioners (134). Hence, the integration of FP service provision with existing CMW-provided reproductive health services, along with the provision of a dedicated female health worker, has the potential benefit of ensuring a continuum of care for women capitalising upon such services only in a period of 24 months (134). Moreover, the CMWs were cited as an efficient part of the private health provider group Suraj to deliver effective side-effect counselling and respond to client health concerns in a timely manner. In addition, the cumulative probability of IUD method continuation recorded through a prospective follow-up in CMWs of MNCH Programme at 12 and 24 months was 94% and 80%, respectively (140). This is a very interesting finding. Without the provision of free vouchers and only in the presence of dedicated CHWs, these CHWs were able to show remarkable results at 12- and 24-month intervals compared to results

produced by their counterpart, the Suraj providers – a very high cumulative probability of IUD continuation at 94% and 80%, respectively.

Another important aspect which must be discussed is the sustainability and retaining CMWs cadre for FP services. It would be very difficult to comment on their retain-ability and sustainability perspective due to very limited data availability. The only published literature that we have found from Pakistan on this discussion derives from Article 4 and 7 used in this thesis which discusses CMWs in detail in respect of providing exclusive family planning services(134, 140). Some of the other but limited data on CMW reported that more than 90% of their clients are satisfied by the antennal care they are providing which includes family planning counselling but the extent of which is not reported(176). Also the volume of ANC clientele is comparatively low to other providers. In addition, the primary program LHWs and their supervisors although mandated but do not refer pregnant women to the CMWs, thereby limiting CMW outreach and scope for ANC, PNC and FP services.

5.2.3. Community health workers: connecting clients with the local facility

Community health workers (CHWs) have emerged as a key resource within developing nations as providers of FP services (32). CHWs receive relevant training for the positions they are assigned to. They are generally female, and they must be acceptable to and live within the community they are serving. Community involvement is generally essential, although compensation structures may vary from setting to setting, shifting the degree of community involvement in practice (32). CHWs are encouraged to deliver information to the community, and to subsequently support such information with community-wide announcements concerning the availability of FP services in the community.

One of the most important components of the integrated health financing models described in Articles 3-7 was introducing a new cadre of CHWs at the grassroots level, mainly for promoting modern family planning/contraceptive services in the underserved areas.

These workers are known as Field Worker Mobilisation or Female Community Mobiliser or Field Health Educator based on the dynamics of the respective study and its outcomes (61, 80, 134, 140, 142). CHWs are supposed to pay dedicated household visits for FP counselling and side effect management or to connect the clients with relevant facilities. Hence, these CHWs have been instrumental in promoting the modern family uptake in their catchment communities by referring potential clients to assigned health-care providers (Suraj Social Franchise or CMWs), distributing free vouchers for family planning services as well as providing effective counselling and efficient side-effect management on the door-step. This not only led to a significant increase in modern contraceptive uptake, especially for IUDs, but also helped to lower the trend of high contraceptive method discontinuation rates while promoting method-specific switching in underserved vulnerable women (61, 80, 134, 140, 142).

The CHW has proven to be highly effective at encouraging women to pursue contraceptive services, particularly IUDs, and also to support continuation rates thereof, through effective counselling on side-effect management with the central aim of connecting clients to the facility. Through the Suraj social franchising network in Pakistan, some 107,000 IUDs were provided between the years 2008-2011. Of these, 45% were provided through women referred by FWM as they are highly effective at advertising the value of contraceptives, especially IUDs (80). Similar studies also reported that some 80.4% of respondents heard about IUDs from FWM, while just 9% learned of IUDs from an IUD client and 3.3% from others (80). Training of community-based workers has been found to reduce reported uncomfortable feelings about delivering contraceptive methods from 28% to 1%, indicating the importance of training workers in the field to ensure proficiency (80). Community health workers in a FMW role have been found to be positively linked to IUD use, and continuation (61, 134, 142). Encouragement from an FMW is the leading reason for Pakistani women seeking out contraceptive options. Whether a woman acquired IUD service through a voucher, or paid out-of-pocket after an FMW referral, the IUD discontinuation

rate is the same. Many Pakistani women report an FMW as the major source of their knowledge and motivation for using IUD services (61, 134, 142). Clearly, field worker mobilisation or CHW is a highly effective means of marketing FP, bridging clients to their local facility and to promote long-term use of IUDs to underserved rural populations in Pakistan, especially when the lady health workers' programme is not believed to fulfil the need of 65% of rural Pakistan. CHW role is also prominent in the success of the modified CMW initiative in Articles 4 and 7.

Box 6: Qualitative Evidence – social franchising using vouchers

Stock-taking with family planning voucher and non-voucher clients of ‘Suraj’ social franchising initiative including service providers and community health workers: Summary of key findings

A qualitative exploratory study describing the perspectives of Suraj social franchise clients (vouchers and non-voucher), community health workers (CHWs) [in case of this project the CHWs were called “field worker marketing (FWM)”], and service providers on various components of the social franchising model was conducted in six randomly selected intervention districts in the Sindh and Punjab provinces. Data were collected using 14 focus group discussions (FGDs) and 51 in-depth interviews (IDIs) with clients’ providers and CHWs. Data were manually analyzed using constant comparison and the thematic analysis approach.

Voucher and non-voucher clients: Findings of the FGDs and IDIs with PPP/Suraj voucher and non-voucher clients indicated that almost all of the participants were quite well aware about family planning and modern contraceptive methods. They defined it as a way of spacing and limiting the number of children and claimed that family planning is not only good for the health of mother and child but also for the betterment of family at large. However, it was found that those women who had switched methods possessed better knowledge and awareness regarding FP methods as compared to the rest of the participants. Moreover, the most commonly identified and known methods included condoms, injections, pills and IUD. Clients identified community health workers (CHW) as the most common and dominant source of knowledge followed by TV/Cable and other women. In addition, word of mouth is reported to be another important source of information and the image of Suraj centre as quality service provider is reinforced by actually visiting the centre. The study revealed that the traditional attitudes are changing due to awareness and increasing efforts and interventions made by government and other private organizations. Most of the participants reported that unlike in the past they did not face any major obstacles regarding female mobility. Moreover, they pointed out the perceptions of their respective communities towards family planning were determined by socio-economic, educational and religious background. The people with some educational background were reported to be in favor of FP while the illiterate ones opposed it; whereas, religious persons believed that Islam did not sanction FP and considered it interference in God’s work. Moreover, some of the participants had reservations regarding family planning services and methods provided at the Suraj centre. They feared that the methods could fail, give rise to complications, and increase the pain and unpleasantness. It is also interesting to note that some women feared that adopting family planning method could seriously damage the intimacy between the wife and husband. *Continued....*

Source: Azmat SK, Shaikh BT, Mustafa G, Hameed W, Ali M, Asghar J, Ahmed A and Bilgrami M. Social franchising to promote long term methods of family planning in rural Pakistan: A qualitative stock taking with the stakeholders. *Journal of Pakistan Medical Association* 2013 Apr; 63(4 Suppl 3):S46-53. (Available from: <https://www.ncbi.nlm.nih.gov/pubmed/24386730>)

Majority of the respondent shared that they did not face any difficulties for availing family planning services. They shared that particularly those women who decided about family planning with the consent of husband were more likely to visit family planning centre alone or accompanied by their husbands. Most of the voucher and non-voucher clients associated quality of FP services with accessibility, affordability, fewer clinical visits and absence of side effects and complications. They claimed that Suraj centre provided quality services, even when they were free of cost, and FP methods were available most of the time; moreover, fewer clinical visits were also associated with the quality of Suraj services. Likewise, the presence of qualified and experienced Suraj Provider, competent and committed CHW and free services through voucher were also identified as essential components of quality. The study also explored the participants' perspectives regarding barriers towards family planning and modern contraception. Most of the participants reported that affordability and fear of side effects were huge barriers towards family planning and contraception followed by female mobility and opposition by in-laws, especially mother in-law. And some of the rumors associated with IUD included cancer and removal of uterus. However, they claimed that Suraj voucher scheme had alleviated their economic concerns and issues of affordability to some extent; whereas, effective counseling by Suraj provider and CHW had addressed their fears and concerns regarding modern contraceptive methods. Almost all of the Suraj social franchising clients using free vouchers appreciated the quality of services provided at the Suraj centre and considered voucher scheme as one of the best aspect of the Suraj centre followed by cleanliness, and privacy and confidentiality. Moreover, caring, courteous, cooperative and friendly attitude of the Suraj provider was also highly appreciated and associated with the quality of care. However, some participants were not quite satisfied with the range of services provided at the Suraj centre and suggested that other women focused health services should also be provided at the centre along with family planning services, especially delivery services. Furthermore, almost all of the participants emphasized that the role of CHW had has been very crucial for the promotion of family planning in their areas and will also remain fundamental in future. They claimed that it is due to the untiring efforts, courteous attitude, FP knowledge, powers of persuasion and motivation and persistence of the CHW that influenced them and changed their attitudes towards family planning and modern contraception. Likewise, the majority participants reported high levels of satisfaction with Copper T/IUD and claimed that it is due to voucher scheme that they were able to avail the method. They feared that that most of the women will turn to traditional method of contraceptive or stopped practicing family planning altogether if the voucher is withdrawn. It will ultimately affect the trend of family planning and particularly IUD insertion in poor and rural areas. The voucher clients were also asked about the Suraj branding and marketing activities and almost all the participants responded that they had seen the Suraj signboards and could easily recognize them. They were of the opinion the Suraj signboards were very important for conveying family planning messages and locating Suraj centre

Continued...

However, almost all of the Suraj social franchising non-voucher clients suggested that number of Suraj centers, CHW and range of services should be increased so as to reach out to the maximum number of women in need of family planning. They were of the opinion that the expansion of Suraj model would greatly benefit the women in far-flung rural areas who would be unable to avail the services, otherwise. In addition, they suggested increasing branding and marketing activities and providing transport facilities to the clients to spare an added economic burden on the already poverty-ridden households. Additionally, the participants suggested that family planning services should be provided free of cost to every client along with other general health facilities so as to attract and to approach a greater number of women in need.

Community health workers (CHWs): The majority of CHWs said that people in their communities lacked awareness of FP and harboured negative attitudes towards it. However, the majority of CHWs were of the opinion that attitudes towards FP were gradually changing. The majority of CHWs considered voucher schemes the best aspect of the Suraj model and said that clients felt the same. In addition, they identified that voucher schemes helped them during community mobilization efforts. In addition, most CHWs from intervention areas believed that the catchment area for voucher disbursement should be increased and additional MCH services should be included in the voucher system. According to CHWs, IUCDs were the most preferred method for women in their respective Suraj areas. They said women preferred them because they were provided through vouchers, were a long-term method, and did not cost anything. On the whole, the majority of CHWs said they had not had problems promoting IUCDs except in select instances where a rumour surfaced that IUCDs move around in the body, eventually causing death. They said community mobilization — door-to-door visits, voucher scheme, quality of services — had helped change people's behaviours and overcome myths and rumours. Overall, the CHWs were of the opinion that the Suraj initiative had increased awareness and use of FP services, provided choices to women in need of contraception, and should continue.

Social franchise services providers: Almost all providers from the intervention areas reported that the voucher scheme was beneficial for both community and providers. They said it helped CHWs to increase their FP clientele through their community mobilization activities and helped establish a relationship with clients. The social franchise providers said that training on IUCD insertion, prevention of infections, and sterilization equipment had greatly benefited them and helped provide FP services in a better way, and also emphasized about continuity of such trainings with more practice and sessions on improving their communication skills. All providers identified CHWs and the voucher scheme as the most important and effective components of the Suraj social franchising model. Like all CMWs, the majority of providers also proposed to include MCH services with FP services.

5.2.4. Expanding outreach services to underserved communities

Another initiative in Pakistan that has been noted for its success in improving contraceptive uptake is the mobile outreach programme established by MSS (86). Through the mobile outreach programme, access and coverage for Pakistani women living in hard-to-reach areas was improved. Women within the vicinity of an existing public health facility repurposed as the mobile outreach facility are provided with access to quality contraceptives, largely by female health workers. When there are no facilities, the mobile outreach programme establishes a tent or van through which they can distribute their products and services (86).

5.2.5. Integrated models useful in switching to, and continuing use of, LARCs

The most common forms of contraception used in Pakistan are condoms for birth spacing and female sterilisation for limiting purposes. The use of highly effective LARC such as IUD (2.3%) as well as implants (less than 1%) has remained extremely insignificant for several decades (30). The findings from the study in Articles 1 and 3 conform to national trends of contraceptive uptake (30, 41, 61). In addition, Articles 3 and 4 also reported high condom uptake both in the intervention and control districts in the pre-intervention stage. The post-intervention results from Article 3 reported a significant increase in the IUD and condom uptake. There was a net effect increase of 11.4% and 6.5% in IUD and condom use respectively, from the baseline.

Likewise, following the intervention period (Article 4), a significant rise in IUD uptake was observed with a net effect increase of 6% and a statistically insignificant increase in condom use. Although the primary focus of both interventions in Articles 3 and 4 was promoting LARC in the form of IUD services through free vouchers, the evidence suggests that condoms are also preferred in Pakistan over IUDs, even when free vouchers for IUD services are provided.

In combination with very slow-rising contraceptive uptake, high discontinuation rates are a matter of concern for FP programme managers in Pakistan (30, 80). Nationally, contraceptive discontinuation rates in Pakistan stand at 37% within the first 12 months of use (30). Reported major reasons for discontinuation were side effects or health concerns (10%), followed by the desire to become pregnant (9%) and method failure (6%) (30). The highest discontinuation rates based on method use was recorded for short-term methods such as injectable, followed by pill and condoms – 61%, 56% and 38%, respectively (30). Out of the total method discontinuations, 80% did not switch to another method of contraception. The same national survey also recorded an overall discontinuation rate of 26% for the LARC for the IUD, within 12 months of use due to any reason. Out of these, 67% of women who had their IUDs removed did not switch to another method. Likewise, 75% and 73% of the respective injection and pill discontinuers did not switch to another method (30).

The findings from the two private sector-led models (using outreach services and social franchising coupled with community health workers and free vouchers) described in Articles 5 and 6 reported the IUD discontinuation rate of 18.8% and 19.4% in the post-intervention period, respectively at 12 months, which is significantly lower than the national trend of 26% (30, 80, 142). Of the women who discontinued IUD use, almost 57% of them did not switch to another method, which is significantly lower than the national trend. Nearly half of them cited the desire to become pregnant as a reason for not switching to another method (30, 80, 142). Results from a recent prospective follow-up study (Article 7) are more promising than the earlier study, which compared social franchising intervention (Suraj) clients with modified public sector intervention (CMWs) clients (140).

The cumulative probability of IUD discontinuation in the clients of the social franchising model at 12- and 24-month intervals was 15% and 18% respectively. Amongst the social franchising intervention, the

IUD discontinuation rates were higher in the OOP payment clients as compared to the voucher users with a difference of 7% on average between the two groups (OOP clients 12 and 24 months – 19% and 23%; voucher clients 12 and 24 months – 13% and 16%). The CMW intervention clients presented a far better picture than their social franchise counterparts, especially at the 12-month interval, as their cumulative probability of IUD discontinuation was recorded at 6%. However, at a 24-month interval, their IUD discontinuation rate has increased up to 20% (140). Around 40% and 53% of the respective Suraj and CMW intervention clients did not switch to another method for contraception. Condoms were the most common method used for switching by women in both intervention models after IUD discontinuation (140).

Sustained use of LARC has also been assessed through a non-inferiority trial reviewed, which showed that reports a passive a follow up approach being inferior by 5.0%, to active follow up in sustaining the continued use of LARC by women (141). Moreover, the trial also showed that within the two active client follow up approaches—the telephone based follow up was shown to worked equally well in encouraging LARC continuation as did oes home based (gold standard) follow up. These findings are not consistent with the earlier research conducted specifically to improve IUD continuation in the Netherlands(177) , however, it is pertinent to note that the setting, procedure and frequency of follow up was different in the two studies. The overall discontinuation rate in this study at 12 months was considerably lower than the national average (30)which may be attributed to the overall higher quality of care at the franchised clinics where services were provided under controlled research settings and rigorous monitoring. Also, the national data is a reflection of the behaviour of both public and private sector users. It can be argued that in order to enhance method continuity, LARC users should be actively followed up especially in the critical post insertion period. Also, telephone based reminders could be used to both save resources and allow women to be followed up in a manner that maintains their privacy regarding family planning.

5.3. Emerging themes

5.3.1. *Post-abortion family planning*

An unplanned pregnancy is defined as a pregnancy that was desired after its actual occurrence, or not desired at all (178). Deficits in contraceptive coverage lead to unintended pregnancies that may either result in high fertility, leading to a higher population or in clandestine abortions. Revising the previous estimates of 2002 of an abortion rate of 27 per 1,000 women, Sathar et al report an annual incidence of 2.2 million abortions in Pakistan in 2012, which translates into an annual abortion rate of 50 per 1,000 women (40). Even allowing for an underestimation of the abortion rate in 2002, it is likely that the abortion rate increased at a substantially faster pace than contraceptive prevalence, suggesting an increased reliance on induced abortion to avoid unwanted births (40). Method discontinuation of about 37% for all contraceptive use after less than one year places a large proportion of currently married women at risk of unwanted pregnancy (30). Research from Pakistan and South Asia indicates that couples who experience mistimed or unwanted pregnancies are likely to resort to induced abortion (179-182). According to a study conducted in Karachi, a high (88%) proportion of pregnancies ending in induced abortion were the result of unwanted pregnancies or contraceptive failure(182). The increase in the abortion rate is likely to have contributed to the decline in fertility that occurred between 2001 and 2012-13. The increased reliance on this reproductive strategy has been explained by Sathar et al as a result of greater access to improved abortion care services, such as misoprostol and manual vacuum aspiration (MVA) in Pakistan (40).

As documented in Article 8 and confirmed through available literature, unintended pregnancies are more likely to result in unsafe abortion and life-threatening conditions (102). The majority of those are attributed to unhygienic and unsafe practices of untrained and traditional providers (183). The mortality rates from abortions in Pakistan are particularly high due to the use of unskilled providers

(99). Approximately 40% of all abortions conducted in Pakistan are performed by unskilled workers in backstreet clinics (100). When health workers have lower levels of training, the administration of post-abortion contraception services may be ineffective. Contraceptives must be effectively administered to avoid potential dangers and the risk of impregnation (184). Given the lack of effectiveness of contraceptives and the administration thereof in developing nations such as Pakistan, post-abortion care is of greater concern.

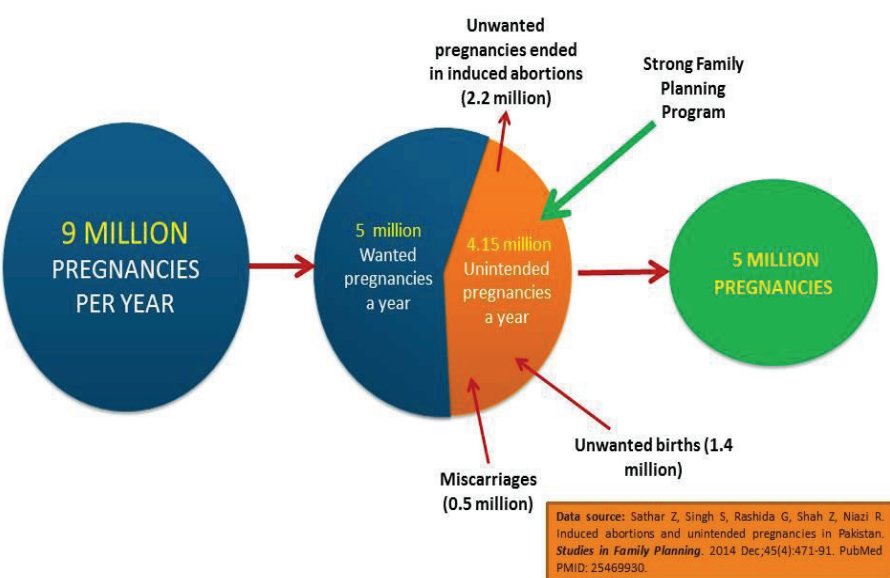
There are a variety of factors that influence post-abortion care-seeking behaviour among Pakistani women. As described by Azmat et al (92), female mobility, views of religious clerics, transportation, household economy, in-laws and husbands are the most significant factors associated with a Pakistani woman's decision to seek post-abortion care (102). Of women who capitalise on post-abortion care services, approximately 75% engage in an FP method (102). Of those Pakistani women who adopt FP methods, approximately two-thirds of women choose to use short-term methods, while the majority of others employ a long-term yet reversible method (102). Birth spacing through using effective FP methods can help prevent unwanted and high-risk pregnancies, and it may also help to improve women's health and contribute to a decrease in maternal mortality (41, 82, 102, 134, 138, 140, 142). A child who is born wanted and valued has better chances of proper nutrition, care and education. Similarly, for the man, birth spacing or limiting means less stress on meeting the needs of a family and parents can have more time for each other. It is also beneficial for the country as there are reduced pressures on public resources, which will make available increased resources for economic growth (159). Increasing access to and improving the quality of modern contraceptive services is therefore an urgent priority.

Abortions as a method of family planning due to (92) unwanted pregnancies denoted by unmet need of 20%, have made this a serious public health challenge in Pakistan.

There is widespread need in Pakistan for better policies and programmes to manage the health consequences of unsafe and clandestine abortions and to help women and couples prevent unintended pregnancies (40). The health risks due to the high level of unwanted pregnancies, and subsequent practice of abortion as a family planning approach, have resulted in policy-based initiatives since 2002 in Pakistan that aim to improve upon reproductive health programmes and policies (185). To date such policy initiatives have not been successful in addressing this problem. To address the shortcomings of these national efforts in Pakistan, many Pakistani women, as explored in this report, seek out services at private sector health facilities as described in Articles 1-8 (see Figure 20) for their family planning needs (41, 82, 102, 134, 138, 140, 142).

Figure 20: Avoiding unintended and unwanted pregnancies

Four Million Pregnancies Could be Avoided Through More Extensive and Efficient Use of Family Planning, Annually in Pakistan



5.3.2. The role of religion – an untapped area to improve modern contraceptive /family planning service uptake

One common factor noted throughout a variety of the studies explored for this thesis that significantly influences the use of FP services is religion. Many Pakistanis are not knowledgeable about FP services in general. Furthermore, many are unaware of the Islamic perspective on family planning (42).

The Quran, which is the first fundamental source of Islamic law, does not directly mention contraception. However, the Hadith - sayings of the Prophet Mohammed (PBUH) and the second source of Islamic law, speaks about the practice of Azal (coitus interruptus) or the withdrawal method (186, 187). Recently, due to burgeoning populations, Islamic countries' governments in Pakistan, Egypt, Turkey, Iran and Bangladesh, among other, have incorporated family planning laws. Although governments may have accepted or begun to promote family planning, many people still conclude that Shariyah law (judicial corpus) prohibits contraception; even though scholars have argued that this interpretation has a weak foundation (186, 187). Therefore, there is a growing divergence of opinion among the teachings of Islamic leaders and scholars and the perceptions of their Muslim followers. Researchers have examined religious writings and surveys conducted with religious leaders on the issue of fertility in Islam and concluded there is widespread acceptance of fertility control (186, 187). However, several surveys in Muslim countries like Pakistan and Bangladesh found that couples often use religion as their rationale for not adopting contraception. There is, again, broad agreement in recent scholarly discussion that Islam is generally supportive of family limitation, although opposition to abortion and to some forms of contraception, particularly sterilisation, has been expressed by many Islamic leaders (186, 187).

Hence, incorporating the role of Islam into FP consultation from health-care professionals increases the likelihood that Pakistanis will take up FP methods (42, 43, 188). It is important that the cultural and societal factors that influence the perception of care and the use

thereof should be effectively framed to ensure that efforts to address them are adequately relevant and capable of achieving their objectives.

5.3.3. Potential of social networks in overcoming barriers to services

Social network recognizes that individuals interact with, learn from, and get information from other people and focuses on relationships, not individuals and according to Valente & Fosados, social network is defined as, "Who delivers the message, and in what interpersonal context, may be just as, if no more important, than the message itself, and may result in better, more relevant, and perhaps more effective programs." (189). Social networks influence diffusion through two approaches i.e. social learning and social influence. Within social learning, the network members exchange ideas and information; and evaluate the relative benefits of innovation (190). While under social influence, the network members follow norms of gatekeepers to gain approval and avoid conflict. Social network interventions provide a powerful approach for health behavior change; however, even the same social network interventions with similar populations have led to different results. A social network intervention package may include but not limited to community groups; opinion leaders or influential groups; use of mass media such radio, television and social media internet chatting sites such as Facebook, twitter etc(190). Social network interventions in multiple countries have been successfully used in international health programs to promote modern family planning methods (191-194).

The influence of the societal perspectives upon maternal health services is particularly strong in developing nations such as Pakistan. Both social networks and social mechanisms including families have been found to influence the behaviour of individuals concerning their health behaviours and knowledge (82, 195, 196). Consequently, social networks and mechanisms mitigate reproductive outcomes (196).

Social networks affect the pursuit of FP in Pakistan (196). An extension of society is the media, with the media also having been found to influence the use of FP services. Exposure to mass media once or more per week is linked to a greater need for contraceptive access (102). The capacity of the individual to choose to pursue FP services is influenced by one's social group, the mass media and also more intimate social connections, such as family. Misconceptions over health risks and other fears about contraceptive use that is prevalent within communities highlight the importance of training providers and field workers in counselling techniques, underscoring the need to cater to local social factors driving contraceptive use.

5.3.4 Decision-making dynamics

A significant theme that emerged is the limitation on the vulnerable woman's right to decide upon her use of FP services and maternal health services (82). Hence despite efforts to improve upon the availability of contraception, whether short-, medium- or long-term, there has been an ongoing unmet need for family planning in Pakistan within all levels of Pakistani society, spanning from the individual to the community and even at broader health system levels ((46)43). Rather than holding the decision-making power within their own hands, young wives are often subject to the whims of their husbands and mothers-in-law (82). The unmet need for family planning is most tangible for women and girls who are sexually active and want to avoid pregnancy, or spacing or limiting future pregnancies. Such women rarely have access to, or are rarely using, a modern contraception method (15). Husbands and mothers-in-law often do not support the decision to deliver a baby within a health-care facility, for example (195). Pakistani women whose husbands are literate support the use of FP services to a greater degree than those who are illiterate (41). The disempowerment of women in Pakistan concerning FP services is relatively hypocritical. Young Pakistani wives are precluded from delivering babies in health-care facilities due to common opposition from their mother-in-law. The difference is governed by socio-economic class to a substantial degree. Women in

the wealthiest quintile deliver their babies in health-care facilities at a rate of 61%, while women in the poorest quintile deliver just 29% of their babies in health-care facilities (195).

