REVIEW ARTICLE

Accessibility and uptake of modern contraceptive methods in Pakistan — a critical view on what works?

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Abstract

Background: 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. More than two-thirds (70%) of the Pakistani population are now paying out-of-pocket for overall health costs. Public sector in South Asia is the main player in service provision, Pakistan, however, is unique where private sector is more significant a player in the provision of Family Planning services. The 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. This critical review is guided by the aim to increase access and utilization of modern contraceptives in the underserved Pakistan. The research question explores the effects of multi-pronged health financing model "using vouchers" for increase in contraceptive access and uptake among married women in rural Pakistan.

Methods: Keeping in view on paucity of literature, this review comprised studies that were published inclusive and after 2000 on implementation research on family planning. The international scientific databases searched included PubMed, SCOPUS, and MEDLINE until December 2016. Related articles were found using key terms and based on a review of the titles and abstracts of the published papers, a total of eight published studies met the criteria and were included for this review.

Results: This critical review of key private sector intervention demonstrated that the use of multi-pronged health financing mechanisms targeting underserved communities such as 1) using demand-side free vouchers complemented by mid-level social franchise providers along with community health worker support to connect clients with facility and 2) using public sector trained community midwives and engaging a dedicated community health worker with them to generate demand and bridge the gap between clients with the local facility (financing CMW trainings and CHW salaries; and 3) expanding outreach services to reach out to underserved communities (financing free services) - has a positive and favourable impact. The findings show that free vouchers used alongside social franchising (multi-pronged health financing model) was able to increase the overall contraceptive uptake and also increased method specific uptake mainly for intrauterine device (IUD) and condoms in the intervention group in three different studies. Additionally, there was a favourable impact on IUD discontinuation rates (which is significantly found lower than the national average) and improved method switching during intervention and in the post-intervention period in the voucher based social franchising and outreach mobile services clients of four studies.

Conclusion: The multi-pronged health financing mechanisms exclusive to FP not only were able to increase the uptake of modern FP services in underserved areas but also facilitated the long-term continuity of modern FP methods, while promoting method-specific switching behaviour. The models, using voucher based social franchising, community midwives coupled by CHWs, and the outreach services have a tangible effect on modern family planning uptake within communities. It has been documented that the provision of evidence-based interventions and care packages especially for the rural population reaching broad coverage (including approaches to promote post-abortion care; antenatal and postnatal care including family planning services) can contribute averting maternal, new-born and child deaths in Pakistan, and furthermore, a large proportion of stillbirths possibly could also be prevented.

Keywords: Family Planning, Modern Contraceptive Prevalence, Intra-Uterine Device, Health Financing, Vouchers, Method Discontinuation, Pakistan.

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Introduction

Contraceptive information and services are fundamental to the health and rights of all individuals. Out of 923

million women of reproductive age in LMICs who want to avoid having a pregnancy, 218 million have an unmet need for modern contraception-that is, they want to avoid a pregnancy but are not using a modern method.[1] Family planning (FP) is one of the primary methods for the overall development of the health status of the society.[2] FP through modern or traditional methods of contraception prevents unwanted pregnancies, pregnancy among adolescents, and closely spaced pregnancies, and reduces the number of abortions, pregnancies and childbirth-related death and disability rates.[2,3] In some developing countries, increased contraceptive use has already cut the annual number of maternal deaths by 40% over the past 20 years and reduced the maternal mortality ratio (the number of maternal deaths per 100 000 live births) by about 26% in little more than a decade.[4] Irrespective of the tremendous advantages of FP, a woman must face numerous obstacles like lack of knowledge, lack of availability of health services, lack of support from the husband and family, and misconceptions about side effects.[5,6]

The population scenario in Pakistan: Pakistan's population was just over 130 million according to the census done in the year 1998.[7] In 2016, the Population Reference Bureau estimated Pakistan's population to be 203 million.[8,9] However, in the last 19 years, Pakistan's population has actually surged to a staggering 207.8 million, showing an increase of 75.4 million people, according to the 6th Population and Housing Census conducted in 2017.[10] This means that the country has seen a 57% increase in the population at an annual rate of 2.4%.It is one of the most populated countries with a majority (almost 63%) of its population still living in the rural areas.[11] A very massive number of Pakistan's population live below the poverty threshold, which is equivalent to more than one-third of its total population.[12] This poverty has a direct effect on the accessibility to health care and declines the health outcomes as 62% of the health expenses is out of-pocket.[13]