It is noteworthy that women who were precluded from pursuing maternal health services during their youth would prevent the next generation from also doing so, thereby increasing the risks associated with childbirth. When FP services are effectively established within a developing nation, families in general benefit from this. Effective FP services entail a reduction in fertility, resulting in greater resources per child within the context of a family. Each child is capable of having more money invested in their health, education and nutrition when there are fewer children in the family (197). The empowerment of women has been noted as a potential avenue through which more Pakistani women may begin to engage in contraception and FP (115). Empowerment of women can have a positive impact on a couple's joint decision-making, which is seen as a stronger determinant of couple-contraceptive-method use than women-only decision-making (82). This is the case even when controlling for women's socio-demographic and economic status (82). Thus, health promotion strategies to increase contraceptive use need to be focused on both partners equally. While family factors may serve to reduce the likelihood of pursuing FP services, the entire family stands to benefit from the effective pursuit thereof.

5.3.5 Contribution of family planning services on morbidity and mortality

Expansion of and access to FP services in the borders of Pakistan would have broad positive effects. Through an increase in the scale of interventions to address the needs of poor and rural populations through community-based strategies, mortality can be markedly decreased. Through the successful implementation of such evidence-based interventions and care packages especially for the rural population reaching 90% coverage (including approaches to promote post-abortion care; antenatal and postnatal care including family

planning services) can contribute averting an estimated 58% of maternal, new-born and child deaths in Pakistan, and furthermore, 49% of stillbirths could also be prevented(29).

5.3.6 Public sector importance for health system delivery

The public sector in Pakistan, although lacking in many aspects, has great potential to enhance modern FP uptake at the national level. However, for such an effort to be successful, it is essential that some of the most effective strategies presented in this thesis from the private sector must be considered for adoption by the public sector in order to capitalise on the potential of the available evidence and transform it into evidence-based decision-making for policy and practice. Hence, multi-pronged approaches¹¹ (198-200) such as targeted DSF and task sharing should become part of public sector strategy, offering prospects of significantly enhancing modern FP usage at the national level by ensuring access, availability and quality for hard-to-reach underserved communities in the country. Additionally, the uptake of a dedicated and trained cadre of community workers selected from within communities will be instrumental in enabling the public sector to successfully enhance FP uptake within the country (please see Figure 19 and Figure 20 on pg. 184 and 185, respectively).

5.4 Limitations

The presented research studies are not without limitations. The work is mainly done in Sindh and Punjab provinces with a small component in KPK Province. There is an absence of FP planning work done in Balochistan Province. Hence, caution must be taken

¹¹ The idea of using “multi-pronged approach” is not new as it has been used since 1977 for maternal and child health including family planning. The word “multi-pronged” applies using multiple approaches/strategies or using distinct aspects simultaneously to design an intervention. For example in our case, use of vouchers through social franchising with community health worker led door to door counselling is considered as multi-pronged approach.

when generalising the findings for the purpose of reproducibility in Pakistan. Quasi-experimental studies using before and after design revealed encouraging findings but may present some limitations. For example, there was a certain difficulty in measuring or controlling for some of the confounding variables such as non-random selection of intervention and control sites. However, such designs are internationally recognised for use in situations where controlled trials are not feasible due to logistical, financial or other ethical reasons.

The findings from the retrospective studies are predisposed to recall bias and the data is self-reported by the respondents, which was not verified by health-care providers. Working in an operational setting as such is a limitation but does reflect the “real life” setting of health services. Strict procedures and regular supervision and on-the-job repeated training of protocol procedures were put in place to maintain quality. One key limitation observed was that all the respondents were women; therefore, the study did not capture in-depth information about men’s perspectives on fertility or about their desire and intentions regarding contraceptive use. Social desirability bias is expected in qualitative research. Interviewing different target groups, combining interviews and focus group discussion where possible, and using probes would potentially decrease (but not eliminate) this bias.

Marie Stopes International provides contraceptive services on demand to every woman, to every couple, irrespective of the age, origin and socio-economic class. Another limitation is that women without children were not part of the studies conducted. Such women should have been part of the study group especially the young married women without children with a desire to postpone childbirth and this can be considered one limitation of this operational study. But in the rural areas where the study/s was conducted it was extremely difficult to first recruit such young married women in a study like this due very strong cultural, social and family resistance. Moreover and according to the most recent DHS data for the age group 15-19 years, the mCPR is extremely low (7%) which is mostly dominated by the male controlled methods of contraception such as condoms (3.4%) and withdrawal (3.2%) in a patriarchal society like Pakistan.

Additional limitations

Article 1 and 2: The key limitations of our findings are mostly related to generalizability since the data were collected through a cross-sectional survey from intervention sites in only three districts of Punjab province in Pakistan. Furthermore, the interviews were conducted only among women; therefore, the study did not capture in-depth information about men's perspectives on fertility or about their desire and intentions regarding contraceptive use.

Article 3 and 4: The findings of the study can be generalized to other settings with a similar context. Besides taking into account the intervention details, replication will need to take into account the local cultural sensitivities as well as the local health system structure where the research is expected to be replicated.

The results should be interpreted with caution. As mentioned in the earlier paragraphs, the quasi-experimental designs using pre and post intervention analysis can have some limitations. The study clients are not randomly assigned. However, pre-post intervention analysis with control is internationally accredited for use in situations where controlled trials are not feasible due to logistic, financial or other ethical reasons. This was a field project in a real life situation and due to the nature of the intervention i.e. vouchers and provision of contraceptive services made it difficult to blind the study participants. We ensured that there was no spill over within different intervention areas by choosing areas at a minimum distance from each other. The difference in cultural background of participants from the intervention and control areas is a potential limitation. However, since the intervention and control areas are located within the same province we believe the differences would be minimal with a consequently limited impact on study findings. Another potential limitation is the presence of competing health providers, providing family planning services, operating within the areas of project health providers. Selecting a health care facility for the project where no other service providers exist is difficult. To address this limitation we had a control group to assess the impact of routine practice in health facilities towards family planning. Therefore, we are confident that the increase in outcomes in our study was due to the project intervention(s).

Important confounding variables

Article 1 and 2: Included in the analysis were a range of independent variables that had the potential to be confounders. These variables mainly depict women's status in the society, and they include: women's and their husbands' age and literacy; the number of children; the age difference between women and their husbands; the age of women at the time of marriage; and socio-economic status in the form of wealth quintiles. Wealth quintiles were constructed using principal-component analysis in a manner similar to its original application in demographic and health surveys. The first component score was stored and categorized in quintiles.

Article 3 – 7: There was a certain difficulty in measuring or controlling for important confounding variables. This became even more difficult for the unmeasured confounding variables. This means that this investigation suffers some limitations such as non-random selection of intervention and control sites, as well as the effect of unmeasured confounding variables. In addition, the key exposure variables are: study site (intervention versus control), respondent's age, husband's age, both respondent's and husband's education, household size, socioeconomic status (wealth index) and study time points (baseline vs endline). In this survey, individuals were nested within clusters and study sites. Multilevel regression models were used to overcome this inter-dependence of observations and to handle clustering effects at different levels. Separate analyses were conducted for each of the five outcome variables classified as dichotomous. Variables with p-value <0.20 on univariate analysis were considered eligible for inclusion in the final model. . In order to investigate the voucher policies on primary outcomes, two-level multiple logistic regression models were estimated separately with a random intercept at the cluster level.

Chapter 5: Recommendations

Chapter 5 includes recommendations for policy-makers and for future research and connects with Objective 3: *Formulation of recommendation for the development of health financing models that promotes FP access and uptake for married women*

Within the Pakistani context, FP services are noted as being particularly lacking from a variety of perspectives. For policy-makers to affect a substantive and effective solution, broad societal efforts are essential. The barriers to FP services in Pakistan are in place on a variety of levels. Users, family, community, health system, related sectors and the state are all instrumental in facilitating access to and availability of FP services (75). Despite this, public sector FP services have largely failed to fulfil the needs of Pakistani women, particularly those living in rural areas (61).

To adequately address the needs of Pakistan in relation to FP services, experts have suggested a multi-pronged and multi-sectoral approach to the institutionalisation of FP services throughout the entirety of the health sector, i.e. both public and private sectors. All elements of the health sector must be incorporated into a comprehensive effort to expand upon access to and quality of FP services in Pakistan (75). Access to such services must take a life course approach i.e. begin during pregnancy, delivery and throughout the early life of a child and adolescents.

To reduce maternal mortality, expanding upon general access to health-care facilities is effective. In particular, an increase in the use of antenatal and postnatal care would decrease the rate of maternal mortality in Pakistan (127). Improvements upon the reproductive health sector and family planning services in Pakistan would have broad benefits for the population. Improvements in access to services would entail a rise in the promotion of and access to contraceptives. This in turn would assist Pakistan in maintaining a positive balance between its population and the resources (43).

The expansion of family planning services entail higher educational attainment, higher socio-economic status, better employment opportunities and empowerment for both girls and women alike (201). To provide for an expansion of global access to family planning, the FP2020 goal – to reach 120 million more women with voluntary family planning services – is laudable (65). The intended outputs of the FP2020 goal are access, efficiency, quality and equity (202). Client satisfaction is also being focused on within endeavours to improve upon FP access and quality, as client satisfaction has an influence on the pursuit of further services, and also influences the societal perception related to them (203). For Pakistan to have a positive foundation for the future, it is important that issues associated with overpopulation and maternal health care should be effectively addressed through adequate evidence-based policy efforts.

Improvements in reproductive health outcomes will not be achieved by enhancing FP service access and uptake in isolation. It has been noted that investment in child birth and delivery can save the lives of women and new-borns and reduce stillbirths and disabilities by up to four times (17, 204). Reproductive health improvement requires a comprehensive approach that includes implementation of effective interventions at both clinical and health systems levels (17). However, this will not be possible without addressing environmental, social, economic, and political determinants that result in unequal access to care (17). Key health systems interventions that address these determinants and reduce inequities in access, improve quality of care, strengthen accountability, and promote adoption of innovations that improve performance are the need of the hour (28). Within the interventions to be adopted, prioritisation of interventions will help to reduce the gap between high- and low-income countries within a generation (28) (22).

6.1 Recommendations for policy-makers

In the design and development of the evidence-based, policy-level strategy for developing integrated health financing models as a first recommendation, four key goals should be considered:

- 1) determining priorities for strengthening health systems
- 2) defining key priorities for the FP programme
- 3) clarifying appropriate flow and use of funds, and
- 4) identifying priority districts with low contraceptive prevalence rates (CPRs) and limited access to FP services.

Formulation of recommendations for the development of health financing models that promotes FP access and uptake for married women (Objective3)		
<p>For objective 2b (i): Recommendations for the demand-side financing model, utilising vouchers complemented by social franchise providers</p> <p>INNOVATING TO DRIVE IMPACT FOR FAMILY PLANNING PROGRAMMES</p> <p>BETTER ACCOUNTABILITY IN THE FLOW AND USE OF FUNDS</p>	<p>(Article 3) Impact of social franchising on contraceptive use when complemented by vouchers: a quasi-experimental study in rural Pakistan.</p> <p>(Article 4) Engaging with community-based public and private mid-level providers for promoting the use of modern contraceptive methods in rural Pakistan: results from two innovative</p>	<ul style="list-style-type: none">➤ Promote demand-side financing (DSF) as a solution to address the increasing issues faced by the underserved Pakistani population in accessing FP services.➤ Identify and train FP providers under DSF schemes from within communities.➤ When effectively designed and implemented, voucher schemes may improve the reproductive health of the women by reducing the financial burden in the targeted

	birth spacing interventions.	<p>communities. Without precise design and proper management, such demand-side financing initiatives are not effective in reducing the financial burden on the families or improving access to care for the poor.</p> <p>➤ Revisit the need and nature of assessment criteria for voucher-based DSF interventions prior to planning any scaling up of private interventions. It should be decided whether vouchers are targeted for delivery to individual clients using improved assessment criteria (for poverty and for the needs-based capacity to benefit); or whether a geographical targeting approach, which identifies an underserved and disadvantaged community for community level delivery of</p>
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		<p>vouchers, should be used.</p> <ul style="list-style-type: none"> ➤ Broadening social franchising coupled with free vouchers for family planning by expanding services to rural areas, where possible using performance-based contracts with the private sector, should be considered. ➤ Provide FP products and services either free or at subsidised prices, depending on the available resources or funding. ➤ Improve existing health facilities by reinvesting in the capacity building of service providers, retention of providers, increasing quality – with minimal resources. ➤ Enhance governmental support for NGO efforts to expand FP services in Pakistan. ➤ Conduct timely audits and refresher trainings,
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		<p>which can be achieved by private-public collaborations, and are essential for assuring the standards, quality and responsiveness of the services delivered by the mid-level providers and community health workers.</p> <ul style="list-style-type: none"> ➤ Increase the involvement of private sector, non-governmental organisations and public sector undertakings through private provider partnerships. As well as private sector models, there are successful examples of out-sourcing of the primary health-care facilities in Pakistan that has resulted in significantly improved quality of health-care services. ➤ Develop a policy framework encompassing collaboration between public sector and private
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		<p>sector stakeholders for provision of free FP services to targeted groups. Establish a monitoring system, which, although an uphill task, is essential to ensure accountability and maintain standards of practice provided through free FP service provision.</p> <p>➤ Identify districts/geographical areas within Pakistan that are burdened with a historically low CPR. Introducing FP interventions in these areas will impact the increase in CPR nationally.</p>
<p><u>For objective 2b (ii):</u> Recommendations for the task sharing through CMW model, based on building public-private partnerships</p> <p>STRENGTHENING HEALTH SYSTEM TO IMPROVE RESPONSIVENESS TO POPULATION NEEDS</p>	<p>(Article 3) Impact of social franchising on contraceptive use when complemented by vouchers: a quasi-experimental study in rural Pakistan.</p> <p>(Article 4) Engaging with</p>	<p>➤ Promote task sharing as a workable mechanism especially for mid-level providers, to expand access to contraceptive services.</p> <p>➤ Consider improving MNCH-led community midwives training on counselling and</p>

	community-based public and private mid-level providers for promoting the use of modern contraceptive methods in rural Pakistan: results from two innovative birth spacing interventions.	<p>provide them with a dedicated field worker – whether through establishing a new cadre of community health workers or by re-strengthening the linkages between MNCH and lady health worker programmes.</p> <p>➤ Explore whether the largely unregulated mid-level health professionals in the far-flung areas can be regulated by involving them in voucher schemes. Current evidence suggests that vouchers may serve as a bridge towards any social health insurance initiative especially in terms of regulating the mid-level private health providers in underserved areas.</p>
<u>For objective 2b (iii). Recommendations for the CHW model, that connects client with local health (FP) facility to enhance FP access and uptake</u>	(Article 3) Impact of social franchising on contraceptive use when complemented by vouchers: a	<p>➤ Utilise female community health workers as effective means of supporting access and uptake of modern family</p>

<p>including post-abortion FP</p> <p>STRENGTHENING HEALTH SYSTEM TO IMPROVE RESPONSIVENESS TO POPULATION NEEDS</p> <p>PRO-CHOICE</p>	<p>quasi-experimental study in rural Pakistan.</p> <p>(Article 4) Engaging with community-based public and private mid-level providers for promoting the use of modern contraceptive methods in rural Pakistan: results from two innovative birth spacing interventions.</p> <p>(Article 8) Delivering post-abortion care through a community-based reproductive health volunteer programme in Pakistan.</p>	<p>planning/contraceptive services. Promotion of modern family planning/contraceptive services by dedicated field workers is imperative to the success of modern family planning/contraceptive services.</p> <p>➤ Encourage close collaboration with Ministry of Health and Population Welfare Department from provincial to grassroots level in order to reach young and pregnant underserved women through CMWs who represent a readily accessible group that needs to be targeted with modern family planning/contraceptive services as a priority.</p> <p>➤ Encourage male involvement especially during antenatal care, with couple/male counselling on healthy timing and spacing of</p>
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		<p>pregnancy as a first step. In addition, continued work on socio-cultural changes should be encouraged, where cultural habits are respected while changing health-seeking behaviours. This requires more input from influential community members in health promotion such as opinion leaders including local clergymen, social workers and health professionals</p> <p>➤ Introducing family planning counselling and services at the same time and location as women receive services related to spontaneous or induced abortion by promoting provision of post abortion family planning by mid-level providers should be considered. Post-abortion modern family planning services may increase</p>
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		<p>contraceptive acceptance and help to reduce unplanned pregnancy and repeat abortion.</p> <p>➤ To address issues related to post-abortion care and treatment, abortion should be legalised from a nominal perspective. Rather than allowing women abortions only in very limited circumstances, governmental legalisation, and regulation, of abortion facilities, is recommended. Thus, it is essential that Pakistani women should have a choice in relation to whether or not to engage in an abortion. This will preclude the use of backstreet abortion clinics by unskilled workers, thereby reducing the maternal mortality rate of the nation in line with MDGs.</p> <p>➤ Carefully planned initiatives, if taken to scale, can help</p>
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		to support governmental policies in meeting national health targets as we move beyond 2015 MDGs to SDGs and also catering to the needs of women in family planning, but subsequently decreasing the burden of morbidity and mortality resulting from unplanned and untimely pregnancies.
<p><u>For objective 2b (iv):</u> Recommendations for the expanded outreach service model for far-flung communities</p> <p>STRENGTHENING HEALTH SYSTEM TO IMPROVE RESPONSIVENESS TO POPULATION NEEDS</p>	<p>(Article 6) IUD discontinuation rates, switching behaviour, and user satisfaction: findings from a retrospective analysis of a mobile outreach service program in Pakistan.</p>	<p>➤ Encourage the private sector to ensure coverage where government does not have the foot print. Hence, policy-makers may consider focusing on enhancing outreach services by supporting mobile outreach service delivery to provide a wide range of contraceptives, including long-acting reversible contraceptives and permanent methods and also ensuring the</p>

		continuity of commodities with donor community support in order to increase access to modern family planning/contraceptive services to reduce the large unmet need.
<p><u>For objective 2b (v): Recommendations for the models that have been useful in switching to, and continuing use of, LARC.</u></p> <p>INNOVATING TO DRIVE IMPACT FOR FAMILY PLANNING PROGRAMMES</p>	<p>(Article 5) Rates of IUD discontinuation and its associated factors among the clients of a social franchising network in Pakistan. (Article 7) Continuation rates and reasons for discontinuation of intra-uterine device in three provinces of Pakistan: results of a 24-month prospective client follow-up.</p>	<ul style="list-style-type: none"> ➤ Reinforce modern family planning services for women to prevent unintended or early pregnancy. ➤ Promote use of IUDs as these are under-used in Pakistan. Multi-pronged social franchising approaches, using mid-level health providers embedded within the communities of the beneficiaries and supplemented by free vouchers, have the capacity to promote awareness and uptake of contraceptives especially for LARC (IUDs), which is linked to significant out-of-pocket costs.

6.2 Recommendations for future research

Key inhibitors affecting the use of FP services in Pakistan include a negative perception from potential users and poor quality of service. In addition, religion has been found to influence the pursuit of FP services in Pakistan; therefore, a lack of understanding concerning how FP methods fit with Islam is a commonly cited reason for not pursuing FP services. To support a better understanding of these health-seeking behaviours and social determinants of health, further research seems essential within related areas in order to understand why people seek modern family planning/contraceptive services; what factors influence buying decisions; what determines their ability to buy (or stop buying), consequences of limited buying power, influences of income and the markets for FP commodities and services? Likewise, conducting further research into the role of religion within Pakistanis' use of FP, how to better incorporate it into the client-healthcare interaction to support uptake may be clarified.

- Further investigation is proposed in the areas of social determinants of health and precise targeting of the underserved. This may include those who are poor or those who, on the one hand, can afford health services but are unable to access it due to other mitigating factors, including lack of empowerment and have the potential for capacity to benefit. In the case of pro-poor strategies, poverty assessment criteria can be locally contextualised in order to develop a more effective targeting strategy, such as geo-targeting as the present assessment tools are more general. For capacity to benefit, the researchers may initially assess and define the need.
- Many voucher programmes are relatively new. Therefore, to determine the long-term implications of voucher programmes, and to further clarify the variation between poor and non-poor voucher recipients, ongoing research is essential. Another important area to explore may be conducting a health equity or health equality analysis to see whether the vouchers were effective enough to reach the hard-to-reach such as poorest of the poor living in far flung areas.

- A few implementation research studies on voucher schemes aiming to increase modern family planning/contraceptive services uptake in targeted communities were implemented in developing countries such as Pakistan in recent years. However, none of these looked at the residual contraceptive prevalence in the post-intervention period. Hence, to fill the knowledge gaps, a follow-up costing study or cost-effectiveness analysis could be implemented to observe and document the true causal inference of a demand- or supply-side voucher family planning initiative with health-seeking behaviours and the role of social determinants of health.
- Given the increased prevalence of task sharing and shifting within FP services in Pakistan, further research on the most effective forms thereof is necessary to guide future efforts in this area. Task sharing has been noted as a potentially vital strategy in overcoming the increasing shortage of doctors in many nations. The factors that have provided positive benefits in terms of FP usage and contraceptive continuation are important to research further to implement strategies that effectively and optimally support FP and RH services.
- One of the most important areas for future research is considering capturing the follow-up behaviour and practices such as method continuation, switching of the voucher clients in post-intervention phase at least after a 12-month period in the absence of funding. This information may fill in knowledge gaps regarding future scalability, sustainability and financial security and facilitate the policy-making process.
- One area in which abortion research is noted as lacking is that of qualitative responses from Pakistani women concerning their perspective on abortion and post-abortion complications. Due to societal stigmas in place, Pakistani women are less likely to pursue post-abortion treatment. To encourage a greater understanding of the role of perception, further research to better understand the position of Pakistani women towards abortion would be of value.
- A research area that has up until now received limited attention is the health effect of partner violence on mental, sexual and reproductive health. Most data that exist are based on cross-sectional studies with inherent difficulties in establishing causal links between violence and these health outcomes. There is a need for more longitudinal studies and

improved study designs to advance the understanding of the health effects of violence.

- More research is needed to understand the mechanisms of the associations between women's empowerment and contraceptive preferences in settings with different contraceptive prevalence rates. Future studies also need to take into account women's empowerment from men's perspective to better capture couples' decision-making dynamics.

Chapter 6: Conclusion

This chapter briefly summarises the main findings of the thesis. The document comprises a literature review on family planning in Pakistan with the aim of providing a historical context, progress and current status of family planning in Pakistan for the benefit of public sector policy decision-makers, public/private sector programme managers and academics with an interest in issues surrounding family planning in Pakistan. The thesis includes eight studies on family planning related topics, conducted in Pakistan. It addresses review objectives that were: to assess and document factors associated with the uptake of modern family planning methods; study and document integrated health financing interventions that address the access and uptake issues; and to develop and document recommendation for the development of health financing models that promotes FP access and uptake for married women.

7.1 Family planning/contraceptive services uptake in Pakistan

Historically contraceptive usage has remained low in Pakistan. Since the inception of family planning programmes in Pakistan contraceptive use has increased to a CPR of 35% for any method and a mCPR of 26% for modern methods usage in 20012-13 (15). The low CPR means that total fertility in Pakistan has remained largely stagnant with the last reported TFR at 3.8 births per woman in 2012-13 (15). Low CPR and high fertility has translated into an excessive burden of unintended pregnancies that have risen by about 30% between 2002 and 2012 in Pakistan (40). Further complicating the scenario are the 54% (2.25 million) unintended pregnancies that end up in abortions in Pakistan with an additional 34% (1.4 million) leading to unplanned births (40). The revised targets set under the UN mandated SDGs require Pakistan to work towards ensuring universal access to sexual

and reproductive health-care services, including for family planning by 2030 (<http://www.un.org/sustainabledevelopment/health/>).

Currently Pakistan, as a signatory of FP2020, is seeking to increase its CPR from approximately 35% to 55%, in order to reduce its TFR from 3.8 to 2.6 and to achieve substitute fertility levels of 2.1 by 2045. Given the slow progress in improving contraceptive uptake through the public sector, it is important that new and innovative strategies are explored that will help the government to meet FP2020 targets.

7.2 Integrated health financing interventions exclusively targeting FP

Various stakeholders in the private sector have tested innovative approaches that have been effective in improving family planning/contraceptive use indicators in different geographical regions of Pakistan. One approach utilises DSF in combination with a social franchising model that distributes free or in some cases subsidised vouchers to targeted clients in lieu of obtaining contraceptive services from partner providers. Another approach entails the distribution of free vouchers through a network of CMWs operating within selected communities. The post-intervention results from one study reported a significant increase in IUD and condom uptake. At the endline, the Suraj social franchise intervention model showed a net effect increase of 11.4% and 6.5% in IUD and condom use respectively (Article 3). Likewise following the intervention period in another study, a significant rise in IUD uptake was observed with a net effect increase of 6% (Article 2). Although the primary focus of both interventions in Articles 1 and 2 was promoting LARC in the form of IUD services through free vouchers, the evidence suggests that condoms are also preferred in Pakistan over IUDs, even when free vouchers for IUD services are provided.

The interventions also had a favourable impact on IUD discontinuation. The findings from the two private sector-led models (using outreach services and social franchising coupled with community health workers and free vouchers) described in Articles 3 and 4 reported the IUD discontinuation rate of 18.8% and 19.4% in the post-intervention period, respectively at 12 months, which is significantly lower than the national trend of 26% (30, 80, 142).

7.3 Lessons from integrated health financing approaches

The role of private sector in FP service delivery as well as health services overall has soared exponentially, based on the weaknesses and inabilities of the public sector to cope with the growing population, as well as challenges such as fragile regulatory policies; availability and accessibility issues, especially in the underserved areas; massive urbanisation, poor quality and poor perceptions of the public health service. Hence, harnessing the potential of private sector models through connecting the public sector with the private can yield the desired results such as building linkages, regularising private sector providers or task sharing by the mid-level providers, using alternate financing approaches like multi-pronged social franchising with demand-side vouchers etc.