According to the very recent Pakistan Demographic Health Survey (PDHS) 2017-2018,[11] the maternal health care and childhood mortality indicators have significantly improved; likewise, the total fertility rate (from 3.8 to 3.6) and unmet need for family (from 20% to 17%) are also reduced as compared to the PDHS 2012-13 data.[14] However, the current use of family planning (from 35.4% to 34%) as well as the current use of any modern contraceptives (from 26% to 25%) has decreased. Based on socio-economic status and educational level, the current use of contraception was recorded and classified

Table-1: Maternal mortality and live births data for the year 2015 as per WHO estimates.[18-22]

Country	Pakistan	India	Afghanistan	Iran	China
MMR per 10,000 live births	178	174	396	25	27
Live births	5,451	25,794	1,081	1,350	16,601
Maternal deaths	9,700	45,000	4,300	340	4,400

MMR: maternal mortality ratio; WHO: World Health Organization.

by the Pakistan Demographic Health Survey (PDHS), 2017-2018. The results indicated the following.[11]

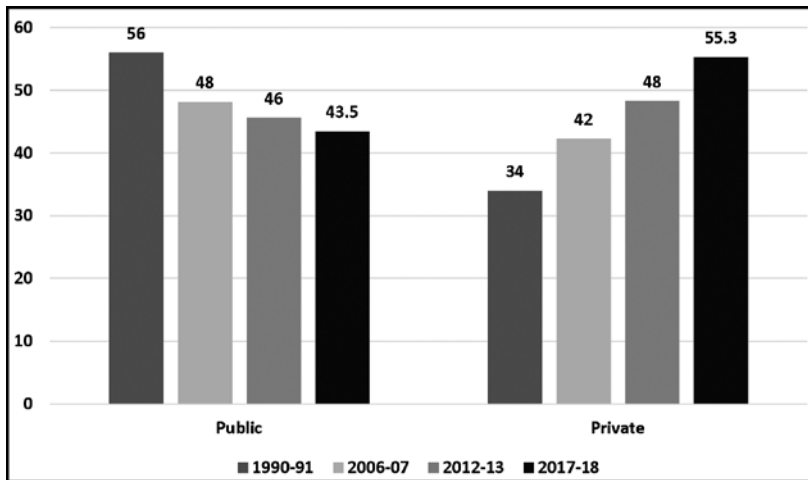
- Almost 29% of the women in urban areas use modern contraceptive methods, whereas only 22.8% of the women in rural areas use them indicating a possible impact of urbanity on the higher usage of contraceptives by urban women may be due to the awareness, availability, and easy access to contraceptives.

- About 21.6% of uneducated women and 30.2% of women with higher education uses modern contraceptives, possibly indicating that an increase in education status increases the awareness use of contraception.

- Around 30% of the women in the highest wealth quintiles uses modern methods of contraception as compared to 17.3% of the women in the lowest wealth quintiles indicating impact of financial status as on the use of contraceptives.

In-terms of the most frequently occurring barriers in the path of contraceptive use, some of the most cited are women's judgemental opinions about their partner's disapproval; economic and social factors; cultural taboos; religious taboos; and fear of adverse effects that arise from contraceptives.[15-17] In addition, the number of maternal deaths and live births in Pakistan are found to be the second highest in comparison with the neighbouring countries (refer to Table-1) creating an urgent need for controlling pregnancies through various safe and effective methods of contraception.

Health Status of Pakistan: The public health system of Pakistan is underfunded which affects its performance making it underperform as compared to other South Asian countries with a meagre volume of services provided per capita income.[23] Health forms less than 1% part of the gross domestic product, and about 80% of the health services are for treatment purposes.[24-26] Majority of the Pakistani population depends on the private health sector for overall health care, and about 73% pays out of pocket.[24,27] In Pakistan, most of the primary healthcare services (92%), pharmacies (73%) and diagnostic facilities



*Public: Public government hospital (RHSC), rural health centre, Family Welfare Centre (FWC), Mother Child Health Centre (MCH), Lady Health Worker Programme, Ministry of Health, Lady Health visitor and Basic Health Unit & "Other Public"

^ Private: Private/NGO hospital/clinic, private pharmacy, chemists, private doctor, dispenser/compounder & "Other Source" (which are considered Private such as) Shop, friend/relative, Hakim, Dai, TBA and other.

Figure-1: Sources of modern contraception - PDHS 1990-91, 2006-07, 2012-13 & 2017-18.

(60%) are private sector owned,[27] mainly, due to prevailing bottlenecks in public sector — namely Access; Availability; and Quality.[24,26] 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. All of this leads to low utilisation of services in the public health system. Due the gaps in public health system, Pakistan represents a unique case in this region as the private sector has now started taking over the public sector in provision of FP services.

The last three demographic surveys in 1990-91, 2006-07, 2012-13 and 2017-18 reported a significant decline in the public sector share of FP while in the same period private sector share presented an inverse reflection of the public sector and significantly had increased (Figure-1).[11,14,28,29] 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. Perhaps due to above cited clear imbalance between the population's needs and available resources to cater for spacing and limiting childbirth as desired by couples, it was estimated in 2012 that 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.[30,31]

The shortcomings of the public sector in providing FP services have led to the development of multi-pronged 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. Hence, the main aim is to study the effect of integrating health-financing models for FP on the accessibility and usage of modern contraception among married women in Pakistan. The purpose is also to share knowledge with the decision and policy makers about the history, advancement, and ongoing status of FP in Pakistan from a new point of view related to what seems to work to accelerate the accessibility and uptake of modern contraceptive methods in Pakistan. Therefore, the current review guided to present information on the following:

1. To identify the predictors of the uptake of newer FP/contraception techniques in the rural areas of Pakistan.

2. To make a record of the effect of combined health financing on FP accessibility and uptake by various methods.

3. To promote FP accessibility and uptake for married women by recommending methods for the progress of various health financing models.

Methods

A broad search of the English-language literature was performed incorporating both electronic and manual components. The research teams used a standard search strategy, including the following databases: Cumulative Index of Nursing and Allied Health Literature (CINAHL), Global Health Library-Regional databases, MEDLINE, and Other Non-Indexed Citations, PubMed, Popline, Social Science Citation Index (SSCI), and WHOLIS, for this review and the following keywords: Pakistan, FP, Pakistan health care financing, demand-side financing, intrauterine device (IUD) discontinuation, contraceptive, IUD switching, post-abortion FP, social franchising, MMR Pakistan and outreach mobile services. Many published papers on a variety of multi-pronged health financing models that particularly aim to enhance FP accessibility and usage among MWRA in the rural areas of Pakistan were shortlisted.

Table-2: Data of complete review of eight articles.[16,32-37]

Article	Publication details	Method and criteria of the study	Study population	Area of study	Data analysis method	Period of study	Results
1[16]	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, 12:25	Cross-sectional survey to assess the factors that determine the demands and use of contraceptives for FP services	3,998 MWRA below 30 years of age	Chakwal and Mianwali in Punjab were the intervention districts and Bhakkar in Punjab was the control district.	SPSS 17.0	Baseline survey: May 2012 End-line survey: April 2014	Current contraceptive use: 17%-21% with condoms and female sterilisation being the most used methods. Unmet need for contraception: 40.6% in Chakwal, 36.6% in Mianwali, and 31.9% in Bhakkar.
2[32]	Women's empowerment and contraceptive use: the role of independent versus couples' decision-making, from a lower middle income country perspective. PLoS ONE 9(8): e104633. doi: 10.1371/journal.pone.0104633	Cross-sectional survey to assess the effects of women empowerment on contraceptive use	2,133 MWRA between 15 to 49 years of age	Chakwal, Mianwali, and Bhakkar districts	SPSS 17.0	May-June 2012	The power of women to take decisions increased with their age, qualification, number of children, and belonging to a family of higher socio economic status which led to a rise in both, female-only and couple contraception methods
3[33]	Impact of Social Franchising on Contraceptive Use When Complemented by Vouchers: A Quasi-Experimental Study in Rural Pakistan. PLoS ONE 8(9): e74260. doi: 10.1371/journal.pone.0074260	Quasi-experimental pre- and post-study design to determine the effect of the Suraj model on the use of contraceptives	4,992 MWRA	Two districts each from the Sindh and Punjab provinces	Stata version 11	Baseline survey: Feb 2009 Cross-sectional survey: Jul-Aug 2010	Increase in awareness: 5% Increase in modern contraceptive use: 28.5% Increase in contraceptive prevalence rate: 19.6% Increase in the uptake of IUCDs: 11.4%
4[34]	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, 13, 25. https://doi.org/10.1186/s12978-016-0145-9	Quasi-experimental pre- and post-study design to determine the effectiveness of the Suraj and the CMW model in promoting contraceptive uptake	Baseline and end-line surveys with a time gap of 2 years by recruiting 5,566 and 6,316 MWRAs	Intervention districts: Naushero Feroze Sindh, Khanewal in Punjab, and Haripur in KP for the Suraj model. Pakpattan and Rajanpur in Punjab for the CMW model. Control districts: Nawabshah in Sindh, Bahawalpur in Punjab, and Abbottabad in KP	Stata version 8	Oct 2010-Mar 2014	Suraj model vs CMW model Contraceptive awareness among MWRAs: 14% and 28%, respectively Increase in current contraceptive use: 5% and 7%, respectively. Increase in IUD use: 6% and 3%, respectively. Also, the Suraj model raised 35% prevalence rate of contraceptives among MWRAs
5[35]	Rates of IUCD discontinuation and its associated factors among the clients of a social franchising network in Pakistan. BMC Women's Health. 2012 Mar 29; 12:8.	Cross-sectional study to determine the discontinuation rate of IUCD among social franchising clients (Suraj) in Pakistan	Study conducted at 6, 12, and 24 months after discontinuation in 3,000 clients of Suraj provider	Jhang, Kasur, Lodhran, Bahawalnagar, Sheikhulpura, and Sialkot districts from Punjab province. Umerkot, Hala, and Tando Muhammad Khan districts from Sindh	SPSS 17.0	Jan 2011	22.7% clients of IUCD faced health problems, and 18.9% discontinued it. The IUCD was used for an average time of 7.4 months. About 49.8% of the clients faced health issues due to IUCD, and 70.2% approached Suraj again for IUCD removal. Irrespective of all the above facts, 81.7% of women still expressed their interest in IUCD services by Suraj