The demand-side financing approach has been shown to be effective in enhancing contraceptive uptake by women in different communities in Pakistan. Whether through the Suraj social franchising model or through the modified CMW model, DSF has been tested for its effectiveness by various private sector stakeholders in order to contribute towards efforts made by the government through the public sector. There are some lessons that can be useful if adopted by the government and promoted in the public sector for improving family planning coverage and uptake in Pakistan:

- First, the model adopted enables widespread access to long-term reversible family planning services. The public sector can use this model to increase the reach of their services. In addition, free or subsidised family planning methods also help to fix rates for the methods and in setting its administration. This may increase the credibility of services provided and the end users can rely upon the consistency of the prices for long-term use.
- Second, using local community mid-level service providers adds an element of acceptability for the use of these services. People within the community are more comfortable accessing these services from people they are familiar with rather than from outsiders, who they think may be imposing their far-off ideas and health-seeking practices on them. Furthermore, the availability of these services at the community level reduces the need for women to seek care from health facilities that are far away; rather it encourages them to seek care, since a service has been established to address their needs locally.
- Third, the provision of quality family planning services for women at health facilities with trained providers seems very beneficial, since it reduces the risk of a woman having to seek the services of an unskilled provider that would increase her chances of infection, injury, morbidity and mortality. This greatly reduces the burden of unnecessary illness and morbidity on the life of women and their families.
- And finally, the findings of this thesis will help bridge gaps and guide evidence-based policy-making to include family planning in the health financing schemes such the Prime Minister National Health Insurance Program (PMNHIP) and similar initiatives. It will help to refine strategies for collaboration between public and private sectors to design culturally appropriate interventions that will promote modern methods of family planning in underserved communities in Pakistan.

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Annex I

Summaries of Health Financing Scheme in Pakistan

Suraj Social Franchising Program, Period of implementation: 2008 – till to-date, Managed by: Marie Stopes Society (MSS) Pakistan

Providers	Package	Payment	People	Policy
<p>Services are delivered at Private Providers owned facilities.</p> <p>At the time of identification, providers and their facilities are assessed through a comprehensive mapping process which includes provider and health facility assessment tools, this process concludes with a list of eligible providers. Then Providers are trained by MSS who further gone through the certification process by an external agency, those who successfully qualify through certification process are further contracted to be part of the SF network/scheme.</p>	<p>The social franchises are fractional franchises, where a family planning/reproductive health service package is added to the private provider's existing services. A demand-side financing voucher scheme is a central component of this work.</p> <p>Vouchers provided only for free FP services. The vouchers provided three pre-paid FP visits. The visits were for follow-up, side-effect management and removal of FP method if required.</p> <p>Providers receive payment at a certain specified rate which annually regulated before confirmation.</p>	<p>Long term methods are provided through free vouchers for clients. The providers are reimbursed for PKR 200 equivalent for 20USD. Recently, short term method provision are also initiated through subsidized rates/vouchers</p>	<p>Program uses "client eligibility assessment form" to screen the low income, poor, rural married women of reproductive age (women in the 02 poorest quintiles) and provide them voucher for free FP services.</p>	<p>Operational in 56 Districts with around 700 providers in 03 provinces named Sindh, Punjab and Khyber Pakhtunkhwa of Pakistan (97% rural and remaining peri Urban/ Urban). The aim is to increase awareness, demand, access, choices and quality of FP and RH services for underserved and poor communities. The scheme started with LAD funding in November 2008 while later DFID, Packard Foundation and USAID also provided funds. The scheme is still operational. MSS conducted the implementation of the scheme on the ground as the Voucher Management Agency. The scheme developed in neutral political and operational environments with an insignificant contribution to universal health coverage.</p>
Multi-purpose voucher, Greenstar (GS) Project (2012)				
The vouchers were distributed through private	The project provided a booklet of vouchers that	The cost of the complete voucher booklet was 50	The vouchers were distributed through service	This was a project based operational research project.

<p>service providers and distributing agencies to eligible poor women who were selected using World Bank poverty score card tool.</p> <p>100 mid-level trained Private providers provided services in District Faisalabad while it was planned to provide services to 28000 eligible rural poor women by giving them voucher booklet.</p>	<p>pre-paid 13 visits to the service providers over a 15 month period at a cost of Rupees 50 per booklet. The vouchers catered for 2 PNC visits, 6 child immunizations and 5 family planning counselling visits (contraceptives were included in the family planning visits).</p>	<p>Pakistan rupees (US\$ 1 = 98.7 Pakistan rupees).</p>	<p>providers and distributing agencies to eligible poor women. Poverty was defined as those women who belonged to the poorest two quintiles using a poverty assessment tool.</p>	<p>Greenstar tested a multi-purpose voucher intervention to enhance the client provider interaction for improved FP counselling. This intervention used a subsidized voucher scheme for FP counselling, post-natal care (PNC) and child immunization services in the rural and urban locations of District Faisalabad in Punjab, Pakistan. The David and Lucile Packard Foundation funded this project. The project commenced in August 2012 and completed in March 2015. The project developed in neutral political and operational environments with an insignificant contribution to universal health coverage.</p>
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Meeting the Unmet Need for FP in Pakistan through Vouchers Project implemented by Marie Stopes Society (MSS), Pakistan (2013-2015)

<p>A mix of Private and public facilities</p> <p>Field Health Educators were full time employees of MSS who worked around the catchment areas of MSS's owned centers, Public Health Facilities</p>	<p>Comprehensive FP Services which includes all short acting contraceptives along with long acting (IUCDs and Implants) and permanent FP methods (only BTL services are provided. Vasectomy is not included).</p>	<p>Field Health Educator (FHE) playing the pivotal role in success of the project by sensitizing, mobilizing & motivating community towards increased acceptability and utilization of services. Due to the</p>	<p>Program uses "client eligibility assessment form" to screen the low income, poor, Peri-urban & rural underserved communities and provide them voucher for free FP services.</p>	<p>The FP Voucher program is implemented by MSS supported by a set of stakeholders. These include provincial departments of health (DoH) and population welfare (PWD), UNFPA and an Independent</p>
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and outreach camp locations and distributed vouchers to eligible clients.	<p>Comprehensive FP services and young and Newlywed couple counselling on FP</p> <p>Services delivered at MSS's owned 'Behtar Zindagi' centers, public health facilities and outreach camps organized by both MSS and public health facility teams around their catchment areas.</p> <p>The project was implemented in 11 Districts in 03 provinces of Pakistan as follows: in Punjab 06, KPK 04 and Sindh 01.</p>	<p>voucher scheme number of clients increasing and also resulting maximum utility of health facilities.</p> <p>Improving Quality of services because vouchers incentivize the health facility to respond to the needs of the clients</p>	<p>Verification Agent (IVA). Door to door, community education is carried out by community based MSS Field Health Educators (FHEs) to increase awareness on healthy timing, spacing of pregnancies (HTSP) and demand for FP services.</p> <p>Most part of the management was with MSS except voucher reimbursement to Government health facilities was done by UNFPA directly. As the UNFPA Country Program 8 (2013-2017) positioned to strengthen public health systems, MSS proposed scaling up of its voucher program and involved the government in planning and learning first hand best practices and lessons in service delivery based on demand side financing models. Additionally, it proposed a pilot project in selected districts to involve the public sector as the service providers ensuring reimbursement for services. The program therefore started</p>
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				in Oct, 2013 and completed in Dec 2015. The political environment was inhibiting for the project while operational environment was neutral with insignificant contribution to universal health coverage.
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Maternal Health Voucher Scheme: Greenstar Social Marketing (2009)

Services delivered at Private Providers owned facilities. Providers selected for the voucher scheme were already part of a network managed by Greenstar Social Marketing. Based on an assessment of their structural capacity to provide quality maternal health services (facility cleanliness, infection prevention procedures, equipped labor room) providers were preapproved for provision of services under this scheme.	<p>To identify poor households, outreach workers conducted a rapid identification survey of households using the Poverty Scorecard in project union councils. After distribution of vouchers, two follow-up contacts were also made by outreach workers to determine whether booklet purchasers were using voucher-paid services.</p> <p>The project was implemented between Aug-09 and Jan-11. Population Services International funded through the Innovations Fund as per Agha (2011). While as per Zaidi (2010) this project was funded by USAID. The project developed in neutral political and operational environments with an insignificant contribution to universal health coverage.</p>	<p>The package of maternity care services included three ANC visits, a normal delivery visit combined with a PNC visit, a referral for a caesarean section, a PNC visit following the caesarean-section and a postnatal family planning visit. Each service was provided through a coupon in the voucher booklet. The booklet also contained two coupons for maternal tetanus shots which were to be provided when the mother came for an ANC visit and two coupons to enable clients to get their complete blood count and an ultrasound examination.</p> <p>One postnatal family planning visit was covered under this voucher scheme. The family planning visit could be used by</p>	Poverty Scorecard was used to identify poor women from two lowest quintiles.	<p>This maternal health voucher scheme sought to increase institutional deliveries among two poorest quintiles women in a predominantly rural district named Jhang in Punjab province of Pakistan. The intervention addressed both financial and non-financial barriers to delivery care. The objective of the project was to determine whether a demand-side financing intervention could increase the utilization of ANC, PNC, institutional delivery, and family planning among poor women in Jhang.</p>
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		the client to receive counselling or to receive a method. Voucher booklets valued at Rs. 4,000 (\$48) were sold for Rs. 100 (\$1.2) to low-income women targeted by project outreach workers. Women suffering from complications were referred to emergency obstetric care services.		
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Waseela-e-Sehet Health Insurance) Scheme (A Pilot run)

Eight private hospitals were empanelled in Faisalabad, Punjab.	The scheme covers full hospitalization, pregnancy, day-care treatment, and diagnostic tests including Pre-existing diseases, Full hospitalization (24 hours or more), procedures which involve day long indoor treatment, Day care surgeries, Maternal and child health (MNCH) package, Diagnostic tests during hospitalization, one day prior and five days after the event and Transportation cost to admitted patients But there was NO FP service provision.	A maximum limit of Rs. 25,000/- per family per year.	Men, Women, Children of all age groups	A public health insurance scheme working under Benazir Income Support Program while Benefit Package doesn't cover FP. Pilot project launched from April, 2012 for three years (2012-15) in District Faisalabad, covering full hospitalization, pregnancy, day-care treatment, and diagnostic tests to a maximum limit of Rs. 25,000/- per family per year.
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Prime Minister's National Health Insurance Program <http://www.pmhealthprogram.gov.pk/about-us/>

A mix of secondary and tertiary care private and public hospitals	Cover will be provided for secondary as well as priority disease treatment (only hospitalization) without any financial	Free insurance cover is provided by Government of Pakistan through State Life Insurance. The client does not	Program beneficiaries are poor families of Pakistan with daily income of \$2 (Pak Rs. 200 per day) or less.	PMNHP is a system wide National Health Insurance scheme providing cash less scheme for the poor people
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	<p>obligations.</p> <p>Poor families will be provided with free of cost health cover to access secondary as well as priority disease treatment (only hospitalization) without any financial obligations. Out Patient Department (OPD) treatment is not included in the program.</p> <p>In the first phase 23 districts of Pakistan, 4 districts from every province, 2 districts from every region and 1 ICT region are included in the programme.</p> <p>FP service provision is not covered in the scheme.</p>	<p>have to pay until the insurance limit is exhausted. In those cases additional cover will be provided according to set criteria.</p> <p>TREATMENT PACKAGES</p> <p>SECONDARY CARE</p> <p><i>PKR 50,000</i></p> <p>In Patient Services (All Medical and Surgical Procedures). Emergency Treatment requiring admission. Maternity Services (Normal Delivery / C – Section). Maternity Consultancy (up to 4 times before and once after delivery) Fractures / Injuries. Post hospitalization. Local Transportation Cost of PKR 350 (thrice per year). Provision of transport to tertiary care hospitals.</p> <p>PRIORITY TREATMENT</p> <p><i>PKR 250,000</i></p> <p>In Patient Services (All Medical and Surgical Procedures). Heart diseases (Angioplasty/bypass)</p>	<p>PMNHP has acquired BISP database of families with PMT score 32.5 (Households living with daily income of \$2 per day) and below. These families will be provided with Pakistan Health Cards after enrolment..</p>	<p>of Pakistan to access needed health care services in a phased manner free of cost. Out Patient Department (OPD) treatment is not included in the program.</p> <p>The PMNHP is executed through:</p> <p>1) Ministry of NHSR&C through Project Management Unit (PMU).</p> <p>2) Respective Provincial & Regional Governments.</p> <p>The national launch of the Prime Minister's National Health Program was presided by the Prime Minister in Islamabad on 31st December, 2015. Furthermore, a district launch ceremony was also presided by the Prime Minister on 25th February, 2016 in Muzaffarabad – AJK and on 2nd May 2016 in Quetta - Baluchistan. In 23 districts a total of 3.2 million families will be covered in three years. The PMNHP has developed in enabling political and operational environments with a significant contribution to universal health</p>
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		Diabetes Mellitus Burns and RTA (Life, Limb Saving Treatment, implants, Prosthesis) End stage kidney diseases/ dialysis Chronic infections (Hepatitis/HIV) Organ Failure (Liver, Kidney, Heart, Lungs) Cancer (Chemo, Radio, Surgery)		coverage.
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Mobile Health Clinic Model

Contech Private operates MHC through a successful "life-cycle approach" in private service delivery through its pioneering work in district of Kasur.	SSC has two levels, 1) SSC (white) package includes free antenatal care, postnatal care services, medication and basic lab tests and 2) SSC (blue) package includes the entire white card services plus free natal & newborn care by qualified medical personnel and transport to tertiary healthcare facilities to the beneficiaries.	The model provides a wide range of activities including the provision of cost-free health services, health education, gender mainstreaming and livelihood support. The focal point of the model is the MHC which houses diagnostic, treatment, and referral facilities, as well as trained doctors and support staff. The facility has proven to be effective for both routine and emergency health coverage. Mobile Clinics in rural areas are operated through private providers.	The project based programme includes General Out-Patient Department (OPD) and Maternal, Neonatal and Child Health (MNCH) provision of medicines and micronutrients, lab investigations and ultrasonography and caters to women, children under 5 and older than five years and the general population. Sehat Sahulat Card (SSC) scheme includes poverty assessment based on poverty score card. Beneficiaries score at the bottom 20% on poverty index.	Mobile Health Clinic (MHC) is a unique model of health care service delivery conceptualized to enhance the coverage of primary healthcare in rural communities and far flung areas of Pakistan. Mobile Health Clinic is an effective alternative to non-functional facilities. The pilot/start up stage was launched in 2009. One report from Contech states that 10,000 patients have been treated, and 1100 pregnancies attended. Cooperation of government is needed to expand the programme over larger geographical areas as currently it is limited to limited union councils in District Kasur. The project
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				developed in a neutral political and an enabling operational environment with a neutral status with respect to contribution to universal health coverage. FP service provision is not covered in the scheme.
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Adamjee Health Insurance

<p>Private providers through private insurance</p> <p>It is a currently ongoing private health insurance scheme at the national level. It is neutral in terms of political and operational environments as well as contribution to universal health coverage.</p>	<p>Inclusions Hospitalization Benefit Major Medical Care Benefit (Optional) Critical Illness Benefit (Optional) Maternity Benefit (Optional) Out Patient Cover (Optional)</p> <p>Exclusions Cosmetic treatment or plastic surgery Treatment of infertility / sterilization and contraception Psychiatric treatment Personal expenses like, telephone, guest meals & non-medical items Self-inflicted injury Eye glasses, contact lenses, hearing aids, artificial limbs etc. Dental treatments Epidural Anesthesia (for painless delivery) Hospital admission not medically necessary or undertaken specifically to conduct diagnostic or other tests or workup Congenital birth defects</p>	<p>Private insurance so payment through claims to the providers or if stated in the policy then reimbursed to the client</p>	<p>The scheme is offered to employees of participating organizations and has set criteria as follows:</p> <ul style="list-style-type: none"> •Minimum eligibility age is 18 years •Maximum eligibility age of Entry is 59 years •Maximum eligibility age of Entry is 24 years (No age limits for unmarried daughters) 	<p>Adamjee Insurance is one of the largest Health Insurance providers catering to the health and medical needs of the Corporate and SME sectors for their employees with customized benefits structure and value added services. The scheme is system wide and operates as employer funded insurance scheme (Group health insurance).</p>
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	<p>General Health checkups and preventive vaccinations Psychiatric treatment , mental or nervous disorder Charges for visiting consultant</p> <p>Family planning services are excluded from insurance coverage.</p>			
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Allianz EFU 'Tahaffuz' health insurance

<p>Private providers through private insurance</p> <p>It is a currently ongoing private health insurance scheme at the national level. It is neutral in terms of political and operational environments as well as contribution to universal health coverage.</p>	<p>Inclusions Room Entitlement Basic Annual Limit In-patient Hospitalization Intensive Care Unit (At Actual) Day Care Procedures MRI, CT Scan & Thallium Scan Pre/Post Hospitalization Investigations Pre/Post Hospitalization Consultations Pre/Post Hospitalization Medicines Emergency Evacuation Sub Limit Emergency Accidental Out-patient Sub Limit (Within 48 Hours)</p> <p>Exclusions Vaccinations (except WHO recommended EPI vaccinations for Children) Pregnancy and complications thereof, childbirth (including surgical delivery), miscarriage, abortion and/or any related prenatal or</p>	<p>Private insurance so payment through claims to the providers or if stated in the policy then reimbursed to the client</p>	<p>Self-funded private insurance scheme with eligibility as follows: •At least 90 days old •At the most 59 years old</p>	<p>TAHAFFUZ is an In-patient Hospitalization policy for individuals and families. TAHAFFUZ is a simple, valuable and affordable health insurance plan. It provides financial protection, up to the selected benefit limit, in case of hospitalization. In patient services are provided by private providers through private insurance.</p>
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	<p>postnatal care unless covered by a separate rider under this Policy.</p> <p>Family planning services are excluded from insurance coverage.</p>			
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Jubilee LIFE-Group Health-Insurance

Private providers through private insurance	<p>This insurance covers accidental bodily injury, death or disablement of the insured persons and is ideal for companies to insure their employees. It is privately driven - (working in Gilgit Baltistan with KfW funding).</p> <p>Inclusions</p> <p>Hospital Stay Doctor visits during stay Surgery Specialized Diagnostic Test Inpatient Treatments Emergency Accidental Treatment. Pre-Hospitalization Post-Hospitalization Per day room limits Maternity benefits Hospital Stay Doctor visits during stay Surgery Specialized Diagnostic Test Inpatient Treatments Emergency Accidental Treatment. Pre-Hospitalization Post-Hospitalization Per day room limits</p> <p>Family planning services are excluded from insurance</p>	Private insurance so payment through claims to the providers or if stated in the policy then reimbursed to the client	<p>Eligibility as follows:</p> <ul style="list-style-type: none"> •Minimum eligibility age is 18 years •Maximum eligibility age of Entry is 59 years •Maximum eligibility age of Expiry is 65 years •Maximum eligibility age of Entry is 24 years (No age limits for unmarried daughters) 	<p>Jubilee LIFE Group Medical Insurance caters to the medical expenses incurred by the employees of an organization and their dependents due to sickness, accident or critical illness on direct billing basis or on reimbursement basis. The scheme is system wide and operates as employer funded insurance scheme (Group health insurance). Services are provided by private providers through private insurance.</p> <p>It is a currently ongoing private health insurance scheme at the national level. It is neutral in terms of political and operational environments as well as contribution to universal health coverage.</p>
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	coverage.			
Sehat Hifazat plan				
Private providers through private insurance	Self-funded micro health insurance plan covers major hospitalizations with limited RH benefits. Family planning services are excluded from insurance coverage.	Private insurance so payment through claims to the providers or if stated in the policy then reimbursed to the client	NA	Aimed at providing life and health insurance benefits to those who cannot typically afford such facilities, Jubilee Life Sehat Hifazat offers Credit Life and Savings Completion products including supplementary benefits like Funeral Expense by making manageable, low premium payments. The scheme is system wide and services are provided by private providers through self-funded insurance. It is a currently ongoing private health insurance scheme at the national level. It is neutral in terms of political and operational environments as well as contribution to universal health coverage.
National Rural Support Programme (NRSPs) Micro-Health Insurance Program				
Private micro insurance	Covers hospitalization costs for both the borrower and spouse. The borrower is also covered in case of accidental death/disability. The scheme is available in NRSP Programme areas. Family planning	NRSP's micro insurance product is linked with its micro finance programme and covers hospitalization costs for both the borrower and spouse. The borrower is also covered in case of accidental death/disability.	NRSP micro finance clients	NRSP's Micro-Health Insurance Program is a multidisciplinary programme that provides financial services, insurance products and psychosocial support to poor families in Pakistan. It aims to reduce the

	services are excluded from insurance coverage.	Annual premium for both borrower and spouse is Rs 100/-		<p>burden of medical expenses on the poor and increase accessibility to quality hospital care.</p> <p>This micro insurance product has been designed for the members of community organizations and NRSP's micro finance clients. NRSP's micro insurance product is linked with its micro finance programme and all micro finance members (borrowers) are able to purchase the insurance product. NRSP's Micro-Health Insurance Program was developed in enabling political and operational environments with a significant contribution to universal health coverage due to NRSP outreach.</p>
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Social Health Protection (SHP) - State Life Insurance Company

Public sector - Social and micro health insurance scheme	Under the scheme, there is no age limit and exclusion of pre-existing condition (except "Standard Exclusions"). The scheme will cover hospital services normally provided at the secondary level (up to DHQ hospital) but such services can be provided even at tertiary care hospitals.	<p>Private insurance so payment through claims to the providers or if stated in the policy then reimbursed to the client.</p> <p>Maternity and New Born coverage includes treatment taken in empanelled hospital/nursing homes arising from child birth including normal</p>	<p>The scheme will target the most deprived segment of society and provide them access to the health facilities in a wide range of public and private hospitals from selected empaneled providers.</p> <p>Under the scheme, there is no age limit and exclusion of pre-</p>	<p>State Life, in collaboration with Government of Khyber Pakhtunkhwa, has taken initiative to launch Social Health Protection (SHP) to provide and promote social and micro health insurance scheme for the most deserving population selected from BISP beneficiaries. It is a social and</p>
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	<p>Under the scheme, the members will be covered for hospitalization, day care surgeries and maternity benefits, albeit under a prescribed limit. Along with the provision of these facilities, the quality of services will also be monitored for improvement. Features such as transportation cash grant on maternity will encourage the female population to utilize the health provider facilities and will ultimately result in improving the female and child survival rate.</p> <p>Family planning services are excluded from insurance coverage.</p>	<p>delivery / caesarean section and / or miscarriage or abortion induced by accident or other medical emergency subject to exclusion. New Born child will also be considered as part of household and covered under the scheme. For maternity cases, transportation charges of Rs.1,000/- per hospitalization will also be provided</p>	<p>existing condition (except "Standard Exclusions"). The scheme will cover hospital services normally provided at the secondary level (up to DHQ hospital) but such services can be provided even at tertiary care hospitals.</p>	<p>micro health insurance scheme that is system wide - but presently only involves Ministry of Health and its vertical programs. State Life Insurance is working in collaboration with KPK Government.</p> <p>KfW is the main source of funding while KP government is also supporting but total share is not disclosed. MoH is directly involved. State life Insurance is the managing partner. KPK health insurance program is working for BISP beneficiaries only at present.</p> <p>The scheme is currently available in four districts of Khyber Pakhtunkhwa namely Kohat, Mardan, Malakand and Chitral. State Life SHP was developed in enabling political and operational environments with a significant contribution to universal health coverage due to public sector partnership enabling outreach to underserved population.</p>
Norway-Pakistan Partnership Initiative (NPPI)				
Voucher promoters (VPs)	Services For ANC, normal	The average cost per voucher	NPPI's voucher scheme was highly	The Norwegian Pakistan

<p>were recruited to distribute vouchers and were overseen by supervisors, also appointed by Greenstar. In addition, UNFPA appointed its own supervisors, one for Shikarpur and the other for Badin. VPs had to work in close collaboration with Lady Health Workers (LHWs); few VPs were, in fact, LHWs. Trainings were conducted for identification of beneficiaries using the standard poverty score card distribution of voucher booklets, and for motivating women to deliver in health facilities.</p>	<p>delivery, C-section and child illness)</p> <p>Under this program GreenStar distributed around 20,000 vouchers. 85% vouchers redeemed at Private facilities while 15% redeemed at public facilities.</p>	<p>booklet was Rs. 13,776, almost 9.5 percent higher than the proposed cost. However it was lower than the cost package of Rs. 14,314 (for ANC, normal delivery, C-section and child illness) based on the lower range of willingness to pay, as per feasibility study for financing interventions under NPPI.</p>	<p>relevant in rural Sindh, where it targeted a population of very poor people who cannot afford institutional deliveries. The scheme has a relevance to the health system in general and the provincial MNCH program specifically.</p>	<p>Partnership Initiative (NPPI) project was implemented for six years—from 2009 through 2014—and aimed to reduce maternal, neonatal, and child mortality through increased coverage of quality maternal, newborn and child health (MNCH) and family planning (FP) services, along with improved MNCH and FP self-care as well as care seeking behavior within families and communities. The project was funded by the Royal Norwegian Government. After deciding to support Pakistan in its efforts to improve its MNCH indicators, the Royal Norwegian Government decided to focus its funding on Sindh province because of its weak MNCH and FP health indicators. It was decided that Norway would support the concept of ONE UN, and project implementation would be through multiple UN agencies in closely collaboration. Norwegian experts were</p>
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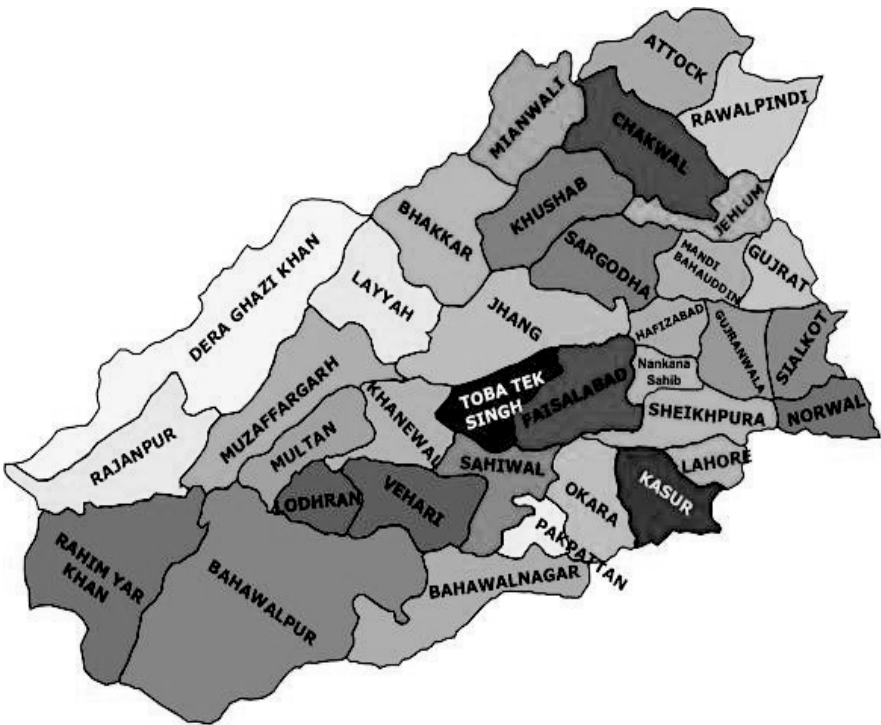
				<p>involved from the beginning, designing the project. The UN collaborating agencies in this initiative were UNICEF, as convener and implementer, with WHO and UNFPA as the other major implementers. UNDP, as administrative agent, was responsible for funds disbursement. The NPPI voucher scheme was aimed at improving maternal and neonatal health among vulnerable communities by improving their access to public and private health facilities through an innovative financing approach. The initiative was financed through UNFPA, which selected Greenstar Social Marketing (GSM) as its implementing partner through competitive bidding. The NPPI voucher scheme was implemented in two districts, Shikarpur and Badin.</p>
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Annex II