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Article	Publication details	Method and criteria of the study	Study population	Area of study	Data analysis method	Period of study	Results
6[36]	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	A prospective client follow-up with a more substantial quasi-experimental research to determine the rate of continuation as well as reasons for discontinuation of IUD	1,163 users of IUD. 824 users were from Suraj and 339 were from CMW	The Suraj intervention group in Khanewal district of Punjab, Nosheroferoze district of Sindh, and Haripur district of KP CMW intervention group in Pakpattan and Rajanpur in Punjab	SPSS 17.0	Mar 2011-Sep 2013	Health concerns and pregnancy desire were the primary reasons for withdrawal from IUD. The significant reason for discontinuation of IUD in case of Suraj was found to be the place of residence whereas age was the factor associated in case of CMW
7[37]	IUD discontinuation rates, switching behaviour, and user satisfaction: findings from a retrospective analysis of mobile outreach service programme in Pakistan. International Journal of Women's Health. 2013, 5, 19-27.	The mobile outreach service programme analysis retrospectively to determine IUD discontinuation rate, switching behaviour, and user satisfaction	681 female IUD clients from MSS	Districts from Sindh: TandoAllayar and Nawabshah Districts from Punjab: Rawalpindi, Lodhran, Khanewal, and Bahawalpur	Stata 11.2	Jul and Aug 2009	19.4% women discontinued IUD use in 10 months. 69.4% of women who discontinued gave adverse effects as the primary reason for discontinuing the use. 56.5% of the women who discontinued did not switch to any other methods of contraception whereas, 36.3% opted for short term or traditional methods

CMW: community midwives; FP: family planning; IUCD: intrauterine contraceptive device; IUD: intrauterine device; KP: Khyber Pakhtunkhwa; MSS: Marie Stopes Society; MWRA: married women of reproductive age; SPSS: Statistical Package for Social Sciences software version.

Based on a review of all the data including titles and abstracts of various published papers searched using the above-listed keywords, seven (07) published articles were used for this review. These articles provided specific data related to the objectives of this review. Before the year 2000, not many published articles were available. Most of the implementation research study on FP happened during or after the year 2000. Before that, most of the research was aimed at identifying the barriers and proposing all the possible solutions.

Different types of studies were included in this review such as quantitative cross-sectional study; quasi-experimental pre-and post- studies; retrospective cohort study; and prospective cohort study (refer to Table-2 for details). The following criteria were considered for the review:

• Current contraceptive use and demand.

• The effect of women empowerment on the uptake of contraceptives.

• The effect of spreading awareness on the uptake of contraceptives and FP.