Intervention and control districts Article 3 and 4
(quasi-experimental studies)

Province	Punjab	Sindh	KPK
Intervention (Districts)	Jhang (A3), Khanewal (A4), Pak Pattan (A4), Rajanpur (A4)	Badin (A3) Noshero Feroz (A4)	Haripur (A4)
Control (Districts)	Bahawalpur (A4), Khanewal(A3)	Dadu (A3) Nawabshah (A4)	Abottabad (A4)

Punjab Province



Annex III

Summary table – connecting papers, objectives with methods

Published papers	Objectives	Population	Study design	Intervention	Key outcome
<p>(Article 1)</p> <p>Assessing predictors of contraceptive use and demand for family planning services in underserved areas of Punjab province in Pakistan: results of a cross-sectional baseline survey.</p>	<p>I: <u>To examine and document the determinants of uptake of modern family planning/contraceptive services in rural Pakistan assessing interventions related to integrated health financing models.</u></p>	<p>Sample: 3,998 randomly selected married women of reproductive age (MWRA)</p> <p>Setting: Chakwal, Mianwali and Bhakkar districts of Punjab (sample distribution: 694 in Chakwal, 719 in Mianwali and 2,585 in Bhakkar).</p>	<p>Cross-sectional survey</p>	<p>Article 1 was based on primary analysis of pre-test or baseline cross-sectional survey nested in a large multi-centre quasi-experimental operational study with a control arm</p>	<p>Article 1</p> <p>Factors associated with contraceptive use:</p> <ul style="list-style-type: none"> -Current use, -knowledge -Woman's age and education, -Husband's education -Wealth status -Spousal communication -Location of last delivery -Favourable attitude toward contraception
<p>(Article 2)</p> <p>Women's empowerment and contraceptive use: the role of independent versus couples' decision-making, from a lower middle income country perspective.</p>				<p>Article 2</p> <p>Secondary analysis to determine associations between various dimensions of women's empowerment & contraceptive use.</p>	<p>Article 2</p> <p>Women tend to get higher decision-making power with</p> <ul style="list-style-type: none"> --increased age, -higher literacy -greater number of children, or -being in a household that has superior socio-economic status

<p>(Article 3)</p> <p>Impact of social franchising on contraceptive use when complemented by vouchers: a quasi-experimental study in rural Pakistan.</p> <p>(Article 4)</p> <p>Engaging with community-based public and private mid-level providers for promoting the use of modern contraceptive methods in rural Pakistan: results from two innovative</p>	<p>2: <u>To study and document the impact of integrated health financing models (interventions) on FP access and uptake in rural Pakistan by assessing:</u></p> <p>a. <u>the demand-side financing model, utilising vouchers complemented by social franchise providers;</u></p> <p>b. <u>the task sharing through CMW model based on building public-private partnerships;</u></p> <p>c. <u>the CHW model, that connects client with local health (FP) facility to</u></p>	<p>Sample: 4992 and 4003 MWRA's married women of reproductive age (MWRA, 15-49 years), respectively for pre and post test</p> <p>Setting: Jhang in Punjab Province and Badin in Sindh Province were the intervention districts, while Khanewal and Dadu were selected from Punjab and Sindh respectively as control districts</p> <p>Sample: 5566 and 6316 MWRA's married women of reproductive age (MWRA, 15-49 years), respectively for pre and post test</p>	<p>Quasi-experimental pre and post with control group</p> <p>Quasi-experimental pre and post with control group</p>	<p>1.Social franchise providers – clinical and business trainings were conducted</p> <p>2.Demand-side financing with vouchers through poverty assessment</p> <p>3.Community health workers (CHWs) for voucher distribution and client follow-up services</p> <p>1.Social franchise providers model and Community midwives (CMW) model – clinical and business trainings were conducted</p>	<p>Article 3</p> <p>-Increased contraceptive uptake and access</p> <p>-IUD use was more common in voucher clients who were more poor</p> <p>-High method-specific continuation</p> <p>Article 4</p> <p>-Increased contraceptive uptake and access in both Social franchise and CMW models</p> <p>-IUD use was more common in voucher clients who were more poor</p> <p>-High method-specific continuation and improved method switching</p>
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<p>birth spacing interventions.</p>	<p><u>enhance FP access and uptake including post-abortion FP</u> ;</p>	<p>Setting: Naushero Feroze and Nawabshah districts in Sindh province; Haripur and Abbottabad in KPK province and Pakpattan and Rajanpur in Punjab province were intervention (earlier) and control (later) districts respectively.</p>		<p>2.Demand-side financing with vouchers through poverty assessment thru social franchise model</p> <p>3.Community health workers (CHWs) for voucher distribution and client follow-up services</p>	
<p>(Article 8)</p> <p>Delivering post-abortion care through a community-based reproductive health volunteer programme in Pakistan.</p>	<p><u>c. the CHW model, that connects client with local health (FP) facility to enhance FP access and uptake including post-abortion FP</u> ;</p>	<p>Sample: 08 FGDs with post-abortion care (PAC) clients and 15 in-IDIs with the reproductive health volunteers and all participants were purposely selected.</p> <p>Setting: 06 randomly selected districts of Sindh</p>	<p>Qualitative exploratory study using IDIs and FGDs to determine preferred method of treatment, explore perceptions of the barriers to accessing</p>	<p>-Mid-level service providers were trained on post-abortion care services using medical or surgical approach. - Community health worker were used to recruit clients and</p>	<p>Article 8</p> <p>Medical, rather than surgical, treatment for incomplete and unsafe abortions was preferred Household economics influence women's decision-making on seeking post-abortion care. Other restraining factors include objection by husbands and in-laws, restrictions on female mobility, the views of religious clerics and a lack of</p>

<p>(Article 6)</p> <p>IUD discontinuation rates, switching behaviour, and user satisfaction: findings from a retrospective analysis of a mobile outreach service program in Pakistan.</p>	<p><u>d. the expanded outreach service model for far-flung communities</u></p>	<p>(Hyderabad, Nawabshah, Larkana) and Punjab (Gujranwala, Faisalabad, Bahawalpur) province.</p> <p>Sample: 639 women who had received an IUD from an outreach program were interviewed</p> <p>Setting: 06 randomly selected districts in the Sindh (Nawabshah and TandoAllayar) and Punjab provinces (Rawalpindi, Khanewal, Bhawalpur, and Lodhran) provinces.</p> <p>Sample: 2789 women who had received an IUD from Suraj social franchise program were interviewed</p>	<p>post-abortion services</p> <p>Retrospective cohort study</p> <p>Retrospective cohort</p>	<p>for follow-up services</p> <p>Free IUD were provided through mobile outreach services using camps near or inside far-flung public facilities</p> <p>- Clients of social franchise providers were using poverty based demand side financing vouchers to promote IUD</p>	<p>transport.</p> <p>Article 6</p> <p>-High IUD-specific continuation and improved method switching</p> <p>Article 5</p> <p>-High IUD-specific continuation and improved method switching among voucher based social franchising clients</p>
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<p>(Article 7)</p> <p>Continuation rates and reasons for discontinuation of intra-uterine device in three provinces of Pakistan: results of a 24-month prospective client follow-up.</p>	<p><u>e. _____ model</u> <u>s. useful in</u> <u>switching to.</u> <u>and continuing</u> <u>use of LARC.</u></p>	<p>Setting: 09 districts of Sindh and Punjab Provinces (6 from Punjab & 3 from Sindh).</p> <p>Sample: A total of 1,163 IUD users, 824 from Suraj and 339 from the CMW model, were enrolled in this 24-month prospective client</p> <p>Setting: 05 districts in Punjab, Sindh, and KP provinces: the Suraj intervention model in districts Khanewal (Punjab), Naushero-Feroze (Sindh), & Haripur (KP); and the CMW intervention model in districts Pakpattan & Rajanpur</p>	<p>study</p> <p>A prospective client follow-up component was nested within the larger quasi-experimental research study (which is mentioned as article 5)</p>	<p>services</p> <p>- Clients of CMW providers were provided out of pocket IUD services</p>	<p>Article 7</p> <p>High IUD-specific continuation and improved method switching in clients of social franchise and CMW models</p>
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Annex IV

Survey/study tools

Research and Advocacy Fund (RAF)

**EVIDENCE FO INNOVATING TO SAVE
LIVES**

Survey Questionnaire

VISIT INFORMATION				
INTERVIEWER VISITS	1	2	3	Final Visit
Date Interviewer's Name Result	 	 	 	Date Month Year Result
INTERVIEWER VISITS, if required after editing Date Time	 	 	 	Result Codes: 1 = Completed 2 = Not at home 3 = Postponed 4 = Partially completed 5 = Refused 99 = Others, specify _____
Name Date Signature	Field Edited by 	Office edited by 	Data entry by 	

Remarks: _____

IDENTIFICATION			
1	Province	<div>Sindh 1</div> <div>Punjab 2</div> <div>Khyber Pakhtoonkhwa 3</div>	
2	District	<div>Noshero Feroz 1</div> <div>Nawabshah 2</div> <div>Bhawalpur 3</div> <div>Khanewal 4</div> <div>Pakpattan 5</div> <div>Mansehra 6</div> <div>Haripur 7</div> <div>Abbotabad 8</div>	
3	Name of Private provider area		
4	Household Number (Give a house number (according to your present house number sequence)	<div><input type="text"/></div> <div><input type="text"/></div> <div><input type="text"/></div> <div><input type="text"/></div> <div><input type="text"/></div> <div><input type="text"/></div>	
RESPONDENT CHARACTERISTICS			
5	Record the current time	Hours <input type="text"/> Minutes <input type="text"/>	
6	What is your name?		
7	What is your husband's name?		
8	What is your approximate age in years?	Years <input type="text"/> Months <input type="text"/>	
9	What is your husband's approximate age in years?	Years <input type="text"/> Months <input type="text"/>	
10	What was your approximate age at the time of your marriage?	Years <input type="text"/> Months <input type="text"/>	
11	What is your religion?	<div>Islam 1</div> <div>Hinduism 2</div> <div>Christianity 3</div>	
12	What is your mother tongue?	<div>Urdu 1</div> <div>Sindhi 2</div> <div>Punjabi 3</div> <div>Pushto 4</div> <div>Hindco 5</div> <div>Siraiki 6</div> <div>Others (specify) 99</div>	
13	What is your educational qualification?	<div>Illiterate 1</div> <div>Can read, write and perform simple sums 2</div> <div>Primary(1 to 5) 3</div> <div>Middle (6 to 8) 4</div> <div>Secondary 5</div> <div>Intermediate 6</div> <div>Graduate/Postgraduate 7</div>	
14	What is your husband's educational qualification?	<div>Illiterate 1</div> <div>Can read, write and perform simple sums 2</div> <div>Primary(1 to 5) 3</div> <div>Middle (6 to 8) 4</div> <div>Secondary 5</div> <div>Intermediate 6</div> <div>Graduate/Postgraduate 7</div>	
15	Total number of members living in the household?	Male <input type="text"/> Female <input type="text"/>	

- Now I would like to ask some information about your household

HOUSEHOLD CHARACTERISTICS			
1	Construction of house? (Observation based question)	Kaccha 1 Semi Pakka 2 Pakka 3	
2	How many rooms in your household are used for sleeping purpose?	Rooms <input type="text"/>	
3	Do you get enough water for regular household needs?	Yes 1 No 2	
4	What kind of toilet facility does most members of your household use?	Pit hole 1 Flush 2 No facilities / bush / field 3 Others (specify) _____ 99	
5	Commonly, what fuel is used in your house for cooking purposes?	Natural Gas 1 Wood 2 Coal 3 Kerosene Oil 4 Biogas 5 Others (specify) _____ 99	
6	Do you possess the following items? (tick mark the relevant ones)	<input type="checkbox"/> Electricity <input type="checkbox"/> Radio <input type="checkbox"/> TV <input type="checkbox"/> Fridge <input type="checkbox"/> Room cooler <input type="checkbox"/> Washing machine <input type="checkbox"/> Water pump <input type="checkbox"/> Bicycle <input type="checkbox"/> Motor cycle <input type="checkbox"/> Car, Van or Tractor <input type="checkbox"/> Sewing machine	
7	How far is the nearest health facility/medical help away from you?	Less than one hr 1 1-2 hrs 2 2-4 hrs 3 more than 4 hrs 4	
8	How far is the health care facility where you receive medical/health care service?	Less than one hr 1 1-2 hrs 2 2-4 hrs 3 More than 4 hrs 4	
OCCUPATION AND INCOME			
9	What is your profession?	Housewife 1 Student 2 Government Employee 3 Private Job 4 Skilled worker 5 Unskilled worker 6 Business 7 Others (specify) _____ 99	
10	What is your husband's profession?	None 1 Student 2 Government Employee 3 Private Job 4 Skilled worker 5 Unskilled worker 6 Business 7 Others (specify) _____ 99	
11	What is your approximate monthly income? (Women's)	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Rs	
12	What is the approximate household monthly income?	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Rs	
13	How many members are earner in your households	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Rs	

- Now I would like to ask some questions about your reproductive health and abortion

REPRODUCTION and INDUCED ABORTION			
1	Have you ever been pregnant?	Yes 1 No 2	(if no, go to 6)
1a	How many times have you been pregnant? (including current pregnancy)	_____ times	
2	Are you currently pregnant?	Yes 1 No 2 Not Sure 3	(if no, go to 3)
2a	If yes, how do you feel about this pregnancy?	Happy 1 Not happy 2 Don't know 3	
2b	Reasons for being happy?	Increase family size 1 Husband's desire 2 Desire for son 3 Desire for daughter 4 Does not want another abortion 5 Others specify 99	
2c	Reasons for being unhappy?	Limit family size 1 Wish to space 2 Husband does not want it 3 Own ill health 4 Financial constraints 5 Others specify 99	
3	How many children do you have? (Please, specify the number of living children)	Boy <input type="text"/> Girls <input type="text"/>	
4	How many children do you have less than five years? (Please, specify the number of living children)	Boy <input type="text"/> Girls <input type="text"/>	
5	What is the sex and date of birth of your two youngest children?	<div> Child#1 Male..... 1 Female..... 2 DATE OF BIRTH Date <input type="text"/> Mon <input type="text"/> Yr <input type="text"/> </div>	<div> Child#2 Male..... 1 Female..... 2 DATE OF BIRTH Date <input type="text"/> Mon <input type="text"/> Yr <input type="text"/> </div>
6	What is the ideal number of children for you or in your family?	Boy <input type="text"/> Girl <input type="text"/>	
7	What is the ideal number of children for your husband/mother-in-law in your family?	Boy <input type="text"/> Girl <input type="text"/>	
8	With reference to your last pregnancy, did you want to become pregnant then, wanted to wait until later, or did not want to become pregnant at all?	Then 1 Later 2 Not at all 3	
9	Have you ever had a miscarriage or an induced or spontaneous abortion?	No 1 Miscarriage 2 Induced 3 Spontaneous 4	(if no, go to 10)
9a	Where did you go for abortion services?	Government Hospital/RHSC 1 RHC/BMU/Govt. Clinic 2	

		Family Welfare centre 3 NGO centre 4 Private Hospital or Clinic 5 Mobile Clinic/Extension Team 6 Field Worker 7 Suraj Centre 8 Suraj Field Worker 9 Hakim/Homeopath 10 Drugstore 11 Shop (Other than Drugstore) 12 Traditional Birth Attendant 13 Friends/Relative/Husband 14 Others (specify) _____ 99 Don't Know _____ 100	
9b	Who told you to go to this provider?	Husband 1 Mother in-law 2 Sister 3 Brother 4 Friends 5 Relatives 6 Others (specify) _____ 99	
9c	Service charges for availing abortion services, if any.	<div style="border: 1px solid black; display: inline-block; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; display: inline-block; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; display: inline-block; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; display: inline-block; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; display: inline-block; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; display: inline-block; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; display: inline-block; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; display: inline-block; width: 20px; height: 20px;"></div> Rs	
10	Would you like to have (a/another) child?	Want more child 1 Want no more child 2 Declared infertile 3 Don't Know 4	If want no more child go to 10c
10a	Why do you want more children?	Increase family size 1 Husband desire 2 In-laws desire for boy 3 In-laws desire for girl 4 My own desire for boy 5 My own desire for girl 6	
10b	When would you like to have (a/another) child?	Under 1 year 1 2 or after 2 years 2 Want more children but not yet decided 3 Not yet decided 4 Others specify _____ 99	
10c	If no, why you do not want?	Limit family size 1 Space child birth 2 Husband does not want 3 She herself is sick 4 Financial constraints 5 My own desire not to get pregnant 6 Illness of children/husband 7 Others specify _____ 99	
11	After your last child was born, did you receive any counseling/suggestion about birth spacing?	Yes 1 No 2	
12	Did you use any birth spacing method after your last delivery?	Yes 1 No 2	

- Now I would like to ask about family planning and decision making authorities

FAMILY PLANNING and DECISION MAKING			
13	Do you easily go out of your house whenever you need medical help?	Yes 1 No 2	(if no, go to 14)
13a	Who usually accompany you when you move out of you house to seek medical help?	Go alone 1 Accompanied by husband 2 Accompanied by mother in-law 3 Others specify 99	
14	In your family, who decides about the birth of child?	Husband 1 Mother-in-law 2 Respondent (MWRA) 3 Mutually decide 4 Others specify 99	
15	Do you discuss the number of children you should have with your husband?	Yes 1 No 2	
16	Do you discuss family planning and birth spacing issues with your husband?	Yes 1 No 2	(if no, go to 16b)
16a	If no, then why don't you discuss with your husband	Afraid of him 1 Husband is religious 2 Mother in law decide that 3 Others specify 99	
16b	If yes, what is the attitude of your husband with you?	Cooperative/Friendly 1 Harsh/aggressive 2 Others specify 99	
16c	Have you ever experienced physical abuse at the hands of your husband?	Yes 1 No 2	

CONTRACEPTIVE KNOWLEDGE and EVER USED

I would like to talk about various ways or methods that a couple can use to delay or avoid a pregnancy. Which ways have you heard about?

Methods	17) Have you ever heard of (method)?	18) Source of information	19) Have you/husband ever used (method)?	20) Do you know where a person could go to get (method)?
a) Pills	Yes .1 No .2		Yes .1 No .2 Refused .99	Yes .1 No .2
b) IUD	Yes .1 No .2		Yes .1 No .2 Refused .99	Yes .1 No .2
c) Injection	Yes .1 No .2		Yes .1 No .2 Refused .99	Yes .1 No .2
d) Implant	Yes .1 No .2		Yes .1 No .2 Refused .99	Yes .1 No .2
e) Condom	Yes .1 No .2		Yes .1 No .2 Refused .99	Yes .1 No .2
f) Female sterilization	Yes .1 No .2		Yes .1 No .2 Refused .99	Yes .1 No .2
g) Male sterilization	Yes .1 No .2		Yes .1 No .2 Refused .99	Yes .1 No .2
h) Periodic abstinence	Yes .1 No .2		Yes .1 No .2	Yes .1 No .2

			Refused .99	
i) Withdrawal	Yes .1 No .2		Yes 1 No 2 Refused .99	Yes .1 No .2
j) Others	Yes .1 No .2		Yes 1 No 2 Refused .99	Yes 1 No 2

CURRENT USE			
21	Have you discontinued using any family planning method during the last 24 months?	Yes 1 No 2	If no, go to 22
21a	If yes, which method have you discontinued?	Pill 1 IUD 2 Injections 3 Diaphragm/foam/Jelly 4 Condom 5 Female sterilization 6 Male sterilization 7 Periodic Abstinence 8 Withdrawal 9 Other (specify) .99	
21b	If yes, what were the reasons	Want (more) children 1 Lack of quality products/services 2 Lack of knowledge 3 Husband opposed 4 Cost too much 5 Worry about side effects 6 Health concerns 7 Menstrual disturbances 8 Hard to get methods 9 Religious reasons 10 Opposed to family planning 11 Fatalistic 12 Other people opposed 13 Infrequent sex 14 Menopausal/Hysterectomy 15 Inconvenient 16 Husband Absent 17 Breastfeeding 18 In laws opposed 19 Others specify 99 Don't know .100	
22	Are you currently doing something or using any method to delay or avoid getting pregnant?	Yes 1 No 2	If no, go to 22i
22a	If yes, what method are you using now?	Pill 10 IUD 11 Injections 12 Diaphragm/foam/Jelly 13 Condom 14 Female sterilization 15 Male sterilization 16 Periodic Abstinence 17 Withdrawal 18 Others (specify) .99	
22b	If yes, what is/are the reason for choosing this method?	Cost/Affordable 1 Quality 2 Effectiveness 3 Fewer Side Effects 4 Accessible 5	

		Favored by husband/mother in law 6 Suggested by a happy Suraj client 7 Long term 8 Short term 9 Permanent 10 Others (specify) _____ 99	
22c	What is the source of getting this method?	Government Hospital/RHSC 1 RHC/BMU/Govt. Clinic 2 Family Welfare centre 3 NGO centre 4 Private Hospital or Clinic 5 Mobile Clinic/Extension Team 6 Field Worker 7 Suraj Centre 8 Suraj Field Worker 9 Hakim/Homeopath 10 Drugstore 11 Shop (Other than Drugstore) 12 Traditional Birth Attendant 13 Friends/Relative/Husband 14 Others (specify) _____ 99 Don't Know 100	
22d	Who told you to go to this provider?	Husband 7 Mother in-law 8 Sister 9 Brother 10 Friends 11 Relatives 12 Others (specify) _____ 99	
22e	What is the name of the service provider? (Complete name)		
22f	Where the health care centre is situated? (Complete address) House#, Street#, Mohalla, Town)		
22g	How far the healthcare centre is from your residency in terms of kilometers?	_____ kms.	
22h	What is the unit price of this method?	<div style="border: 1px solid black; display: inline-block; width: 40px; height: 20px; margin-right: 5px;"></div> Rs Husbands know 1 Relatives know 2 Free of cost 3 Others specify _____ 99	
22i	What are the reasons you are not using a method to delay or avoid getting pregnant?	Want (more) children 1 Lack of quality products/services 2 Lack of knowledge 3 Husband opposed 4 Cost too much 5 Worry about side effects 6 Health concerns 7 Menstrual disturbances 8 Hard to get methods 9 Religious reasons 10 Opposed to family planning 11 Fatalistic 12 Other people opposed 13 Infrequent sex 14 Menopausal/Hysterectomy 15 Inconvenient 16 Husband Absent 17 Breastfeeding 18	

		In laws opposed 19 Others specify 99 Don't know.101		
METHOD SWITCH				
23	Have you switched from one contraceptive method to another method? If yes, specify the method.	Yes 1 No 2		(if no, go to 24)
		Switched from	Switched to	
		Pill 1 IUD 2 Injections 3 Diaphragm/foam/Jelly 4 Condom 5 Periodic Abstinence 6 Withdrawal 7 Other (specify) 99	Pill 1 IUD 2 Injections 3 Diaphragm/foam/Jelly 4 Condom 5 Female sterilization 6 Male sterilization 7 Periodic Abstinence 8 Withdrawal 9 Other (specify) 99	
23a	If yes, What were the reasons for switching from one method to another?	Want (more) children 1 Lack of knowledge 2 Husband opposition 3 Cost too much 4 Worry about side effects 5 Health concerns 6 Hard to get methods 7 Religion 8 Opposed to Family Planning 9 Fatalistic 10 Other People opposed 11 Infrequent Sex 12 Difficult to get pregnant 13 Menopausal/Hysterectomy 14 Inconvenient 15 Husband Absent 16 Breastfeeding 17 Others (specify) 99 Not sure		
INTENTION TO USE METHOD IN FUTURE				
24	In future, if quality birth spacing services and contraceptive methods are provided to you would you like to avail it?	Yes 1 No 2 Not sure.100	(if yes, go to 24b)	
24a	If no, what is the main reason you do not intend to use a method in future?	Want (more) children 1 Lack of knowledge 2 Husband opposition 3 Cost too much 4 Worry about side effects 5 Health concerns 6 Hard to get methods 7 Religion 8 Opposed to Family Planning 9 Fatalistic 10 Other People opposed 11 Infrequent Sex 12 Difficult to get pregnant 13 Menopausal/Hysterectomy 14 Inconvenient 15 Husband Absent 16 Breastfeeding 17 Others (specify) 99 Not sure .100		

24b	If yes, which method would you prefer to use in future?	Pill 1 IUD 2 Injections 3 Diaphragm/foam/Jelly 4 Condom 5 Female sterilization 6 Male sterilization 7 Periodic Abstinence 8 Withdrawal 9 Other (specify) _____ .99													
24c	What is the reason for choosing this method?	Cost/affordability 1 Quality 2 Long term 3 Short term 4 Permanent 5 Others (specify) _____ .99													
PERCEPTION OF QUALITY															
25	Kindly rank the options from 1 to 5 which stand for "quality" to you in order of importance? NOTE: 1 for least and 5 for maximum importance	<table border="1"> <tr><td>Availability of trained provider</td><td></td></tr> <tr><td>Fewer side effect</td><td></td></tr> <tr><td>Effectiveness</td><td></td></tr> <tr><td>Cost effective</td><td></td></tr> <tr><td>Availability</td><td></td></tr> <tr><td>Access</td><td></td></tr> </table>	Availability of trained provider		Fewer side effect		Effectiveness		Cost effective		Availability		Access		
Availability of trained provider															
Fewer side effect															
Effectiveness															
Cost effective															
Availability															
Access															
FREE SERVICES															
26	Have you ever used any birth spacing/family planning service free of cost?	Yes 1 No 2	(if no, go to 27)												
26a	If yes, where did you get this service	NGO 1 Camp 2 LHW/LHV/Dai 3 Private Doctor 4 Govt. Hospital 5 Others (specify) _____ .99													
26b	Were you satisfied with the service	Yes 1 No 2													
27	THANK PARTICIPANT Current time	Hours <input type="text"/> Minutes <input type="text"/>													

Questionnaire ID:

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Research and Advocacy Fund (RAF)

EVIDENCE FO INNOVATING TO SAVE LIVES

Endline Survey Questionnaire

CONSENT FORM

Assalam U Alaikum. My name is _____ and I am conducting a survey on behalf of Marie Stopes Society in collaboration with Research and Advocacy Fund (RAF). Marie Stopes Society (MSS) is an NGO working in Pakistan since 1992 to promote family planning and reproductive health whereas; Research and Advocacy Fund (RAF) is working towards maternal and newborn health in Pakistan. Our focus is on improving reproductive, maternal and newborn health in Pakistan. In order to assess our program strategies, activities of the reproductive health of the community, we are collecting some detail information on family planning/birth spacing knowledge, attitudes, and practices, barriers of family planning, source of care, ante-natal, post-natal and delivery care.

Please be assured that all the information given by you will be kept strictly confidential.

Your participation in this survey is completely voluntary. There will be no cost for you to join other than the time you spend with us. We would highly appreciate your cooperation. You have the right to withdraw at any time without penalty or decline to answer any specific questions without any explanations or penalty. We would highly appreciate your cooperation and assistance.

Do you freely consent to participate in the survey?

- Yes
- No

RESPONDENT **AGREES** TO BE INTERVIEWED

CONTINUE WITH SURVEY

RESPONDENT **DOES NOT AGREE** TO BE INTERVIEWED

END

VISIT INFORMATION				
INTERVIEWER VISITS	1	2	3	Final Visit
Date <div>[DD/MM/YYYY]</div> Interviewer's Name <div></div> Result <div></div>	<div>[DD/MM/YYYY]</div> <div></div> <div></div>	<div>[DD/MM/YYYY]</div> <div></div> <div></div>	<div>[DD/MM/YYYY]</div> <div></div> <div></div>	Date <div></div> Month <div></div> Year <div>20</div> Result <div></div>
INTERVIEWER VISITS, if required after editing Date <div>[DD/MM/YYYY]</div> Time <div></div>	<div>[DD/MM/YYYY]</div> <div></div>	<div>[DD/MM/YYYY]</div> <div></div>	<div>[DD/MM/YYYY]</div> <div></div>	Result Codes: 1 = Completed 2 = Not at home 3 = Postponed 4 = Partially completed 5 = Refused 99 = Others, specify
Name <div></div> Date <div>[DD/MM/YYYY]</div> Signature <div></div>	Field Edited by <div></div> <div>[DD/MM/YYYY]</div> <div></div>	Office edited by <div></div> <div>[DD/MM/YYYY]</div> <div></div>	1st data entry by <div></div> <div>[DD/MM/YYYY]</div> <div></div>	2nd data entry by <div></div> <div>[DD/MM/YYYY]</div> <div></div>

Remarks:

IDENTIFICATION			
1	Province	<div>Sindh 1</div> <div>Punjab 2</div> <div>Khyber Pakhtoonkhwa 3</div>	
2	District	<div>Noshero Feroz 1</div> <div>Nawabshah 2</div> <div>Bhawalpur 3</div> <div>Khanewal 4</div> <div>Pakpattan 5</div> <div>Rajanpur 6</div> <div>Haripur 7</div> <div>Abbotabad 8</div>	
3	Name of Suraj/CMW provider		
4	Name of provider's area		
5	Type of provider/facility	<div>Suraj Centre 1</div> <div>Community Midwife (CMW) Centre 2</div> <div>Basic Health Unit (BHU) 3</div> <div>Rural Health Centre (RHC) 4</div>	
6	Household Number (Give a house number (according to your present house number sequence))	<div><input type="text"/></div> <div><input type="text"/></div> <div><input type="text"/></div> <div><input type="text"/></div>	
7	Record the current time	<div>Hours <input type="text"/></div> <div>Minutes <input type="text"/></div>	

SECTION 1: RESPONDENT and HOUSEHOLD CHARACTERISTICS			
First, I would like to ask some information about you and your husband			
Q #	Questions and Filters	Coding categories	Skip Pattern
101	What is your name?		
102	What is your husband's name?		
103	What is your approximate age in years?	Years <input type="text"/>	
104	What is your husband's approximate age in years?	Years <input type="text"/>	
105	What was your approximate age at the time of your marriage?	Years <input type="text"/>	
106	What is your religion?	<div>Islam 1</div> <div>Hinduism 2</div> <div>Christianity 3</div> <div>Others (specify) 99</div>	
107	What is your mother tongue?	<div>Urdu 1</div> <div>Sindhi 2</div> <div>Punjabi 3</div> <div>Pushto 4</div> <div>Hindco 5</div> <div>Siraiki 6</div> <div>Balochi 7</div> <div>Others (specify) 99</div>	
108	What is your educational qualification?	<div>Illiterate 1</div> <div>Can read, write and perform simple sums 2</div> <div>Primary(1 to 5) 3</div> <div>Middle (6 to 8) 4</div> <div>Secondary 5</div>	

		Intermediate 6 Graduate/Postgraduate 7	
109	What is your husband's educational qualification?	Illiterate 1 Can read, write and perform simple sums 2 Primary(1 to 5) 3 Middle (6 to 8) 4 Secondary 5 Intermediate 6 Graduate/Postgraduate 7	
110	Who is the head of the household?	My husband 1 My Mother-in-law 2 My Father-in-law 3 Myself (respondent) 4 Any other 5	If Husband or herself, then go to 112
111	What is the educational qualification of head of the household?	Illiterate 1 Can read, write and perform simple sums 2 Primary(1 to 5) 3 Middle (6 to 8) 4 Secondary 5 Intermediate 6 Graduate/Postgraduate 7	
112	Total number of members living in the household? (Including living children)	Male <input type="text"/> Female <input type="text"/>	
113	Do you possess the following items? (tick mark the relevant ones)	<input type="checkbox"/> Electricity <input type="checkbox"/> Radio <input type="checkbox"/> TV <input type="checkbox"/> Fridge <input type="checkbox"/> Room cooler <input type="checkbox"/> Washing machine <input type="checkbox"/> Water pump <input type="checkbox"/> Bicycle <input type="checkbox"/> Motor cycle <input type="checkbox"/> Car, Van or Tractor <input type="checkbox"/> Sewing machine	
Now I would like to ask some information about your household			
114	MAIN MATERIAL OF THE FLOOR: RECORD OBSERVATION	NATURAL FLOOR Earth/Sand/Mud 1 FINISHED FLOOR Chips/Terrazzo 2 Ceramic Tiles 3 Marble 4 Cement 5 Carpet 6 Bricks 7 Mats 8 Others (specify) 99	
115	MAIN MATERIAL OF THE ROOF: RECORD OBSERVATION	NATURAL ROOFING Thatch/Bamboo/Wood/Mud 1 RUDIMENTARY ROOFING Cardboard/Plastic 2 FINISHED ROOFING Iron Sheets/Asbestos 3 T-iron/Wood/Brick 4 Reinforced brick cement/RCC 5 Others (specify) 99	
116	MAIN MATERIAL OF THE WALLS: RECORD OBSERVATION	NATURAL WALLS Mud/Stones 1 Bamboo/Sticks/Mud 2 RUDIMENTARY WALLS Unbaked bricks/Mud 3 Plywood sheets 4 Carton/Plastic 5 FINISHED WALSS	

		Stone blocks 6 Baked bricks 7 Cement blocks/cement 8 Tent 9 Others (specify) 99	
117	How many rooms in this household?	Total Rooms <input type="text"/> <input type="text"/> Rooms for sleeping <input type="text"/> <input type="text"/>	
118	Does this household own any livestock, herds, other farm animals, or poultry?	Yes 1 No 2	
Now I would like to ask about you and your husband's occupation and your income			
119	Do you earn any income? (ask for the responding woman's income only)	Yes 1 No 2	If no, go to 122
120	What is your occupation? That is, what kind of work do you mainly do?	Professional/Technical manager 1 Clerical 2 Sales and services 3 Skilled manual 4 Unskilled manual 5 Domestic services 6 Agriculture/farming 7 Others (specify) 99	
121	What is your approximate monthly income? (Women's income only)	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Rs	
122	What is your husband's occupation? That is, what kind of work does he mainly do?	Professional/Technical manager 1 Clerical 2 Sales and services 3 Skilled manual 4 Unskilled manual 5 Domestic services 6 Agriculture/farming 7 Unemployed 8 Others (specify) 99	
123	What is your average household monthly income?	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> PKR Don't know/Can't say 100	
124	How many members are income earners in your households?	<input type="text"/> <input type="text"/> Members	

SECTION 2: REPRODUCTIVE HISTORY			
I would like to ask some questions about your reproductive history and current pregnancy			
201	Are you currently pregnant?	Yes 1 No 2 Not sure 3	If no, skip to Q205
202	If yes, how do you feel about this pregnancy?	Happy 1 Not happy 2 Don't know 3	If not happy, skip to Q204
203	If happy, what are the reasons for being happy?	Increase family size 1 Husband's desire 2 Desire for son 3 Desire for daughter 4 Others specify 99	
204	If not happy, what are the reasons for being unhappy?	Limit family size 1 Wish to space 2 Husband does not want it 3 Own ill health 4 Financial constraints 5 Others specify 99	

205	How many times have you been pregnant? (including current pregnancy)	_____ times			
206	What was the outcome of your pregnancies?	a) Abortion	_____ Nos.		
		b) Stillbirth	_____ Nos.		
		c) Live birth	_____ Nos.		
		i. Early neonatal death (first 7 days)	_____ Nos.		
		ii. Late neonatal death (8-28 days)	_____ Nos.		
		iii. Infant death (29 days to < 1 year)	_____ Nos.		
		iv. Death during 1 to 5 years	_____ Nos.		
		v. Any other death	_____ Nos.		
		d) Total Alive children	_____ Nos.		
		i. Alive female children	_____ Nos.		
ii. Alive male children	_____ Nos.				
207	How many children do you have less than five years? (Please, specify the number of living children)	Boy	<input type="text"/>	Girls	<input type="text"/>
208	What are the sex, name and date of birth/age of your two youngest children? Skip second column if the woman only has one child and after recording data, go to 210	1st Youngest Child Name _____ Male..... 1 Female... 2 DATE OF BIRTH Date <input type="text"/> <input type="text"/> Mon <input type="text"/> <input type="text"/> Yr <input type="text"/> Approx. age Yr <input type="text"/> Mon <input type="text"/>		2nd Youngest Child Name _____ Male 1 Female. 2 DATE OF BIRTH Date <input type="text"/> <input type="text"/> Mon <input type="text"/> <input type="text"/> Yr <input type="text"/> Approx. age Yr <input type="text"/> Mon <input type="text"/>	
		Yes .1 Did not get pregnant .2		If yes, please specify the end date of your pregnancy? ____/____/_____ dd mm yyyy	
209	Did any of your pregnancy ends in abortion/miscarriage/still birth between these two children?				
210	Did you have any miscarriage/abortions/still births after your last birth?	Yes 1 Currently pregnant 2 No pregnancy after last child 3			
211	When did your last menstrual period end? (DATE, IF GIVEN) IF LESS THAN A WEEK, RECORD DAYS, IF MORE THAN ONE WEEK AND LESS THAN ONE MONTH RECORD WEEKS. IF	Days ago Weeks ago Months ago Years ago In menopause.....993 Has had hysterectomy..... 994			

	MORE THAN ONE MONTH AND LESS THAN A YEAR RECORD MONTHS, IF YEAR OR MORE RECORD YEARS.	Before last birth 995 Never menstruated 996	
212	At the time you became pregnant, did <u>you</u> want to become pregnant then, did you want to wait until later, or did you not want to have any (more) children at all? IF THE WOMAN IS NOT CURRENTLY PREGNANT, ASK ABOUT HER LAST PREGNANCY	Then 1 Later 2 Not at all 3	
213	At the time you became pregnant, did <u>your</u> husband want a child then, did he want to wait until later, or did not want to have any (more) children at all? IF THE WOMAN IS NOT CURRENTLY PREGNANT, ASK ABOUT HER LAST PREGNANCY	Then 1 Later 2 Not at all 3	
214	Have you ever had a miscarriage or an induced or spontaneous abortion?	No 1 Miscarriage/ Spontaneous 2 Induced 3	(if no, go to Section 3, q301)
215	Where did you go for abortion services?	Government Hospital/RHSC 1 RHC/BMU/Govt. Clinic 2 Family Welfare centre 3 NGO centre 4 Private Hospital or Clinic 5 Mobile Clinic/Extension Team 6 Field Worker 7 Suraj Centre 8 Hakim/Homeopath 9 Drugstore 10 Shop (Other than Drugstore) 11 Traditional Birth Attendant 12 Friends/Relative/Husband 13 Others (specify) _____ 99 Don't Know 100	
216	Who told you to go to this provider?	Husband 1 Mother in-law 2 Sister 3 Brother 4 Friends 5 Relatives 6 Others (specify) _____ 99	

SECTION 3: ANTENATAL CARE, LABOR AND POSTNATAL CARE			
Now I would like to ask some information antenatal care			
301	Did you receive any antenatal care when you were pregnant last time?	Yes 1 No 2	If no, go to 314
302	If yes, how many months were you pregnant when you first received antenatal care?	Month..... <input type="text"/> <input type="text"/> Don't know 100	
303	How many times did you receive antenatal care when you were pregnant last time?	Number of ANC visits Don't know 100	
304	Where did you receive antenatal care? (Name of place) PROBE TO IDENTIFY TYPE(S) OF	HOME Your home 1 Other Home 2 PUBLIC SECTOR	

	SOURCE(S) AND RECORD ALL MENTIONED.	Government Hospital 3 RHC/MCH 4 Family Welfare centre 5 Basic health unit 6 Others public (specify) _____ 99 PRIVATE/NGO MEDICAL SECTOR Private hospital/clinic 7 Others private (specify) _____ 99 OTHER SOURCE Hakim Khana 8 Others (specify) _____ 99																			
305	Who examined you for the antenatal care?	Lady doctor 1 Lady Health Visitor 2 Community Midwife 3 Lady health worker 4 Trained dai (TBA) 5 Untrained dai 6 Untrained person 7 Don't know 100 Others (specify) _____ 99																			
306	The first time you went for antenatal care did you go because you had a problem or did you go just for a check-up?	For problem 1 For check-up only 2																			
307	As part of your antenatal care, were any of the following measures taken at least once?	<table><thead><tr><th></th><th>Yes</th><th>No</th></tr></thead><tbody><tr><td>Were you weighed?</td><td>Weight 1</td><td>2</td></tr><tr><td>Was your blood pressure measured?</td><td>Blood pressure 1</td><td>2</td></tr><tr><td>Did you get a urine test?</td><td>Urine 1</td><td>2</td></tr><tr><td>Did you get a blood test?</td><td>Blood 1</td><td>2</td></tr><tr><td>Did you have an ultra sound exam?</td><td>U/s exam 1</td><td>2</td></tr></tbody></table>		Yes	No	Were you weighed?	Weight 1	2	Was your blood pressure measured?	Blood pressure 1	2	Did you get a urine test?	Urine 1	2	Did you get a blood test?	Blood 1	2	Did you have an ultra sound exam?	U/s exam 1	2	
	Yes	No																			
Were you weighed?	Weight 1	2																			
Was your blood pressure measured?	Blood pressure 1	2																			
Did you get a urine test?	Urine 1	2																			
Did you get a blood test?	Blood 1	2																			
Did you have an ultra sound exam?	U/s exam 1	2																			
308	During any antenatal care visit, were you told about the signs of pregnancy complications?	Yes 1 No 2 Don't know 100																			
309	During any antenatal care visit, were you told where to go if you had any of these complications?	Yes 1 No 2 Don't know 100																			
310	During your last pregnancy, did you receive any tetanus injections, either to protect yourself or the baby?	Yes 4 No 5 Don't know 100																			
311	During your last pregnancy, were you given or did you buy any iron tablets or iron syrup?	Yes 1 No 2 Don't know 100																			
312	During your last pregnancy, were you given or did you take calcium tablets?	Yes 1 No 2 Don't know 100																			
313	During your last pregnancy, were you given or did you take folic tablets?	Yes 1 No 2 Don't know 100 3																			
314	Did any complication occur during your last pregnancy?	Yes 1 No 2	If no, go to 318																		
315	If yes, please specify the complications	Swelling of hands, feet and face in the morning 1 Severe, persistent, frequent headache 2 Diarrhea 3 Breathlessness 4 Persistent vomiting 5 High grade fever (over 100.4 ° F) 6 Vaginal bleeding 7																			

		Heart burn (burning pain in the chest or upper abdomen) 8 High Blood Pressure 9 Low Blood pressure 10 Others (specify) 99	
316	Did you seek advice or treatment for these complication(s)?	Yes 1 No 2	If no, go to 318
317	Where did you seek treatment for these complication(s)? PROBE TO IDENTIFY TYPE(S) OF SOURCE(S) AND RECORD ALL MENTIONED. Can mark more than one response	HOME Your home 1 Other Home 2 PUBLIC SECTOR Government Hospital 3 RHC/MCH 4 Family Welfare centre 5 Basic health unit 6 Lady Health Visitor at Public facility 7 Others public (specify) 99 PRIVATE/NGO MEDICAL SECTOR Private hospital/clinic 8 Lady Health Visitor at Private facility 9 Others private med (specify) 99 OTHER SOURCE Hakim Khana 10 Others (specify) 99	
318	ASK THIS QUESTION IF WOMAN DID NOT RECEIVE ANY ANTENATAL CARE Why didn't you see anyone for an antenatal check-up? RECORD ALL MENTIONED	Not necessary 1 Costs too much 2 Too far 3 No transport 4 No one to go with 5 Service not good 6 No time to go 7 Did not know where to go 8 Did not want to see a male doctor 9 Long waiting time 10 Not allowed to go 11 Other 99	
Now I would like to ask some information about last delivery and postnatal care			
319	Where was the last child delivered?	HOME Your home 1 Other Home 2 PUBLIC SECTOR Government Hospital 3 RHC/MCH 4 Family Welfare centre 5 Basic health unit 6 Others public (specify) 99 PRIVATE/NGO MEDICAL SECTOR Private hospital/clinic 7 Others private med (specify) 99 OTHER SOURCE Hakim Khana 8 Others (specify) 99	
320	ASK THIS QUESTION IF THE DELIVERY WAS NOT CONDUCTED AT HEALTH FACILITY (ASK IF RESPOND HOME or HAKIM KHANA) Why didn't you deliver in a health facility?	Cost too much 1 Facility not open 2 Too far/ no transportation 3 Don't trust facility/poor quality service 4 No female provider at facility 5 Husband/family did not allow 6 Not necessary 7	

	PROBE: Any other reason?	Not customary 8 Time/ baby came too fast 9											
	RECORD ALL MENTIONED.	Others (specify) 99											
321	What was the mode of last delivery?	Normal 1 Breech delivery 2 Instrumental delivery 3 Elective c-section 4 Emergency c-section 5 Vacuum applied 6 Others (specify) _____ 99											
322	Who conducted the last delivery?	PUBLIC SECTOR Lady health worker 1 Lady health visitor 2 Lady Doctor 3 Others public (specify) _____ 99 PRIVATE/NGO MEDICAL SECTOR Community Midwife 4 Suraj Provider 5 Lady Doctor 6 Others private (specify) _____ 99 OTHER SOURCE Friends/Relative (NOT A DAI) 7 Dai/Traditional Birth Attendant 8 Others (specify) _____ 99											
323	After your last child was born, did you receive any counseling/suggestion about birth spacing?	Yes 1 No 2											
324	Did you use any birth spacing method after your last delivery?	Yes 1 No 2	If 'No' skip 327										
325	Which method did you use after the delivery?	Pill 1 IUD 2 Injections 3 Implants 4 Condom 5 Periodic Abstinence 6 Withdrawal 7 Female sterilization 8 Male sterilization 9 Others (specify) _____ 99											
326	If yes, please specify how long after the delivery did you use the contraceptive method?	Within 42 days after delivery (postpartum period) _____ months 99											
327	In total, how much did you pay for the delivery, including doctors' fees, facility costs and medicines?	Nothing Free. 1 RS <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table> DON'T KNOW 998											
328	After you were discharged, did you receive any post-delivery care?	Yes 1 No 2											
329	During the delivery or in the 40-day period after your last delivery, did you experience any of the following problems?	<table border="0"> <tr> <td>Yes</td> <td>No</td> </tr> <tr> <td>Severe headaches?</td> <td>1 2</td> </tr> <tr> <td>Blurred vision?</td> <td>1 2</td> </tr> <tr> <td>Swelling of your hands?</td> <td>1 2</td> </tr> <tr> <td>Swelling of your face?</td> <td>1 2</td> </tr> </table>	Yes	No	Severe headaches?	1 2	Blurred vision?	1 2	Swelling of your hands?	1 2	Swelling of your face?	1 2	
Yes	No												
Severe headaches?	1 2												
Blurred vision?	1 2												
Swelling of your hands?	1 2												
Swelling of your face?	1 2												

	High fever? Fits or convulsions? Labor for more than 12 hours? Baby's feet came first? Placenta came first? Continuous dribbling of urine even during sleep Bad-smelling vaginal discharge? Inability to control motions. Heavy vaginal bleeding?	1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2	
330	For how many months after the birth of (NAME) did you not have sexual relations?	Months. Don't know. . . . 98	
331	Were you overall satisfied with the quality of care provided during delivery and the post-partum period at the health facility?	Yes 1 No 2 Don't know 100	

SECTION 4: FERTILITY PREFERENCE

401	ASK WOMAN WHO HAS LIVING CHILDREN: If you could go back to the time you didn't have any children and could choose exactly the number of children to have in your whole life, how many would that be? ASK WOMEN WHO HAS NO LIVING CHILDREN: If you could choose exactly the number of children to have in your whole life, how many would that be?	Boy <input type="text"/> Girl <input type="text"/> Boy <input type="text"/> Girl <input type="text"/>	
402	What is the ideal number of children for your husband?	Boy <input type="text"/> Girl <input type="text"/>	
403	What is the ideal number of children for your mother-in-law in your family?	Boy <input type="text"/> Girl <input type="text"/>	
404	Would you like to have (a/another) child?	Yes 1 No 2 Don't Know 100	If no, go to 407
405	Why do you want a/another child? RECORD ALL MENTIONED	Husband's desire for another child 1 Husband's desire for son 2 Husbands desire for daughter 3 In-laws' desire for another child 4 In-laws desire for boy 5 In-laws desire for girl 6 My own desire for another child 7 My own desire for boy 8 My own desire for girl 9 Others (specify) 99 10	
406	When would you like to have (a/another) child?	Duration in month	
407	If no, why do you not want a/another child? RECORD ALL MENTIONED	Personally do not want another child/want to limit family size 1 Personally want to space child birth 2 Husband does not want another child/want to limit family size 3 Husband wants to space child birth 4 She herself is sick 5 Husband is sick 6 Declared infertile/Cannot have more children 7 Financial constraints/Cannot afford another child 8 Illness of children 9 Others (specify) 99	

SECTION 5: MOBILITY AND DECISION MAKING

Now I would like to ask about the dynamics of decision making regarding family planning

501	Do you easily go out of your house whenever you need medical help?	Yes 1 No 2	If no, go to 503
502	Who usually accompanies you when you move out of your house to seek medical help?	Go alone 1 Accompanied by husband 2 Accompanied by mother-in-law 3 Others (specify) 99	
503	In your family, who decides about the decision to plan for a pregnancy? RECORD ALL MENTIONED	Husband 1 Mother-in-law 2 Wife/Respondent (MWRA) 3 Others (specify) 99	
504	Do you discuss the number of children you should have with your husband?	Yes 1 No 2	
505	Do you discuss family planning and birth spacing issues with your husband?	Yes 1 No 2	If no, go to 507
506	If yes, what is the attitude of your husband with you?	Cooperative/Friendly 1 Harsh/aggressive 2 Others (specify) 99	
507	If no, then why you haven't discussed these topics with your husband?	Afraid of him 1 Husband is religious 2 Mother in law decide that 3 Others (specify) 99	

508	<p>Now I am going to ask you about general decision making in your household. For each of the following situations, tell me who makes the decisions - yourself alone, your husband alone, jointly with your husband, by your mother-in-law alone or father-in-law alone.</p> <p><i>(Circle the relevant option)</i></p>		Husband	Wife	Wife & Husband	Mother-in-law	Father-in-law
		a. small household expenditures like toothpaste, batteries, etc.	1	2	3	4	5
		b. purchase of major household expenditures like TV, refrigerator, etc.	1	2	3	4	5
		c. female expenditures like clothes and jewelry	1	2	3	4	5
		d. your employment outside the home	1	2	3	4	5
		e. buying or selling property	1	2	3	4	5
		f. children's clothes	1	2	3	4	5
		g. where to take the child, God forbid, in the case of illness	1	2	3	4	5
		h. where you yourself go for medical care, God forbid, in the case of illness	1	2	3	4	5
		i. purchase of medicine	1	2	3	4	5
		j. children's education	1	2	3	4	5
		k. Visiting relatives	1	2	3	4	5
		l. number of children	1	2	3	4	5
		m. the money earned will be used in the household	1	2	3	4	5

509	In your opinion, is a husband justified in hitting or beating his wife in the following situations:	

	Yes	No	DK
If she goes out without telling him?	1	2	8
If she neglects the children?	1	2	8
If she argues with him?	1	2	8
If she refuses to have sex with him?	1	2	8
If she burns the food?	1	2	8