• The effect of various social franchising methods like the Suraj model and the community midwives' (CMW) model on the uptake of modern contraceptives and FP methods.

This critical review is part of a broader study conducted (using secondary desk analysis of the already peer reviewed published data in the form of journal articles) for the doctorate degree in Health Sciences from the University of Ghent, Belgium.

Results

Although the results of the complete review procedure are explained in the Table-2 in the following pages but below is the summary of key findings:

Articles one (1)[16] and two (2)[32] were used to identify and examine the predictors of the uptake of newer FP/contraception techniques in the rural areas of Pakistan.

The article 1 assessed 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.[16] According to the findings, 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 predicators 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 (refer to table 2 for more details). 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.

Similarly, the article 2 is also based on household cross-sectional survey conducted between May-June 2012 explored associations between the various dimensions of women's empowerment and contraceptive use.[32] 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 (refer to table 2 for more details).

Moving ahead, articles three (3)[33] and four (4)[34] attempt to assess various multi-pronged health financing models (interventions) exclusively aiming to enhance FP access, uptake, and quality in underserved communities in Pakistan by reviewing the demand-side financing multi-pronged model, utilizing vouchers complemented by social franchise providers and targeting underserved communities to enhance FP access and uptake. in addition, the article 4 also reviewed task sharing through CMW integrated model, based on building public-private partnerships to enhance FP access and uptake in underserved communities.

The findings from article 3 builds upon the impact of social franchising on contraceptive use when complemented by vouchers in rural Pakistan.[33] Social franchising used alongside free vouchers for long-term contraceptive choices significantly increased the awareness of modern contraception, ever use of modern contraceptive and the overall contraceptive prevalence rate. A significant change of 11.1% was recorded in the uptake of IUDs, 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 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.[34] 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.

The articles five (5)[35] and six (6)[36] studied which multi-pronged or integrated models have been useful in switching to, and continuing use of, LARC by women in underserved communities in Pakistan. This study reported IUD discontinuation rates of 18.8% at 12 months. While the findings from the study in article 6 reported that IUD discontinuation was 18% and 20% among Suraj and CMW model clients, respectively.[36] This study was based on a prospective cohort design that 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 in described in article seven (7)[37] which gave the results of the expanded outreach service multi-pronged model for far flung underserved communities to enhance FP access, uptake, and quality. It was a retrospective cohort study estimating 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.[37]

The results in Table-2 indicate the various methods that can be undertaken to overcome the problems related to the high unmet need of contraceptives, the spacing between childbirth, and FP in Pakistan. Poor economic and social status and higher dependence on the private healthcare facilities are some of the major causes of a high number of unplanned and unintended pregnancies.

Discussion

The findings from this review 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 multi-

pronged or 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 a local NGO.[33-37] Most 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.[16,32] 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-2) have been discussed below, followed by a thematic discussion of key findings.

Within the context of health-care systems, whether in relation to maternal health or otherwise, the role of 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 incentives as part of multi-pronged or integrated health financing models have been offered.[38,39] These "High-Powered Incentives" are generated through market transactions, in which efficiency gains from transactions flow directly to transacting entities.[40,41] An additional factor that was tangible throughout the research (Articles 1-6)[16,32-36] 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 due to the readily available access to services.[23] 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.[23,42] Articles 1-6 described in this review therefore considered 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 in health-care quality and service delivery. To support improvements in health-care systems, the World Bank has coined the term "Results-Based