SECTION 6: CONTRACEPTION and INTENTION TO USE					
Now I would like to ask about the CONTRACEPTIVE KNOWLEDGE and EVER USE of CONTRACEPTIVE METHOD					
Knowledge of any FP Method and Ever Use					
Methods	601) Have you ever heard of (method)?	602) Source of information	603) Have you ever used (method)?	604) Do you know where a person could go to get (method)?	605) Have ever experienced any side effects while using any modern method?
a) Pills(Women can take a pill every day to avoid becoming pregnant)	Yes (probe it) .1 No .2 If no, go down		Yes .1 No .2	Yes .1 No .2	Yes .1 No .2
b) IUD (Women can have a loop or coil placed inside by a doctor or a trained worker)	Yes (probe it) .1 No .2 If no, go down		Yes .1 No .2	Yes .1 No .2	Yes .1 No .2
c) Injection (Women can have an injection by a health provider that stops them from becoming pregnant for one or more months)	Yes (probe it) .1 No .2 If no, go down		Yes .1 No .2	Yes .1 No .2	Yes .1 No .2
d) Implant/Femplant (Women can have several small rods placed in their upper arm by a doctor or nurse which can prevent pregnancy for one or more years)	Yes (probe it) .1 No .2 If no, go down		Yes .1 No .2	Yes .1 No .2	Yes .1 No .2
e) Condom (Men can put a rubber sheath on their organ before sexual intercourse)	Yes (probe it) .1 No .2 If no, go down		Yes .1 No .2	Yes .1 No .2	Yes .1 No .2
f) Female sterilization (Operation for women to avoid more pregnancies)	Yes (probe it) .1 No .2 If no, go to down		Yes .1 No .2	Yes .1 No .2	Yes .1 No .2
g) Male sterilization (Operation for men to avoid more pregnancies)	Yes (probe it) .1 No .2 If no, go down		Yes .1 No .2	Yes .1 No .2	Yes .1 No .2
h) Periodic abstinence (A woman can avoid pregnancy by not having sexual intercourse on the days	Yes (probe it) .1 No .2 If no, go down		Yes .1 No .2		

of the month she is most likely to get pregnant)					
i) Withdrawal (To avoid pregnancy the man does not ejaculate inside a woman during intercourse)	Yes (probe it) .1 No .2 If no, go down		Yes 1 No 2		
j) Others	Yes (probe it) .1 No .2		Yes 1 No 2	Yes .1 No .2	Yes 1 No 2
Now I would like to ask about the CURRENT CONTRACEPTIVE USE among those who EVER USED					
606	Are you currently doing something or using any method to delay or avoid getting pregnant?		Yes 1 No 2	If no, go to 624	
607	If yes, which method are you using? RECORD MOST EFFECTIVE METHOD (Permanent> Long term> Short term> Traditional)		Pill 10 IUD 11 Injections 12 Implants 13 Condom 14 Periodic Abstinence 15 Withdrawal 16 Female sterilization 17 Male sterilization 18 Others (specify) 99	If code 6 or 7, go to 624	
608	ASK THIS QUESTION IF THE WOMAN IS USING EITHER PILL OR CONDOM Did you use [NAME] contraceptive method at last sex/intercourse?		Yes 1 No 2		
609	ONLY FOR MODERN METHOD Modern methods include: Oral pill, Condom, Injection, Implant, IUD, Female sterilization, or Male sterilization What is your main reason for choosing this method?		Cost/Affordable 1 Quality 2 Effectiveness 3 Fewer Side Effects 4 Accessible 5 Favored by husband/mother in law 6 Suggested by a happy Suraj client 7 Long term 8 Short term 9 Permanent 10 Suggested by a satisfied user 11 Others (specify) 99		
610	Where did you get the (CURRENT METHOD) first time?		Suraj centre 1 CMW centre 2 Female Community Mobilizer 1 Rural health centre 3 Basic health unit 4 Lady health worker 5 Behtar zindagi centre 6 Others (specify) 99		
611	FOR SHORT TERM AND LONG TERM METHODS INCLUDING Oral pill, Condom, Injection, Implant, IUD Where did you obtain (CURRENT METHOD) the last time?		PUBLIC SECTOR Government Hospital/RHSC 1 Rural health centre, MCH 2 Family Welfare centre 3 Mobile service camp 4 Lady health worker 5 Lady health visitor 6 Community Midwife 7 Basic health unit 8 Male mobilize 9		

	<p>FOR PERMANENT METHODS (MALE&FEMALE STERILIZATION):</p> <p>Where did the sterilization take place?</p> <p>PROBE TO IDENTIFY THE TYPE OF SOURCE AND WRITE THE APPROPRIATE CODE IN THE SPACE PROVIDED ABOVE.</p>	<p>Others public (specify) _____ 99</p> <p>PRIVATE/NGO MEDICAL SECTOR</p> <p>Suraj centre 10</p> <p>Suraj/CMW Field Worker (FCM) 11</p> <p>Behtar zindagi centre 12</p> <p>Private hospital/clinic 13</p> <p>Pharmacy/chemists 14</p> <p>Private doctor 15</p> <p>Homeopath 16</p> <p>Dispenser/Compounder 17</p> <p>Others private (specify) _____ 99</p> <p>OTHER SOURCE</p> <p>Shop (Other than pharmacy/chemist) 18</p> <p>Friends/Relative/ 19</p> <p>Husband 20</p> <p>Hakim khana 21</p> <p>Dai/Traditional Birth Attendant 22</p> <p>Push cart 23</p> <p>Others (specify) _____ 99</p> <p>Don't know 100</p>													
612	Where did you get the (CURRENT METHOD) most of the time?	<p>Suraj centre 1</p> <p>CMW centre 2</p> <p>Female Community Mobilizer 2</p> <p>Rural health centre 3</p> <p>Basic health unit 4</p> <p>Lady health worker 5</p> <p>Behtar zindagi centre 6</p> <p>Others (specify) _____ 99</p>													
613	Who referred you to go to this facility?	<p>Female Community Mobilizer 3</p> <p>Husband 4</p> <p>Mother-in-law 5</p> <p>Lady health visitor 6</p> <p>Lady health worker 7</p> <p>Suraj/CMW Happy client 8</p> <p>Others (specify) _____ 99</p>													
614	Did you get the same method that you intended to receive when you went to the facility for the first time?	<p>Yes .1</p> <p>No .2</p> <p>Not planned .3</p>													
615	Is this provider based in your village/locality?	<p>Yes 1</p> <p>No 2</p>													
616	What is the name of the service provider? (Complete name)														
617	At the time you obtained (CURRENT METHOD) from the above source, were you told about side effects or problems you might have with the method?	<p>Yes 1</p> <p>No 2</p>													
618	Were you told what to do if you experienced side effects or problems?	<p>Yes 1</p> <p>No 2</p>													
619	Were you ever told about other methods of family planning that you could use (Were you provided choice of method?)?	<p>Yes 1</p> <p>No 2</p>													
620	How far the healthcare centre is from your residency in terms of kilometers? (write 01 if less than 1 Km)	_____ kms.													
621	How long does it take to reach the service outlet?	<table border="1"> <tr> <td>By foot</td> <td></td> <td>Hr</td> <td></td> <td>Min</td> <td></td> </tr> <tr> <td>By vehicle</td> <td></td> <td>Hr</td> <td></td> <td>Min</td> <td></td> </tr> </table>	By foot		Hr		Min		By vehicle		Hr		Min		
By foot		Hr		Min											
By vehicle		Hr		Min											
622	What is the unit price of this method?	<table border="1"> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p>Rupee</p> <p>Free 1</p> <p>No/did not pay 2</p>													

		Husband knows 3 Others 4										
623	Since what month and year have you been using (CURRENTMETHOD) without stopping?	MONTH YEAR <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td><td> </td><td> </td></tr></table>										
624	<p>IF USING PERIODIC ABSTINENCE OR WITHDRAWAL THEN ASK TILL 623)</p> <p>If using traditional method, what are the reasons you are not using a modern method to delay or avoid getting pregnant?</p> <p>If no, what are the reasons you are not using a method to delay or avoid getting pregnant?</p>	<p>Want more child 1 Infrequent sex/No sex 2 Menopausal/Hysterectomy 3 Infertile/can't get pregnant 4 No menstruation after birth 5 Breastfeeding 6 Up to God, can't control 7 Opposed to family planning 8 Husband opposed 9 Other people opposed 10 Religious reasons 11 Knows no method 12 Knows no source 13 Health concerns 14 Fear of Side Effects 15 Lack of access/Too far 16 Cost too much 17 Inconvenient to use 18 Interferes with body's normal processes 19 Others specify _____ 99 Don't know .100</p>										
625	Have you ever been pregnant while practicing the traditional method?	Yes1 No2										
626	In the last month, have you heard a message about family planning on?	<table border="0"> <tr> <td></td> <td>Yes</td> <td>No</td> </tr> <tr> <td>Radio</td> <td>1</td> <td>2</td> </tr> <tr> <td>Television</td> <td>1</td> <td>2</td> </tr> </table>		Yes	No	Radio	1	2	Television	1	2	If no to all, go to 629
	Yes	No										
Radio	1	2										
Television	1	2										
627	<p>What messages did it convey to you?</p> <p>RECORD ALL POSSIBLE RESPONSES</p>	<p>Limiting the family 1 Higher age at marriage 2 Spacing of children 3 Use of contraceptives 4 Welfare of family 5 Maternal and child health 6 Less children mean prosperous life 7 More children mean poverty and starvation 8 Importance of breastfeeding 9 Others specify _____ 99 Don't know/not remember 100</p>										
628	Do you think that the message you heard was effective or not effective in persuading couples to use family planning?	<p>Effective 1 Not effective 2 Don't know100</p>										
629	Were you visited by healthcare worker in last 12 months who discussed about Family planning or birth spacing?	Yes1 No2										
Now I would like to ask about the CONTRACEPTIVE DISCONTINUATION among those who EVER USED CONTRACEPTIVE												
630	<p>I would like to ask you some questions about the times you or your partner may have used a method to avoid getting pregnant during the last few years.</p> <p>USE CALENDAR TO PROBE FOR EARLIER PERIODS OF USE AND NONUSE, STARTING WITH MOSTRECENT USE, BACK TO AUGUST 2008.</p> <p>Since what month and year have you been using (CURRENT METHOD) without stopping?</p> <p>PROBE: For how long have you been using (CURRENT METHOD) now without stopping?</p>											

USE NAMES OF CHILDREN, DATES OF BIRTH, AND PERIODS OF PREGNANCY AS REFERENCE POINTS.

IN COLUMN 1, ENTER METHOD USE CODE OR '0' FOR NONUSE IN EACH BLANK MONTH.

ILLUSTRATIVE QUESTIONS:

- When was the last time you used a method? Which method was that?
- When did you start using that method? How long after the birth of (NAME)?
- How long did you use the method then?

IN COLUMN 2, ENTER CODES FOR DISCONTINUATION NEXT TO THE LAST MONTH OF USE. NUMBER OF CODES IN COLUMN 2 MUST BE SAME AS NUMBER OF INTERRUPTIONS OF METHOD USE IN COLUMN 1.

ASK WHY SHE STOPPED USING THE METHOD. IF A PREGNANCY FOLLOWED, ASK WHETHER SHE BECAME PREGNANT UNINTENTIONALLY WHILE USING THE METHOD OR DELIBERATELY STOPPED TO GET PREGNANT.

ILLUSTRATIVE QUESTIONS:

- Why did you stop using the (METHOD)? Did you become pregnant while using (METHOD), or did you stop to get pregnant, or did you stop for some other reason?
- IF DELIBERATELY STOPPED TO BECOME PREGNANT, ASK: How many months did it take you to get pregnant after you stopped using (METHOD)? AND ENTER '0' IN EACH SUCH MONTH IN COLUMN 1.

Calendar Entries for CASE#1

INSTRUCTIONS:

ONLY ONE CODE SHOULD APPEAR IN ANY BOX.
ALL MONTHS IN COLUMN 1 SHOULD BE FILLED.

INFORMATION TO BE CODED FOR EACH BOX IN
COLUMN 1

COL: 1 BIRTHS, PREGNANCIES, CONTRACEPTIVE

USE B BIRTHS
 P PREGNANCIES
 T TERMINATIONS

- NO METHOD
- FEMALE STERILIZATION
- MALE STERILIZATION
- IUD
- INJECTABLES
- IMPLANTS
- PILLS
- CONDOM
- FEMALE CONDOM
- DIAPHRAGM
- FOAM OR JELLY
- LACTATIONAL AMENORRHEA METHOD
- RHYTHM METHOD
- WITHDRAWAL
- OTHER _____
(SPECIFY)

INFORMATION TO BE CODED FOR RELEVANT BOX
IN COLUMNS 2

**COL 2: DISCONTINUATION OF CONTRACEPTIVE
USE**

- INFREQUENT SEX/HUSBAND AWAY
- BECAME PREGNANT WHILE USING
- WANTED TO BECOME PREGNANT
- HUSBAND PARTNER DISAPPROVED
- WANTED MORE EFFECTIVE MTHOD
- HEALTH EFFECTS/HEALTH CONCERNS
- LACK OF ACCESS/TOO FAR
- COSTS TOO MUCH
- INCONVENIENT TO USE
- UP TO GOD/FATALISTIC
- DIFFICULT TO GET

		COL.1	COL.2
2013	07 JUL13	01	
	06 JUN 13	02	
	05 MAY 13	03	
	04 APR 1	04	
	03 MAR 13	05	
	02 FEB 13	06	
	01 JAN 13	07	
2012	12 DEC 12	08	
	11 NOV 12	09	
	10 OCT12	10	
	09 SEP 12	11	
	08 AUG 12	12	
	07 JUL12	13	
	06 JUN 12	14	
	05 MAY 12	15	
	04 APR 12	16	
	03 MAR 12	17	
	02 FEB 12	18	
	01 JAN 12	19	
2011	12 DEC 11	20	
	11 NOV 11	21	
	10 OCT11	22	
	09 SEP 11	23	
	08 AUG 11	24	
	07 JUL11	25	
	06 JUN 11	26	
	05 MAY 11	27	
	04 APR 11	28	
	03 MAR 11	29	
	02 FEB 11	30	
	01 JAN 11	31	
2010	12 DEC 10	32	
	11 NOV 10	33	
	10 OCT10	34	
	09 SEP 10	35	
	08 AUG 10	36	
	07 JUL10	37	
	06 JUN 10	38	
	05 MAY 10	39	
	04 APR 10	40	

	PREGNANT/MENOPAUSAL 11 MARITAL DISSOLUTION/SEPARATION 12 DON'T KNOW 13 OTHER _____ (SPECIFY) _____	03 MAR 10	41			
		02 FEB 10	42			
		01 JAN 10	43			
2009		12 DEC 09	44			
		11 NOV 09	45			
		10 OCT 09	46			
		09 SEP 09	47			
		08 AUG 09	48			
		07 JUL 09	49			
		06 JUN 09	50			
		05 MAY 09	51			
		04 APR 09	52			
		03 MAR 09	53			
		02 FEB 09	54			
		01 JAN 09	55			
	2008		12 DEC 08	56		
		11 NOV 08	57			
		10 OCT 08	58			
		09 SEP 08	59			
		08 AUG 08	60			
Now I would like to ask about your INTENTION TO USE THE CONTRACEPTIVE METHOD in FUTURE						
631	(CHECK Question # 607,IF WOMEN OR HER HUSBAND ALREADY GOT STERILIZATION, THEN DO NOT ASK THIS QUESTION AND SKIP TO section 7) Do you think you will use a contraceptive method to delay or avoid pregnancy at any time in the future?	Yes 1 No 2 Not sure 100				If no, go to 635
632	If yes, which method would you prefer to use in future?	Pill 1 IUD 2 Injections 3 Implant 4 Condom 5 Periodic Abstinence 6 Withdrawal 7 Female sterilization 8 Male sterilization 9 Other (specify) 99				
633	What would be the reason for choosing this method?	Cost/affordability 1 Quality 2 Long term 3 Short term 4 Accessibility 5 Only option available 6 Didn't know about other contraceptive methods 7 Permanent 8 Comfortable in using 9 Fewer side effects 10 Non-hormonal 11 Recommended by doctor 12 Recommended by friend/relatives 13 Chosen by husband 14 Others (specify) 99				
634	Would you be willing to pay for availing the FP method of your choice?	Yes 1 No 2				
635	If you don't think you will use a contraceptive method in the future, what is the main reason you will not?	Want more child 1 Infrequent sex/No sex 2 Menopausal/Hysterectomy 3 Infertile/can't get pregnant 4 No menstruation after birth 5				
RECORD ALL MENTIONED						

		Breastfeeding 6 Up to God, can't control 7 Opposed to family planning 8 Husband opposed 9 Other people opposed 10 Religious reasons 11 Knows no method 12 Knows no source 13 Health concerns 14 Fear of Side Effects 15 Lack of access/Too far 16 Cost too much 17 Inconvenient to use 18 Interferes with body's normal processes 19 Others specify 99 Don't know 100	
--	--	--	--

SECTION 7: PROJECT EVALUATION

701	Have you ever heard of Marie Stopes Society/BehtarZindagi Centre?	Yes 1 No 2	
702	Have you ever heard of Suraj/CMW center/BHU/RHC?	Yes .1 No .2	If no, skip to 719
703	If yes, where did you hear of Suraj/CMW center?	Female Community Mobilizer .1 Service Provider .2 Suraj Marketing/Advertisement .3 Relative/Friend/Husband .4 Happy client of this facility .5 LHV .6 LHW .7 Dai .8 Others specify 99	
704	Have you ever seen advertisement/walk chalking/brochure/sign board of the Suraj/CMW/BHU/RHC?	Yes .1 No .2	
705	Have you ever used any Family Planning method of Suraj centre/CMW/BHU/RHC?	Yes .1 No .2	If no, skip to 711
706	If yes, what are the family planning services you have used? RECORD ALL MENTIONED	Pills .1 IUD .2 Injections .3 Implant .4 Condoms .5 Female sterilization .6 Male sterilization .7 Other (specify) 99	
707	Who referred you to go to Suraj/CMW/Govt. facility?	Female Community Mobilizer 1 Husband 2 Mother-in-law 3 Lady health visitor 4 Lady health worker 5 Happy client of this facility 6 Others (specify) 99	
708	Were you satisfied with the services?	Yes .1 No .2	If yes, skip to 710
709	If no, please specify your reasons for your dissatisfaction.	Irregular opening hours of Suraj/CMW Centre .1 Waiting time Long .2 Unqualified and untrained provider .3	

		Rude attitude of the provider .4 Lack of privacy and confidentiality .5 Lack of proper advice and information .6 Unaffordable and unreasonable prices .7 Bad treatment and services .8 Absence of cleanliness .9 Voucher Scheme .10 Others specify .99	
710	If yes, please specify your reasons for satisfaction.	Regular opening hours of Suraj/CMW Centre .1 Qualified/Trained provider .2 Cleanliness of the facility .3 Waiting time short .4 Friendly attitude of the provider .5 Privacy and confidentiality .6 The quality of advice and information .7 Affordable/cheap price .8 Better treatment and service .9 Voucher Scheme .10 Others specify .99	
711	Would you recommend the Suraj/CMW Centre to your friends for Family Planning Services?	Yes .1 No .2	
(Applicable for SURAJ PROVIDER's AREA only) Now I would like to ask about VOUCHER SCHEME			
712	Have you ever taking family planning service from Suraj through voucher?	Yes .1 No .2	If no, skip to 719
713	If yes, were you assessed by female community mobilizer for socio-economic status?	Yes .1 No .2	
714	Would you have availed the service if voucher had not been given to you?	Yes .1 No .2	If no, skip to 716
715	If yes, please specify the reason		
716	If no, please specify the reason		
717	Who do you think is the greatest beneficiary of Suraj voucher scheme?	Suraj provider .1 Suraj Field Worker (FCM) .2 Educated and wealthy women .3 Poor and uneducated women .4 Others specify .99	
718	In your opinion, how voucher scheme has benefited them?		
Now I would like to ask about USE OF CONTRACEPTIVE FREE OF COST			
719	Have you ever used any Family Planning service free of cost other than Suraj Centre?	Yes .1 No .2	If no, skip to section 8
720	If yes, where did you get the service most of the time?	Camp .1 LHW .2 LHV .3 Dai .4 Private Doctor .5 RHSC/MCH/ Govt. Facility .6 RHC .7 BHU .8 CMW Centre .9 Others (specify) .99	

721	Which FP methods have you received from above source?	Pill 1 IUD 2 Injections 3 Implant 4 Condom 5 Female sterilization 6 Male sterilization 7 Other (specify) 99	
722	Were you satisfied with the service?	Yes .1 No .2	

SECTION 8: POVERTY INDEX / MULTI-DIMENSIONAL POVERTY INDEX

Read to respondent: "I would like to ask you some questions about your living conditions. Please answer as honestly as possible. Your answers will not affect the service you receive or the price you pay."

Read questions to respondent exactly as written. Do not read out the response options. Circle the number corresponding closest to the respondent's answer. All questions must be answered.

P1	In what province does the household live?	Balochistan .1 KPK .2 Sindh .3 Punjab .4	
P2	How many household members are 13 years old or younger?	Five or more .1 Four .2 Three .3 Two .4 One .5 None .6	If 'None', Skip P3
P3	How many children ages 5 to 13 attend school?	Not all .1 All .2	
P4	How many household members work in elementary occupations (not senior officials, managers, professionals, technicians or associated professionals, clerks, salespeople, service or shop workers, skilled workers in agriculture or fishery, craft or trade workers, or plant/machinery operator)?	Two or more .1 One .2 None .3	
P5	What is the highest educational level completed by the female head/spouse?	Less than Class 1 .1 No female head/spouse .2 Class 1 or higher .3	
P6	What is the main source of drinking water for the household?	Others .1 Hand pump, covered/closed well, motorized pump/tube well, or piped water .2	
P7	What type of toilet is used by your household?	None or other .1 Flush connected to pit/septic tank or open drain .2 Flush connected to public sewerage .3	

P8	Does the household own a refrigerator or freezer?	No .1		
		Yes .2		
P9	Does the household own a television?	No .1		
		Yes .2		
P10	Does the household own a motorcycle, scooter, car or other vehicle?	No .1		
		Yes .2		
END TIME	Record the current time	Hours	<input type="text"/>	Minutes <input type="text"/>

Questionnaire ID:

--	--	--	--	--	--

Meeting Birth Spacing Needs of the Underserved in Punjab Districts

Baseline Household Survey Questionnaire

CONSENT FORM

Consent form shared by WHO will be used for this study.

Do you freely consent to participate in the survey?

- Yes
- No

RESPONDENT **AGREES** TO BE INTERVIEWED —→ **CONTINUE WITH SURVEY**

RESPONDENT **DOES NOT AGREE** TO BE INTERVIEWED —→ **END**

VISIT INFORMATION						
INTERVIEWER VISITS	1	2	3	Final Visit		
Date <div></div>	<div></div>	<div></div>	<div></div>	Date <div></div>	<div></div>	<div></div>
Interviewer's Name <div></div>	<div></div>	<div></div>	<div></div>	Month <div></div>	<div></div>	<div></div>
Result <div></div>	<div></div>	<div></div>	<div></div>	Year <div>2</div> <div>0</div> <div></div> <div></div>	<div></div>	<div></div>
Result <div></div>	<div></div>	<div></div>	<div></div>	Result <div></div>	<div></div>	<div></div>
INTERVIEWER VISITS, if required after editing Date <div></div>	<div></div>	<div></div>	<div></div>	Result Codes: 1 = Completed 2 = Not at home 3 = Postponed 4 = Partially completed 5 = Refused 99 = Others, specify		
Time <div></div>	<div></div>	<div></div>	<div></div>			
Name <div></div>	Field Edited by <div></div>	Office edited by <div></div>	1st data entry by <div></div>	2nd data entry by <div></div>		
Date <div></div>	<div></div>	<div></div>	<div></div>	<div></div>		
Signature <div></div>	<div></div>	<div></div>	<div></div>	<div></div>		

Remarks:

IDENTIFICATION			
1	Province	Punjab	1
2	District	Chakwal 1 Mianwali 2 Bhakkar 3 Faisalabad 4 Toba Tek Singh 5	
3	Name of service provider area		
4	Name of area of service provider		
5	Household Number Give a house number (according to your present house number sequence)	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	
6	Record the current time	Hours <input type="text"/> Minutes <input type="text"/>	
SECTION 1: RESPONDENT and HOUSEHOLD CHARACTERISTICS			
First, I would like to ask some information about you and your husband			
Q #	Questions and Filters	Coding categories	Skip Pattern
101	What is your name?		
102	What is your current marital status?	Married 1 Widowed 2 Divorced 3 Separated 4	
103	What is your husband's name?		
104	What is your approximate age in years?	Years <input type="text"/>	
105	What is your husband's approximate age in years?	Years <input type="text"/>	
106	What was your approximate age at the time of your marriage?	Years <input type="text"/>	
107	What is your religion?	Islam 1 Hinduism 2 Christianity 3	
108	What is your mother tongue?	Urdu 1 Sindhi 2 Punjabi 3 Pushto 4 Hindco 5 Siraiki 6 Balochi 7 Others (specify) _____ 99	
109	What is your educational qualification?	Illiterate 1 Can read, write and perform simple sums 2 Primary(1 to 5) 3 Middle (6 to 8) 4 Secondary 5 Intermediate 6 Graduate/Postgraduate 7	
110	What is your husband's educational qualification?	Illiterate 1 Can read, write and perform simple sums 2 Primary(1 to 5) 3 Middle (6 to 8) 4	

		Secondary 5 Intermediate 6 Graduate/Postgraduate 7	
111	Who is the head of the household?	My husband 1 My Mother-in-Law 2 Myself (respondent) 3 Any other 4	If Husband, then go to 113
112	What is the educational qualification of head of the household?	Illiterate 1 Can read, write and perform simple sums 2 Primary(1 to 5) 3 Middle (6 to 8) 4 Secondary 5 Intermediate 6 Graduate/Postgraduate 7	
113	Is there a blood relationship between you and your husband?	Yes 1 No 2	If no, then go to 114
113a	What type of relationship is it?	First cousin on mother's side 1 First cousin on father's side 2 Second cousin 3 Other relationship 4 Don't know 100	
114	Total number of members living in the household?	Male <input type="text"/> Female <input type="text"/>	
115	How many people in the household are under the age of 18?	Male <input type="text"/> Female <input type="text"/>	
116	How many people in the household are over the age of 65?	Male <input type="text"/> Female <input type="text"/>	
117	In general, would you say your health is excellent, very good, good, fair, or poor?	Excellent 1 Very good 2 Good 3 Fair 4 Poor 5	
Now I would like to ask some information about your household			
118	What is the main source of drinking water for members of your household?	PIPED WATER Piped into dwelling 1 Piped to yard/plot 2 Public tap/stand pipe 3 Tube well or borehole 4 Hand pump 5 DUG WELL Protected well 6 Unprotected well 7 WATER FROM SPRING Protected spring/karez 8 Unprotected spring 9 Rainwater 10 Tanker truck 11 Cart with small tank 12 Surface water 13 (river/dam/lake/pond/stream/canal) Bottled water 14 Others (specify) 99	} → Go to 120
119	How long does it take to go there, get water, and come back?	Minutes <input type="text"/> On Premises 996 Don't know 998	

120	Do you treat your water in any way to make it safer to drink?	Yes 1 No 2 Don't Know 100	} → Go to 122																																																			
121	What do you usually do to the water to make it safer to drink? Anything else? RECORD ALL MENTIONED	Boil 1 Add bleach/ Chlorine 2 Strain through a cloth 3 Use water filter (ceramic/ sand/composite/etc.) 4 Solar disinfection 5 Let it stand and settle 6 Others (specify) _____ 99 Don't Know 100																																																				
122	What kind of toilet facility do members of your household usually use?	FLUSH OR POUR FLUSH TOILET Flush to sewer system 1 Flush to septic tank 2 Flush to somewhere else 3 Flush, don't know where 4 PIT LATRINE VENTILATED IMPROVED Pit latrine (VIP) 5 Pit latrine with slab 6 Pit latrine without slab/ open pit 7 Bucket toilet 8 HANGING TOILET/HANGING Latrine 9 No facility/bush/field 10 Others (specify) _____ 99	If no facility, go to 124																																																			
123	Do you share this toilet facility with other households?	Yes 1 No 2																																																				
124	Does your household have: Electricity? Radio? Television? Refrigerator? Mobile or land line telephone? Room cooler, air conditioner? Washing machine? Water pump? Bed? Chairs? Almirah / cabinet? Clock? Sofa? Sewing machine? Camera? Personal computer?	<table border="1"> <thead> <tr> <th></th> <th>Yes</th> <th>No</th> </tr> </thead> <tbody> <tr> <td>Electricity</td> <td>1</td> <td>2</td> </tr> <tr> <td>Radio</td> <td>1</td> <td>2</td> </tr> <tr> <td>Television</td> <td>1</td> <td>2</td> </tr> <tr> <td>Refrigerator</td> <td>1</td> <td>2</td> </tr> <tr> <td>Any telephone</td> <td>1</td> <td>2</td> </tr> <tr> <td>Room cooler, air condition</td> <td>1</td> <td>2</td> </tr> <tr> <td>Washing machine</td> <td>1</td> <td>2</td> </tr> <tr> <td>Water pump</td> <td>1</td> <td>2</td> </tr> <tr> <td>Bed</td> <td>1</td> <td>2</td> </tr> <tr> <td>Chairs</td> <td>1</td> <td>2</td> </tr> <tr> <td>Almirah/cabinet</td> <td>1</td> <td>2</td> </tr> <tr> <td>Clock</td> <td>1</td> <td>2</td> </tr> <tr> <td>Sofa</td> <td>1</td> <td>2</td> </tr> <tr> <td>Sewing machine</td> <td>1</td> <td>2</td> </tr> <tr> <td>Camera</td> <td>1</td> <td>2</td> </tr> <tr> <td>Personal computer</td> <td>1</td> <td>2</td> </tr> </tbody> </table>		Yes	No	Electricity	1	2	Radio	1	2	Television	1	2	Refrigerator	1	2	Any telephone	1	2	Room cooler, air condition	1	2	Washing machine	1	2	Water pump	1	2	Bed	1	2	Chairs	1	2	Almirah/cabinet	1	2	Clock	1	2	Sofa	1	2	Sewing machine	1	2	Camera	1	2	Personal computer	1	2	
	Yes	No																																																				
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Sewing machine	1	2																																																				
Camera	1	2																																																				
Personal computer	1	2																																																				
125	(Check Q124: if possess Personal Computer ask this else move to 126) Do you use internet in your home?	Yes 1 No 2																																																				
126	(Check Q124: if possess Television ask this else move to																																																					

	127)		
	Does your TV have SATELLITE/Cable connection?	Yes 1 No 2	
127	What type of fuel does your household mainly use for cooking?	Electricity 1 Cylinder Gas 2 Natural Gas 3 Biogas 4 Kerosene 5 Charcoal 6 Wood 7 Straw/Shrubs/Grass 8 Agricultural Crop 9 Animal Dung 10 No food cooked in Household 100 Others (specify) 99	
128	MAIN MATERIAL OF THE FLOOR: RECORD OBSERVATION	NATURAL FLOOR Earth/Sand/Mud 1 FINISHED FLOOR Chips/Terrazzo 2 Ceramic Tiles 3 Marble 4 Cement 5 Carpet 6 Bricks 7 Mats 8 Others (specify) 99	
129	MAIN MATERIAL OF THE ROOF: RECORD OBSERVATION	NATURAL ROOFING Thatch/Bamboo/Wood/Mud 1 RUDIMENTARY ROOFING Cardboard/Plastic 2 FINISHED ROOFING Iron Sheets/Asbestos 3 T-iron/Wood/Brick 4 Reinforced brick cement/RCC 5 Others (specify) 99	
130	MAIN MATERIAL OF THE WALLS: RECORD OBSERVATION	NATURAL WALLS Mud/Stones 1 Bamboo/Sticks/Mud 2 RUDIMENTARY WALLS Unbaked bricks/Mud 3 Plywood sheets 4 Carton/Plastic 5 FINISHED WALSS Stone blocks 6 Baked bricks 7 Cement blocks/cement 8 Tent 9 Others (specify) 99	
131	How many rooms in this household?	Total Rooms <input type="text"/> <input type="text"/> Rooms for sleeping <input type="text"/> <input type="text"/>	
132	Is this house rented, rent-free, mortgaged, or owned by a member of the household?	Rented 1 Rent Free 2 Mortgaged 3 Owned 4 Others (specify) 99	
133	Does any member of this household own: A Watch?	Yes No A Watch? 1 2	

	A bicycle?	A bicycle? 1 2	
	A motorcycle or motor scooter?	A motorcycle or motor scooter? 1 2	
	An animal-drawn cart?	An animal-drawn cart? 1 2	
	A car or truck or Tractor?	A car or truck or Tractor? 1 2	
	A boat with a motor?	A boat with a motor? 1 2	
134	Does any member of this household own any land that can be used for agriculture?	Yes 1 No 2	
135	Does this household own any livestock, herds, other farm animals, or poultry?	Yes 1 No 2	If no, go to 137
136	Does any member of this household own: Buffalo Milk cows or bulls? Camels? Donkeys, or mules or horses? Goats? Sheep? Chickens?	Buffalo..... <input type="text"/> <input type="text"/> Milk cows or bulls..... <input type="text"/> <input type="text"/> Camels..... <input type="text"/> <input type="text"/> Donkeys, or mules or horses.. <input type="text"/> <input type="text"/> Goats..... <input type="text"/> <input type="text"/> Sheep..... <input type="text"/> <input type="text"/> Chickens..... <input type="text"/> <input type="text"/> IF NONE, WRITE '00'. IF > 95, WRITE '95'. IF UNKNOWN, WRITE '98'	
Now I would like to ask about you and your husband's occupation and your income			
137	Do you earn any income? (ask for the responding woman's income only)	Yes 1 No 2	If no, go to 139
138	What is your occupation? That is, what kind of work do you mainly do?	Professional/Technical manager 1 Clerical 2 Sales and services 3 Skilled manual 4 Unskilled manual 5 Domestic services 6 Agriculture/farming 7 Others (specify) 99	
139	What is your husband's occupation? That is, what kind of work does he mainly do?	Professional/Technical manager 1 Clerical 2 Sales and services 3 Skilled manual 4 Unskilled manual 5 Domestic services 6 Agriculture/farming 7 Others (specify) 99	
140	What is your average household monthly income?	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> PKR Don't know/Can't say 100	
141	How many members are income earners in your households?	<input type="text"/> <input type="text"/> Members	

142	Which of these statements best describes the food eaten in your house hold? READ OUT RESPONSES	Enough of the kinds we want to eat 1 Enough but not always the kinds of foods we want to eat 2 Sometimes not enough to eat 3 Often not enough to eat 4																															
143	Now I will read out some statements. For each statement please tell me whether you strongly agree, agree, neither agree nor disagree, disagree or strongly disagree with these statements? <i>Circle the relevant option</i>	<table border="1"> <thead> <tr> <th></th> <th>Strongly Agree</th> <th>Agree</th> <th>Neutral</th> <th>Disagree</th> <th>Strongly Disagree</th> </tr> </thead> <tbody> <tr> <td>I feel hopeful about the future</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> </tr> <tr> <td>I am happy</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> </tr> <tr> <td>I enjoy life</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> </tr> <tr> <td>I feel that I am just as good as other people</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> </tr> </tbody> </table>		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	I feel hopeful about the future	1	2	3	4	5	I am happy	1	2	3	4	5	I enjoy life	1	2	3	4	5	I feel that I am just as good as other people	1	2	3	4	5	
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SECTION 2: Reproductive Status, Decision making and Contraceptive status																																	
First, I would like to ask some questions about your reproductive history and health																																	
201	Have you ever been pregnant?	Yes 1 No 2	(if no, go to 212)																														
202	Are you currently pregnant?	Yes 1 No 2 Not sure 3																															
202a	How many times have you been pregnant? (including current pregnancy)	___ times																															
203	What was the outcome of your pregnancies?	a) Abortion ___ Nos. b) Stillbirth ___ Nos. c) Live birth ___ Nos. d) Early neonatal death (first 7 days) ___ Nos. e) Late neonatal death (8-28 days) ___ Nos. f) Infant death (29 days to < 1 year) ___ Nos. g) Death during 1 to 5 years ___ Nos. h) Alive children ___ Nos.																															
204	How many children do you have? (Please, specify the number of living children)	Boy <input type="text"/> Girls <input type="text"/>																															
205	What are the sex, name and date of birth/age of your two youngest children?	<table border="1"> <thead> <tr> <th colspan="2">1st Youngest Child</th> <th colspan="2">2nd Youngest Child</th> </tr> </thead> <tbody> <tr> <td>Name <input type="text"/></td> <td>Name <input type="text"/></td> <td>Name <input type="text"/></td> <td>Name <input type="text"/></td> </tr> <tr> <td>Male..... 1 Female.... 2</td> <td>Male 1 Female. 2</td> <td>Male 1 Female. 2</td> <td>Male 1 Female. 2</td> </tr> <tr> <td colspan="2">DATE OF BIRTH</td> <td colspan="2">DATE OF BIRTH</td> </tr> <tr> <td>Date <input type="text"/> Mon <input type="text"/> Yr <input type="text"/></td> <td>Date <input type="text"/> Mon <input type="text"/> Yr <input type="text"/></td> <td>Date <input type="text"/> Mon <input type="text"/> Yr <input type="text"/></td> <td>Date <input type="text"/> Mon <input type="text"/> Yr <input type="text"/></td> </tr> <tr> <td colspan="2">Approx. age Yr <input type="text"/> Mon <input type="text"/></td> <td colspan="2">Approx. age Yr <input type="text"/> Mon <input type="text"/></td> </tr> </tbody> </table>	1 st Youngest Child		2 nd Youngest Child		Name <input type="text"/>	Name <input type="text"/>	Name <input type="text"/>	Name <input type="text"/>	Male..... 1 Female.... 2	Male 1 Female. 2	Male 1 Female. 2	Male 1 Female. 2	DATE OF BIRTH		DATE OF BIRTH		Date <input type="text"/> Mon <input type="text"/> Yr <input type="text"/>	Date <input type="text"/> Mon <input type="text"/> Yr <input type="text"/>	Date <input type="text"/> Mon <input type="text"/> Yr <input type="text"/>	Date <input type="text"/> Mon <input type="text"/> Yr <input type="text"/>	Approx. age Yr <input type="text"/> Mon <input type="text"/>		Approx. age Yr <input type="text"/> Mon <input type="text"/>								
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Approx. age Yr <input type="text"/> Mon <input type="text"/>		Approx. age Yr <input type="text"/> Mon <input type="text"/>																															
206	What was the outcome of your last pregnancy?	Delivered 1 Still birth 2 Miscarriage 3																															

		Aborted 4	
207	Did you receive any antenatal care when you were pregnant last time?	Yes 1 No 2	(if no, go to 211)
208	How many antenatal care visits were made?	Number of ANC visits.....	
209	Where did you receive antenatal care? (Name of place)	<p>HOME Your home Other Home</p> <p>PUBLIC SECTOR Government Hospital 1 RHC/MCH 2 Family Welfare centre 3 Basic health unit 4 Other public (specify) 5</p> <p>PRIVATE/NGO MEDICAL SECTOR Private hospital/clinic 6 Private doctor 7 Homeopath 8 Dispenser/Compounder 9 Other private medical (specify)..... 10</p> <p>OTHER SOURCE Hakim 11 Others (specify)_____ 99</p>	
210	Who examined you for the antenatal care?	<p>PUBLIC SECTOR Government 1 Hospital/RHSC Rural health centre, MCH 2 Family Welfare centre 3 Mobile service camp 4 Lady health worker 5 Lady health visitor 6 Basic health unit 7 Other public (specify) 8</p> <p>PRIVATE/NGO MEDICAL SECTOR Private hospital/clinic 9 Private doctor 10 Homeopath 11 Dispenser/Compounder 12 Other private medical (specify)..... 13</p> <p>OTHER SOURCE Friends/Relative/Husband 14 Hakim 15 Dai/Traditional Birth Attendant 16 Others (specify)_____ 99</p>	
211	Where was the last child delivered?	<p>Home 1 Maternity home 2 Hospital 3 Health care facility 4 Others (specify)_____ 99</p>	
212	Were you referred to a higher level facility during the labor?	Yes .1 No .2	
213	What was the mode of last delivery?	<p>Normal 1 Breech delivery 2 Instrumental delivery 3 Elective c-section 4</p>	

		Emergency c-section 5 Vacuum applied 6 Others (specify) 99	
214	Who conducted the last delivery of child?	PUBLIC SECTOR Lady health worker 1 Lady health visitor 2 Others (specify) 99 PRIVATE/NGO MEDICAL SECTOR Nurse/Midwife 3 Homeopath 4 Dispenser/Compounder 5 Others (specify) 99 OTHER SOURCE Friends/Relative 6 Hakim 7 Dai/Traditional Birth Attendant 8 Others (specify) 99	
215	ASK WOMAN WHO HAS LIVING CHILDREN: If you could go back to the time you didn't have any children and could choose exactly the number of children to have in your whole life, how many would that be? ASK WOMEN WHO HAS NO LIVING CHILDREN: If you could choose exactly the number of children to have in your whole life, how many would that be?	Boy <input type="text"/> Girl <input type="text"/> Boy <input type="text"/> Girl <input type="text"/>	
216	At the time you became pregnant, did you want to become pregnant then, did you want to wait until later, or did you not want to have any (more) children at all?	Then 1 Later 2 Not at all 3	
216a	At the time you became pregnant, did your husband want a child then, did he want to wait until later, or did not want to have any (more) children at all?	Then 1 Later 2 Not at all 3	
217	The last time you were pregnant, were you or your husband using any FP method?	Yes 1 No 2 Don't Know 100	If no, then go to 218
217a	Which method were you / your husband using?	Pill 1 IUD 2 Injections 3 Implant 4 Condom 5 Periodic Abstinence 6 Withdrawal 7 Other (specify) 99	
218	Would you say that you approve or disapprove of couples using a contraceptive method to avoid getting pregnant?	Approve 1 Disapprove 2 Don't Know/Not sure 100	
219	Would you say that your husband approves or disapproves of couples using a contraceptive method to avoid getting pregnant?	Approve 1 Disapprove 2 Don't Know/Not sure 100	
220	Do you agree or disagree with the statement that "use of modern or traditional/natural methods of FP is allowed/is	READ OUT THE STATEMENTS The use of modern methods is allowed 1 The use of traditional/natural methods is allowed 1	Agree Disagree 1 2 1 2

	acceptable in religion”?										
221	Have you ever had a pregnancy that was miscarried, aborted, or ended in a stillbirth?	Yes 1 No 2	(if no, go to 222)								
221a	If yes, where did you go last time to receive the services? RECORD ALL MENTIONED	PUBLIC SECTOR Government Hospital/RHSC 1 Rural health centre, MCH 2 Family Welfare centre 3 Mobile service camp 4 Lady health worker 5 Lady health visitor 6 Basic health unit 7 Others (specify) _____ 99 PRIVATE/NGO MEDICAL SECTOR Private hospital/clinic 8 Private doctor 9 Homeopath 10 Dispenser/Compounder 11 Others (specify) _____ 99 OTHER SOURCE Friends/Relative/Husband 12 Hakim 13 Dai/Traditional Birth Attendant 14 Others (specify) _____ 99									
221b	Who informed/advised you to go to this provider?	Husband 1 Mother in-law 2 Sister 3 Brother 4 Friends 5 Relatives 6 Others (specify) _____ 99									
221c	Service charges for availing abortion services, if any	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table> Rs									
222	Have you ever experienced postabortion complications?	Yes No									
222a	Have you ever received post abortion care (PAC) services?	Yes No	(if no, go to 223)								
222b	If yes where did you go for postabortion care (PAC) services?	PUBLIC SECTOR Government Hospital/RHSC 1 Rural health centre, MCH 2 Family Welfare centre 3 Mobile service camp 4 Lady health worker 5 Lady health visitor 6 Basic health unit 7 Others (specify) _____ 99 PRIVATE/NGO MEDICAL SECTOR Private hospital/clinic 8 Private doctor 9 Homeopath 10 Dispenser/Compounder 11 Others (specify) _____ 99 OTHER SOURCE Friends/Relative/Husband 12 Hakim 13 Dai/Traditional Birth Attendant 14 Others (specify) _____ 99									

222c	Who informed/advised you the information where to go for availing postabortion (PAC) services?	Husband 1 Mother-in-law 2 Brother 3 Sister 4 Friends 5 Relatives/other women 6 Others (specify) 99	
222d	Did you pay for the service?	<input type="checkbox"/> PKR Free 1 No/did not pay 2	
223	Would you like to have (a/another) child?	Yes 1 No 2 Don't Know 98	If no, go to 223c
223a	Why do you want a/another child? RECORD ALL MENTIONED	Husband's desire for another child 1 Husband's desire for son 2 Husbands desire for daughter 3 In-laws' desire for another child 4 In-laws desire for boy 5 In-laws desire for girl 6 My own desire for another child 7 My own desire for boy 8 My own desire for girl 9	
223b	When would you like to have (a/another) child?	Within 1 year 1 Within 1 to 2 years 2 2 or after 2 years 3 Want more but have not decided yet 4 Have not decided yet when or how many 5 Others (specify) 99	
223c	If no, why do you not want a/another child? RECORD ALL MENTIONED	Personally do not want another child/want to limit family size 1 Personally want to space child birth 2 Husband does not want another child/want to limit family size 3 Husband wants to space child birth 4 She herself is sick 5 Husband is sick 6 Declared infertile/Cannot have more children 7 Financial constraints/Cannot afford another child 8 Illness of children 9 Others (specify) 99	
224	After your last child was born, did you receive any counseling/suggestion about birth spacing?	Yes 1 No 2	
225	Did you use any birth spacing method after your last delivery?	Yes 1 No 2	
Now I would like to ask about the dynamics of decision making regarding family planning			
226	Do you easily go out of your house whenever you need medical help?	Yes 1 No 2	(if no, go to 227)
226a	Who usually accompany you when you move out of you house to seek medical help?	Go alone 1 Accompanied by husband 2 Accompanied by mother in-law 3 Others (specify) 99	

227	In your family, who decides about the decision to plan for a pregnancy? RECORD ALL MENTIONED	Husband 1 Mother-in-law 2 Wife/Respondent (MWRA) 3 Others (specify) _____ 99																																																															
228	What is the ideal number of children for your husband?	Boy <input type="text"/>	Girl <input type="text"/>																																																														
229	What is the ideal number of children for your mother-in-law in your family?	Boy <input type="text"/>	Girl <input type="text"/>																																																														
230	Have you ever discussed the number of children you should have with your husband?	Yes 1 No 2																																																															
231	Have you ever discussed family planning and birth spacing issues with your husband?	Yes 1 No 2			(if yes, go to 231b)																																																												
231a	If no, then why you haven't discussed these topics with your husband?	Afraid of him 1 Husband is religious 2 Mother in law decide that 3 Others (specify) _____ 99																																																															
231b	If yes, what is the attitude of your husband with you?	Cooperative/Friendly 1 Harsh/aggressive 2 Others (specify) _____ 99																																																															
232	Have you ever experienced physical abuse at the hands of your husband?	Yes 1 No 2																																																															
233	Now I am going to ask you about general decision making in your household. For each of the following situations, tell me who makes the decisions - yourself alone, your husband alone, jointly with your husband, or by your mother-in-law alone. (Circle the relevant option)	<table border="1"> <thead> <tr> <th></th> <th>Husband</th> <th>Wife</th> <th>Wife and Husband</th> <th>Mother-in-law</th> </tr> </thead> <tbody> <tr> <td>a. small household expenditures like toothpaste, batteries, etc.</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>b. purchase of major household expenditures like TV, refrigerator, etc.</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>c. female expenditures like clothes and jewelry</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>d. your employment outside the home</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>e. buying or selling property</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>f. children's clothes</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>g. where to take the child, God forbid, in the case of illness</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>h. where you yourself go for medical care, God forbid, in the case of illness</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>i. purchase of medicine</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>j. children's education</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>k. Visiting relatives</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> </tbody> </table>		Husband	Wife	Wife and Husband	Mother-in-law	a. small household expenditures like toothpaste, batteries, etc.	1	2	3	4	b. purchase of major household expenditures like TV, refrigerator, etc.	1	2	3	4	c. female expenditures like clothes and jewelry	1	2	3	4	d. your employment outside the home	1	2	3	4	e. buying or selling property	1	2	3	4	f. children's clothes	1	2	3	4	g. where to take the child, God forbid, in the case of illness	1	2	3	4	h. where you yourself go for medical care, God forbid, in the case of illness	1	2	3	4	i. purchase of medicine	1	2	3	4	j. children's education	1	2	3	4	k. Visiting relatives	1	2	3	4			
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Now I would like to ask about the CONTRACEPTIVE KNOWLEDGE and EVER USED CONTRACEPTIVE METHOD				
Knowledge of any FP Method and Ever Use				
Methods	234) Have you ever heard of (method)?	235) Source of information	236) Have you ever used (method)?	237) Do you know where a person could go to get (method)?
a) Pills	Yes/Spontaneous .1 Yes/Probe .2 No .3 If no, go to down		Yes .1 No .2	Yes .1 No .2
b) IUD	Yes/ Spontaneous .1 Yes/Probe .2 No .3 If no, go to down		Yes .1 No .2	Yes .1 No .2
c) Injection	Yes/ Spontaneous .1 Yes/Probe .2 No .3 If no, go to down		Yes .1 No .2	Yes .1 No .2
d) Implant	Yes/ Spontaneous .1 Yes/Probe .2 No .3 If no, go to down		Yes .1 No .2	Yes .1 No .2
e) Condom	Yes/ Spontaneous .1 Yes/Probe .2 No .3 If no, go to down		Yes .1 No .2	Yes .1 No .2
f) Female sterilization	Yes/ Spontaneous .1 Yes/Probe .2 No .3 If no, go to down		Yes .1 No .2	Yes .1 No .2
g) Male sterilization	Yes/ Spontaneous .1 Yes/Probe .2 No .3 If no, go to down		Yes .1 No .2	Yes .1 No .2
h) Periodic abstinence	Yes/ Spontaneous .1 Yes/Probe .2 No .3 If no, go to down		Yes .1 No .2	
i) Withdrawal	Yes/ Spontaneous .1 Yes/Probe .2 No .3 If no, go to down		Yes 1 No 2	
j) Others	Yes/ Spontaneous .1 Yes/Probe .2 No .3 If no, go to down		Yes 1 No 2	Yes 1 No 2
238	<p>NOTE: ASK this question if the responded answered “No” to all in question # 236a-236j, otherwise move to the next question # 239.</p> <p>What are the reasons that you have never used a FP method?</p> <p>Multiple response applicable</p>		<p>Want more children 1</p> <p>Infrequent sex/No sex 2</p> <p>Menopausal/Hysterectomy 3</p> <p>Infertile/can't get pregnant 4</p> <p>No menstruation after birth 5</p> <p>Breastfeeding 6</p> <p>Up to God, can't control 7</p> <p>Opposed to family planning 8</p> <p>Husband opposed 9</p> <p>Other people opposed 10</p> <p>Religious reasons 11</p> <p>Knows no method 12</p>	

		Knows no source 13 Health concerns 14 Fear of Side Effects 15 Lack of access/Too far 16 Cost too much 17 Inconvenient to use 18 Interferes with body's normal processes 19 Others (specify) _____ 99 Don't know 100	
Now I would like to ask about the CONTRACEPTIVE DISCONTINUATION among those who EVER USED CONTRACEPTIVE			
239	During the past 3 years, have you used a modern method for less than 12 months?	Yes 1 No 2	If no, go to 240
239a	How many times have you been discontinued?	No. of times _____	
239b) When	239c) Year and Month (If remember)	239d) Name of method discontinued	239e) What were the reasons? (Multiple responses are allowed)
1 st time	<input type="text"/> Year <input type="text"/> Month	Pills 1 IUD 2 Injection 3 Implant 4 Condom 5 Periodic abstinence 6 Withdrawal 7 Others (specify) _____ 99	Want more children 1 Infrequent sex/No sex 2 Menopausal/Hysterectomy 3 Infertile/can't get pregnant 4 No menstruation after birth 5 Breastfeeding 6 Up to God, can't control 7 Opposed to family planning 8 Husband opposed 9 Other people opposed 10 Religious reasons 11 Knows no method 12 Knows no source 13 Health concerns 14 Fear of Side Effects 15 Lack of access/Too far 16 Cost too much 17 Inconvenient to use 18 Interferes with body's normal processes 19 Others (specify) _____ 99 Don't know 100
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			Others specify_____ 99 Don't know .100
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Now I would like to ask about the CONTRACEPTIVE METHOD SWITCHING among those who EVER USED CONTRACEPTIVE METHOD			
240	Have you switched from one contraceptive method to another during the last 12 months without stopping?		Yes 1 No 2 (If no, go to 241)
240a	If yes, specify how many times.		No. of times _____
240b) When	240c) Year and Month (If remember)	240d) Switched from	240e) Switched to
1 st time	<input type="text"/> Year <input type="text"/> Month	Pill 1 IUD 2 Injections 3 Implant 4 Condom 5 Periodic Abstinence 6 Withdrawal 7 Other_____ 99	Pill 1 IUD 2 Injections 3 Implant 4 Condom 5 Periodic Abstinence 6 Withdrawal 7 Female sterilization 8 Male sterilization 9 Other_____ 99
			240f) What were the reasons for switching? (Multiple responses are allowed)
			Infrequent sex/No sex 1 Menopausal/Hysterec 2 tomy Infertile/can't get 3 pregnant No menstruation after 4 birth Breastfeeding 5 Up to God, can't 6 control Opposed to family 7 planning Husband opposed 8 Other people opposed 9 Religious reasons 10 Knows no method 11 Knows no source 12 Health concerns 13 Fear of Side Effects 14 Lack of access/Too 15 far Cost too much 16 Inconvenient to use 17 Interferes with body's 18 normal processes

				Others specify_____ 99 Don't know .100
2 nd time	<input type="text"/> Year <input type="text"/> Month	Pill 1 IUD 2 Injections 3 Implant 4 Condom 5 Periodic Abstinence 6 Withdrawal 7 Other _____ 99	Pill 1 IUD 2 Injections 3 Implant 4 Condom 5 Periodic Abstinence 6 Withdrawal 7 Female sterilization 8 Male sterilization 9 Other _____ 99	Infrequent sex/No sex 1 Menopausal/Hysterec 2 tomy Infertile/can't get 3 pregnant No menstruation after 4 birth Breastfeeding 5 Up to God, can't 6 control Opposed to family 7 planning Husband opposed 8 Other people opposed 9 Religious reasons 10 Knows no method 11 Knows no source 12 Health concerns 13 Fear of Side Effects 14 Lack of access/Too 15 far Cost too much 16 Inconvenient to use 17 Interferes with body's 18 normal processes Others specify_____ 99 Don't know .100
3 rd time	<input type="text"/> Year <input type="text"/> Month	Pill 1 IUD 2 Injections 3 Implant 4 Condom 5 Periodic Abstinence 6 Withdrawal 7 Other _____ 99	Pill 1 IUD 2 Injections 3 Implant 4 Condom 5 Periodic Abstinence 6 Withdrawal 7 Female sterilization 8 Male sterilization 9 Other _____ 99	Infrequent sex/No sex 1 Menopausal/Hysterec 2 tomy Infertile/can't get 3 pregnant No menstruation after 4 birth Breastfeeding 5 Up to God, can't 6 control Opposed to family 7 planning Husband opposed 8 Other people opposed 9 Religious reasons 10 Knows no method 11 Knows no source 12 Health concerns 13 Fear of Side Effects 14 Lack of access/Too 15 far Cost too much 16 Inconvenient to use 17 Interferes with body's 18 normal processes Others specify_____ 99 Don't know .100

Now I would like to ask about the CURRENT CONTRACEPTIVE USE			
241	Are you currently doing something or using any method to delay or avoid getting pregnant?	Yes 1 No 2	If no, go to 241r
241a	If yes, which method are you using? RECORD ALL MENTIONED	Pill 1 IUD 2 Injections 3 Implants 4 Condom 5 Periodic Abstinence 6 Withdrawal 7 Female sterilization 8 Male sterilization 9 Diaphragm/foam/Jelly 10 Others (specify) 99	
241b	(if using condoms/pill) May I see the package of pills/condoms you are using?	Package seen 1 Brand name (specify) _____ Package not seen 2	
241c	(If using condoms/pills) Do you know the brand name of the (pills/condoms) you are using?	Brand name (specify) _____ Don't know 100	
241d	How many (pill cycles/condoms) did you or your husband get the last time?	Cycles/condoms _____ Don't know 100	
241e	(If using injection) Can you tell me the name of injection you are using?	Brand name (specify) _____ Don't know 100	
241f	Please tell me for how many weeks one injection is effective?	Number of weeks _____ Don't know 100	
241g	If yes, what is reason for choosing this method?	Cost/Affordable 1 Quality 2 Effectiveness 3 Fewer Side Effects 4 Accessible 5 Favored by husband/mother in law 6 Suggested by a happy Suraj client 7 Long term 8 Short term 9 Permanent 10 Others (specify) 99	
241h	For how long have you / your husband been continuously using this method Since what month and year have you been using (CURRENT) without stopping? (PDHS)	Year <input type="text"/> Month <input type="text"/>	
241i	Where did you obtain (CURRENT METHOD) the last time? IF STERILISED: Where did the sterilisation take place? IF SOURCE IS HOSPITAL, HEALTH CENTER, OR FWC, WRITES THE NAME OF THE PLACE. PROBE TO IDENTIFY	PUBLIC SECTOR Government Hospital/RHSC 1 Rural health centre, MCH 2 Family Welfare centre 3 Mobile service camp 4 Lady health worker 5 Lady health visitor 6 Basic health unit 7 Male mobilize 8 Others (specify) 99	

	<p>THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE.</p> <p>ONLY FOR MODERN METHOD</p>	<p>PRIVATE/NGO MEDICAL SECTOR</p> <p>Private hospital/clinic 9 Pharmacy/chemists 10 Private doctor 11 Homeopath 12 Dispenser/Compounder 13 Others (specify)_____ 99</p> <p>OTHER SOURCE</p> <p>Shop (Other than pharmacy/chemist) 14 Friends/Relative/Husband 15 Hakim 16 Dai/Traditional Birth Attendant 17 Push cart 18 Others (specify)_____ 99 Don't know 100</p>											
241j	Who advised you to go to this provider?	Husband 1 Mother in-law 2 Sister 3 Brother 4 Friends/Relatives 5 Others (specify)_____ 99											
241k	Is this provider from your village/locality?	Yes 1 No 2											
241l	At the time you obtained (CURRENT METHOD) from the above source, were you told about side effects or problems you might have with the method?	Yes 1 No 2											
241m	Were you told what to do if you experienced side effects or problems?	Yes 1 No 2											
241n	Were you ever told about other methods of family planning that you could use (Were you provided choice of method?)?	Yes 1 No 2											
241o	How far the healthcare centre is from your residency in terms of kilometers?	_____ kms.											
241p	How long does it take to get the method?	<table border="1"> <tr> <td>By foot</td> <td></td> <td>Hr</td> <td></td> <td>Min</td> </tr> <tr> <td>By vehicle</td> <td></td> <td>Hr</td> <td></td> <td>Min</td> </tr> </table>	By foot		Hr		Min	By vehicle		Hr		Min	
By foot		Hr		Min									
By vehicle		Hr		Min									
241q	What is the unit price of this method? Or The last time you obtained (CURRENT METHOD), how much did you pay in total, including the cost of the method and any consultation you may have had? (PDHS)	<table border="1"> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Rs</td> </tr> </table> Husband knows 1 Relatives know 2 Free of cost 3 Don't know.4 Others specify_____ 99						Rs					
					Rs								
241r	If no, what are the reasons you are not using a method to delay or avoid getting pregnant?	Want more child 1 Infrequent sex/No sex 2 Menopausal/Hysterectomy 3 Infertile/can't get pregnant 4 No menstruation after birth 5 Breastfeeding 6 Up to God, can't control 7 Opposed to family planning 8 Husband opposed 9 Other people opposed 10 Religious reasons 11 Knows no method 12 Knows no source 13											

		Health concerns 14 Fear of Side Effects 15 Lack of access/Too far 16 Cost too much 17 Inconvenient to use 18 Interferes with body's 19 Normal processes 20 Others specify _____ 99 Don't know .100																
SECTION 3: Perception Of Quality Of Family Planning Services																		
301	Kindly rank the options from 1 to 5 which stand for "quality" to you in order of importance? NOTE: 1 for least and 5 for maximum importance	<table border="1"> <tr> <td>Availability of trained provider</td> <td></td> <td></td> </tr> <tr> <td>Effectiveness</td> <td></td> <td></td> </tr> <tr> <td>Affordable services</td> <td></td> <td></td> </tr> <tr> <td>Availability of methods and services</td> <td></td> <td></td> </tr> <tr> <td>Easily accessible</td> <td></td> <td></td> </tr> </table>	Availability of trained provider			Effectiveness			Affordable services			Availability of methods and services			Easily accessible			
Availability of trained provider																		
Effectiveness																		
Affordable services																		
Availability of methods and services																		
Easily accessible																		
SECTION 4: Source of Care																		
401	Where do you usually go when you need the child health care services? RECORD ALL MENTIONED	PUBLIC SECTOR Government Hospital/RHSC 1 Rural health centre, MCH 2 Family Welfare centre 3 Mobile service camp 4 Lady health worker 5 Lady health visitor 6 Basic health unit 7 Others (specify) _____ 99 PRIVATE/NGO MEDICAL SECTOR Private hospital/clinic 8 Private doctor 9 Homeopath 10 Dispenser/Compounder 11 Others (specify) _____ 99 OTHER SOURCE Friends/Relative/Husband 12 Hakim 13 Dai/Traditional Birth Attendant 14 Home Remedies 15 Others (specify) _____ 99																
401a	Where did you go last time for routine child care services, such as immunization?	PUBLIC SECTOR Government Hospital/RHSC 1 Rural health centre, MCH 2 Family Welfare centre 3 Mobile service camp 4 Lady health worker 5 Lady health visitor 6 Basic health unit 7 Others (specify) _____ 99 PRIVATE/NGO MEDICAL SECTOR Private hospital/clinic 8 Private doctor 9 Homeopath 10																

		Dispenser/Compounder 11 Others (specify)_____ 99 OTHER SOURCE Friends/Relative/Husband 12 Hakim 13 Dai/Traditional Birth Attendant 14 Home remedies 15 Others (specify)_____ 99	
401b	How far is this provider/health facility from your home?	_____ kms	
401c	Did you pay for the service?	<div style="border: 1px solid black; width: 100px; height: 20px; margin-bottom: 5px;"></div> PKR Free 1 No/did not pay 2	
401d	How was the conduct/attitude of the provider?	Unhelpful/did not explain illness 1 Somewhat helpful/gave little information 2 Very helpful/expained everything very well 3 Don't know 100	
401e	Were you easily able to purchase/acquire the drugs?	Yes 1 No 2 Did not need to purchase any drug 3	If yes, go to 401g
401f	If no, why you were not able to purchase/acquire the drugs?	Expensive 1 Nor easily available 2 Too many were prescribed 3 Others (specify)_____ 99	
401g	Who were you accompanied by?	Alone 1 Husband Mother in-law 2 Sister 3 Brother 4 Friends/Relatives 5 Others (specify)_____ 99	
401h	What are the reasons for selecting this particular provider/health facility?	Nearby 1 Low cost 2 Good reputation of provider 3 Provider or staff known to me personally 4 Services or medicines are available 5 Referred to this provider by another provider 6 Other (specify)_____ 99	
401i	How easy is it to see a health care provider regarding child health?	Very easy/did not have to wait at all/received immediate help 1 Somewhat easy/had to wait a while 2 Difficult/had to wait a long time 3 Extremely difficult/nobody was available 4 Don't know 100	
401j	Do you recall a signboard with this logo outside the provider/health facility? (Show card with Greenstar logo)	Yes 1 No 2 No Signboard outside the facility 3	
401k	What does the Greenstar logo stand for	Please specify	
402	Where do you usually go for routine reproductive health care services (not family	PUBLIC SECTOR Government Hospital/RHSC 1	

	<p>planning but other women's health services)?</p> <p>RECORD ALL MENTIONED</p>	<p>Rural health centre, MCH 2</p> <p>Family Welfare centre 3</p> <p>Mobile service camp 4</p> <p>Lady health worker 5</p> <p>Lady health visitor 6</p> <p>Basic health unit 7</p> <p>Others (specify)_____ 99</p> <p>PRIVATE/NGO MEDICAL SECTOR</p> <p>Private hospital/clinic 8</p> <p>Private doctor 9</p> <p>Homeopath 10</p> <p>Dispenser/Compounder 11</p> <p>Others (specify)_____ 99</p> <p>OTHER SOURCE</p> <p>Friends/Relative/Husband 12</p> <p>Hakim 13</p> <p>Dai/Traditional Birth Attendant 14</p> <p>Home Remedies 15</p> <p>Others (specify)_____ 99</p>	
402a	Where did you go last time for routine reproductive services (not family planning but other, women's health services)?	<p>PUBLIC SECTOR</p> <p>Government Hospital/RHSC 1</p> <p>Rural health centre, MCH 2</p> <p>Family Welfare centre 3</p> <p>Mobile service camp 4</p> <p>Lady health worker 5</p> <p>Lady health visitor 6</p> <p>Basic health unit 7</p> <p>Others (specify)_____ 99</p> <p>PRIVATE/NGO MEDICAL SECTOR</p> <p>Private hospital/clinic 8</p> <p>Private doctor 9</p> <p>Homeopath 10</p> <p>Dispenser/Compounder 11</p> <p>Others (specify)_____ 99</p> <p>OTHER SOURCE</p> <p>Friends/Relative/Husband 12</p> <p>Hakim 13</p> <p>Dai/Traditional Birth Attendant 14</p> <p>Home Remedies 15</p> <p>Others (specify)_____ 99</p>	
402b	How far is this provider/clinic from your home?	_____ kms.	
402c	Did you pay for the service?	<div style="border: 1px solid black; display: inline-block; width: 40px; height: 20px; margin-right: 5px;"></div> PKR Free 1 No/did not pay 2	
402d	How was the conduct/attitude of the provider?	<p>Unhelpful/did not explain illness 1</p> <p>Somewhat helpful/gave little information 2</p> <p>Very helpful/expained everything very well 3</p> <p>Don't know 100</p>	
402e	Were you easily able to purchase/ acquire the drugs?	<p>Yes 1</p> <p>No 2</p> <p>Did not need to purchase any drug 3</p>	If yes, go to 402g

402f	If no, why you were not able to purchase/ acquire the drugs?	Expensive 1 Nor easily available 2 Too many were prescribed 3 Others (specify) 99	
402g	Who were you accompanied by?	Alone 1 Husband 2 Mother in-law 3 Sister 4 Brother 5 Friends/Relatives 6 Others (specify) 99	
402h	What are the reasons for selecting this particular provider/health facility?	Nearby 1 Low cost 2 Good reputation of provider 3 Provider or staff known to me 4 personally 5 Services or medicines are available 5 Referred to this provider by another 6 provider 6 Other (specify) _____ 99	
402i	How easy is it to see a health care provider regarding reproductive health?	Very easy/did not have to wait at 1 all/received immediate help 1 Somewhat easy/had to wait a while 2 Difficult/had to wait a long time 3 Extremely difficult/nobody was 4 available 4 Don't know 100	
402j	Do you recall a signboard with this logo outside the provider/health facility? (Show card with Greenstar logo)	Yes 1 No 2 No Signboard outside the facility 3	
402k	What does the Greenstar logo stand for	Please specify _____	
403	Where do you usually go for routine FP services? RECORD ALL MENTIONED IF RESPONDENT HAS EVER USED	PUBLIC SECTOR Government Hospital/RHSC 1 Rural health centre, MCH 2 Family Welfare centre 3 Mobile service camp 4 Lady health worker 5 Lady health visitor 6 Basic health unit 7 Male mobilize 8 Others (specify) _____ 99 PRIVATE/NGO MEDICAL SECTOR Private hospital/clinic 9 Pharmacy/chemists 10 Private doctor 11 Homeopath 12 Dispenser/Compounder 13 Others (specify) _____ 99 OTHER SOURCE Shop (Other than 14 pharmacy/chemist) Friends/Relative/Husband 15 Hakim 16 Dai/Traditional Birth Attendant 17	

		Push cart 18 Others (specify) _____ 99 Don't know 100	
403a	Where did you go last time for routine FP services? SKIP THIS QUESTION IF THE RESPONDENT IS THE CURRENT USER OF FP	PUBLIC SECTOR Government Hospital/RHSC 1 Rural health centre, MCH 2 Family Welfare centre 3 Mobile service camp 4 Lady health worker 5 Lady health visitor 6 Basic health unit 7 Male mobilize 8 Others (specify) _____ 99 PRIVATE/NGO MEDICAL SECTOR Private hospital/clinic 9 Pharmacy/chemists 10 Private doctor 11 Homeopath 12 Dispenser/Compounder 13 Others (specify) _____ 99 OTHER SOURCE Shop (Other than 14 pharmacy/chemist) Friends/Relative/Husband 15 Hakim 16 Dai/Traditional Birth Attendant 17 Push cart 18 Others (specify) _____ 99 Don't know 100	
403b	How far is this provider/clinic from your home? SKIP THIS QUESTION IF THE RESPONDENT IS THE CURRENT USER OF FP	_____ kms.	
403c	Did you pay for the service? SKIP THIS QUESTION IF THE RESPONDENT IS THE CURRENT USER OF FP	<div style="border: 1px solid black; width: 50px; height: 20px; display: inline-block;"></div> PKR Free 1 No/did not pay 2	
403d	How was the conduct/attitude of the provider?	Unhelpful/did not explain illness 1 Somewhat helpful/gave little 2 information Very helpful/expained everything 3 very well Don't know 100	
403e	Were you easily able to purchase/ acquire the drugs?	Yes 1 No 2 Did not need to purchase any drug 3	If yes, go to 403g
403f	If no, why you were not able to purchase/ acquire the drugs?	Expensive 1 Nor easily available 2 Too many were prescribed 3 Others (specify) _____ 99	
403g	Who were you accompanied by?	Alone 1 Husband 2 Mother in-law 3 Sister 4 Brother 5 Friends/Relatives 6 Others (specify) _____ 99	
403h	What are the reasons for selecting this	Nearby 1	

	particular provider/health facility?	Low cost 2 Good reputation of provider 3 Provider or staff known to me 4 personally Services or medicines are available 5 Referred to this provider by another 6 provider Other (specify) _____ 99	
403i	How easy is it to see a health care provider regarding FP?	Very easy/did not have to wait at 1 all/received immediate help Somewhat easy/had to wait a while 2 Difficult/had to wait a long time 3 Extremely difficult/nobody was 4 available Don't know 100	
403j	Do you recall a signboard with this logo outside the provider/health facility? (Show card with Greenstar logo)	Yes 4 No 5 No Signboard outside the facility 6	
403k	What does the Greenstar logo stand for	Please specify _____	
404	In the last 12 months, were you visited by a fieldworker or a Lady Health Worker who talked to you about family planning?	Yes 1 No 2	
405	Did you receive any care and help from this woman?	Yes 1 No 2	
406	What type of help did you receive?	Information 1 Contraceptive supplies 2 Referred to health/FP facility 3 Treatment of side effects 4	
407	Have you heard of Marie Stopes Society/Bahetar Zindagi Centre/Suraj or Greenstar?	Yes No MSS/Behtar Zindagi Centre 1 2 Suraj Centre 1 2 Greenstar 1 2	
408	In the last month, have you heard/watched messages/advertisements of Maries Stopes Society/Bahetar Zindagi Centre or Greenstar about family planning?	Yes No MSS/Behtar Zindagi Centre 1 2 Greenstar 1 2	
409	Where did you hear/watch the aforementioned messages about FP?	TV 1 Radio 2 Local Cable TV 3 Newspaper 4 Other (specify) _____ 99	
410	What messages did it convey to you? (Record all that apply)	Limiting the family 1 Higher age at marriage 2 Spacing of children 3 Use of contraception 4 Welfare of family 5 Maternal and child health 6 Fewer children mean prosperous life 7 More children mean poverty and 8 starvation Importance of breast feeding 9 Other (specify) _____ 99 Don't Know 100	

411	Do you think that the message you heard was effective or not effective in persuading couples to use family planning?	Effective 1 Not effective 2 Don't know 100	
Now I would like to ask about your INTENTION TO USE THE CONTRACEPTIVE METHOD in FUTURE			
412	Do you think you will use a contraceptive method to delay or avoid pregnancy at any time in the future?	Yes 1 No 2 Not sure 100	If no, go to 414
413	In future, if quality birth spacing services and contraceptive methods are provided to you would you like to avail it?	Yes 1 No 2 Not sure 100	If no, go to 414
413a	If yes, which method would you prefer to use in future?	Pill 1 IUD 2 Injections 3 Implant 4 Condom 5 Periodic Abstinence 6 Withdrawal 7 Female sterilization 8 Male sterilization 9 Diaphragm/foam/Jelly 10 Other (specify) 99	
413b	What would be the reason for choosing this method?	Cost/affordability 1 Quality 2 Long term 3 Short term 4 Permanent 5 Others (specify) 99	
413c	Would you be willing to pay for availing the FP method of your choice?	Yes 1 No 2	
414	If no, what is the main reason you will not use a contraceptive method in future? RECORD ALL MENTIONED	Want more child 1 Infrequent sex/No sex 2 Menopausal/Hysterectomy 3 Infertile/can't get pregnant 4 No menstruation after birth 5 Breastfeeding 6 Up to God, can't control 7 Opposed to family planning 8 Husband opposed 9 Other people opposed 10 Religious reasons 11 Knows no method 12 Knows no source 13 Health concerns 14 Fear of Side Effects 15 Lack of access/Too far 16 Cost too much 17 Inconvenient to use 18 Interferes with body's 19 Normal processes 20 Others specify 99 Don't know 100	
SECTION 5: POVERTY RANKING TOOL			
Q #	Indicator	Score (Circle Appropriate Score)	
501	Average Number of Meals per Day Level 1: One meal or less Level 2: More than one meal, less than 03 meals Level 3: Three meals or more	1 2 3	

502	Housing Level 1: temporary housing made of mud/ tenting etc Level 2: semi- permanent housing in better condition Level 3: permanent cemented house made of brick or stone	1 2 3
503	Fuel for Cooking Level 1: firewood/ shrubs/ bushes etc Level 2: Gas Level 3: Charcoal/ kerosene	1 2 3
504	Daily Income of family Level 1: Less than Rs: 50 Level 2: Rs: 51 to Rs: 90 Level 3: Rs: 91 and above	1 2 3
505	Earning members of family Level 1: One family member Level 2: two family members Level 3: more than 02 family members	1 2 3
506	Dependent members of family Level 1: more than 06 members including earner of family Level 2: 05-06 members including earner of family Level 3: 03-04 members including earner of family	1 2 3
507	Water Source Level 1: untreated river water or seasonal stream Level 2: water from community tap or well Level 3: well at home/ hand pump/ Government tap water	1 2 3
508	Sanitation Level 1: bush/ flying toilet (going in the fields/outside for toilet) Level 2: in-appropriate pit latrine at home Level 3: Appropriate pit latrine	1 2 3
509	Access to reproductive health Services Level 1: herbal medicine, home based care or by traditional birth attendants Level 2: public hospital Level 3: private hospital/ clinic	1 2 3
Total Score		
510	THANK the PARTICIPANT and note Current time	Hours <input type="text"/> Minutes <input type="text"/>

Questions extracted from PDHS are highlighted ==>>

Questions with **Bold** will yield key outcome indicators

Questions suggested by Greenstar are highlighted ==>>

FOCUS GROUP GUIDE: PAC-M/S CLIENTS

Purpose: *The purpose of this focus group is to explore the profile of women who have undergone PAC-M/S and the reasons behind their decisions to terminate pregnancy, preferences between the type of procedure (PAC-M or S) and their level of satisfaction with the service. We also attempt to document the multiplicity of perspectives and determine how representative these women are of the urban/rural female population and what segments of this population have limited access to safe abortion services.*

Instructions

Before we start, I would like to remind you that there is no right or wrong answer in this discussion. We are interested in knowing what each of you think, so please feel free to be frank and to share your point of view, regardless of whether you agree or disagree with what you hear. It is very important that we hear all your opinions.

You probably prefer that your comments not be repeated to people outside of this group. Please treat others in the group as you want to be treated by not telling anyone about what you hear in this discussion today.

Let's start by going around the circle and having each person introduce herself. (Members of the research team should also introduce themselves and describe each of their roles.)

Total Expected Time: 2 hours

Introduction/Reproductive history/Abortion history/Contraception before abortion

Name of location:

What is your name?

What is your age?

What is your qualification?

What is your marital status?

How many children have you borne?

What is the ideal number of children in your family?

Have you undergone abortion?

If yes, how many times?

When did you undergo abortion for the last time?

Were you using any contraception before abortion?

If yes, which method and since how long?

Who provides abortion services in your community?

How much do they charge for the abortion service?

Why do people prefer to go to these providers for abortion?

Contraceptive knowledge

Do you know anything about family planning and contraception?

If yes, what methods and sources of contraception do you know?

What is your opinion about family planning? Is it necessary?

What is the general perception of your community about family planning?

How do people in this community feel about using contraceptive methods?

What barriers prevent use of the contraceptive methods?

Choice of abortion

What do you understand by “unwanted pregnancy”?

How can we prevent ourselves from this OR What can be done in order to avoid unwanted pregnancy?

Do women opt for abortion to get rid of unwanted pregnancy? Why?

What is your opinion about abortion?

How does your community perceive about abortion?

Do you know how many types of abortion are there?

How did you come to know about these abortion methods?

Which method did you choose for abortion?

Why did you choose this method for abortion?

In your opinion, what are the advantages of this method over other methods?

What were expectations of PAC-M/S? (Sounds little unclear - what kinds of expectation?)

Complications, experience, post-abortion care and contraception

How was your overall abortion experience during abortion?

How was your overall abortion experience after abortion?

Have you experienced any severe complications/side effects or anything unusual after abortion?

Did you receive the information about medication and follow-up in case of complications?

Were you given counseling for post-abortion contraception?

Have you received post-abortion care?

If yes, which method? And Why?

If no, Why?

Are you currently using any contraceptive method?

Decision making

Was it your personal decision to go for the abortion?

If no, whose?

What was the role of your husband and in-laws in deciding for abortion?

With whom did you talk when you wanted abortion?
Whom do you trust most and confide with in case of such a crucial decision making?
And what are the reasons for your trust in the person?

Reason for undergoing an abortion

What are the reasons that you had an abortion?
Did it help you in any way or came up to your expectations? (unclear)

Outcome and place of occurrence

What was the outcome of abortion? Successful or failure?
Where did you have the abortion? At clinic or home?

Service providers

Did you like the place and nature of service delivery?
Were you satisfied with the overall expertise and attitude of the service provider?
Were you elaborately informed or given counseling about this method?
Are you satisfied with the abortion charges/fee?
What should be the abortion charges/fee? And why?
What did you like the most about the service delivery? And why?
What do you dislike the most about the service delivery? And why?

Recommend method

Would you select the same method again?
Would you recommend PAC-M/S to friends?
What is the best and worst aspect of PAC-M/S?

What are your questions?

Thank you for taking the time to talk to us!

Thank you