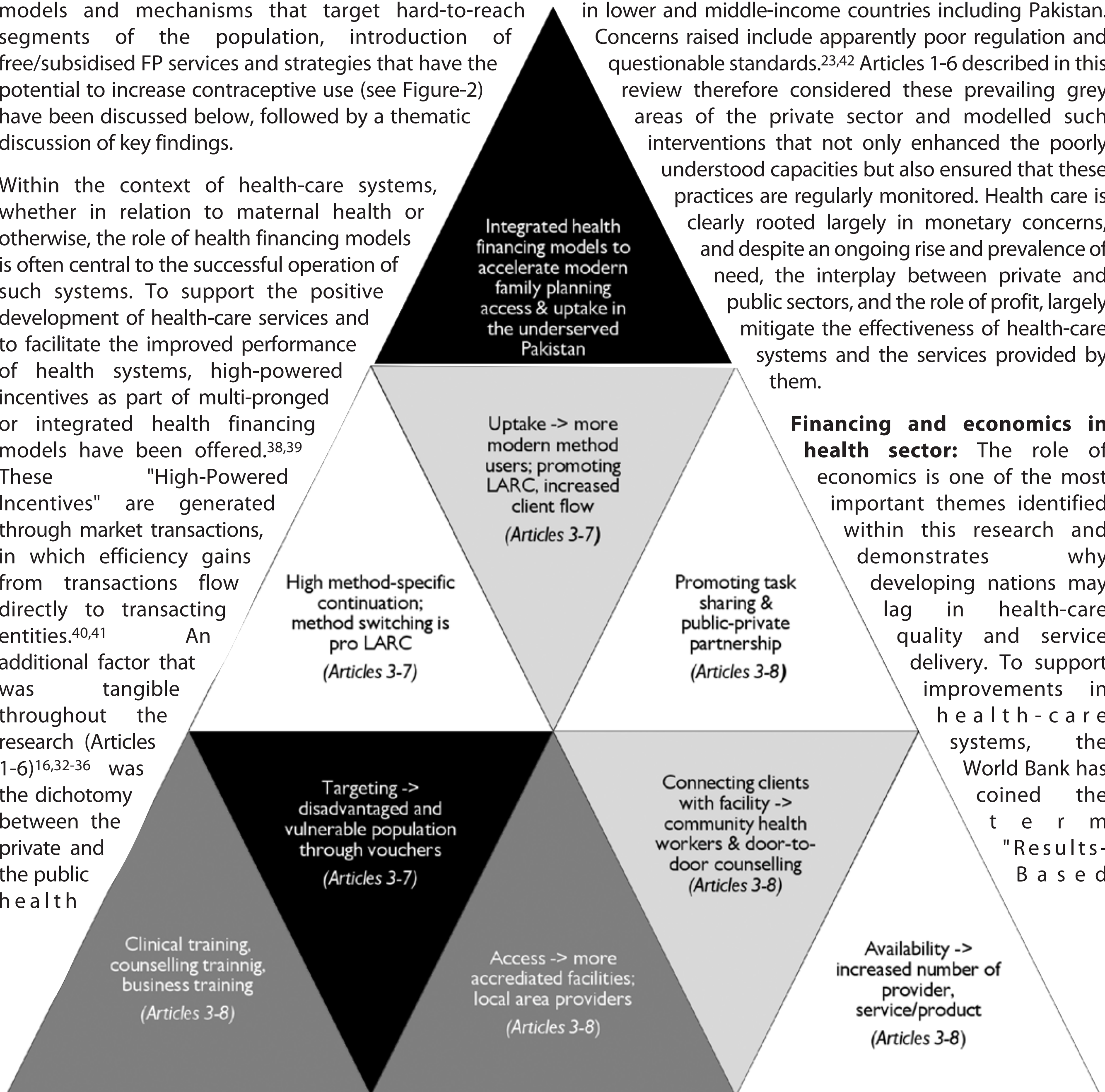

Figure-2: Process outlining how to accelerate modern family planning/contraceptive services access, uptake, and quality in underserved populations in rural Pakistan. Role of multi-pronged health financing models.

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".[39]

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.[39] Inadequate funding 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.[43] Voucher programmes that have been instituted are put in place largely out of economic concerns. Efficiency, effectiveness, and economy are important factors when addressing sexual and reproductive health care access and quality.[44]

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.[45] Vouchers, when targeted to poor beneficiaries who otherwise would not capitalise on a service, are particularly effective at improving equity.[45,46] Voucher schemes have been found to produce largely positive results up to increase of 10.1 percentage points increase in the probability of delivery in a public health-care facility.[47] 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.[45] Within areas that have been targetted 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.[48]

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.[47] Solutions to effectively shift practices concerning FP service access and use must consider 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 can reduce the maternal mortality ratio (MMR) and increasing attended deliveries at an acceptable cost.[49] Within all voucher programmes, a positive behavioural response has been observed.[45] Voucher programmes have been found to be effective globally.[39,50] 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. 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.[46]

Marie Stopes Society established a voucher scheme for FP services through a social franchising model branded as Suraj in Pakistan to support contraceptive use, particularly for LARC (IUDs) and the goal of the voucher programme, like the social franchise model, was to increase demand, access, quality services and choices for the FP needs of rural and underserved communities in Pakistan.[33,36] Since the outset of the voucher programme (see Article 5) facilitated through the Suraj social franchise, some 107,000 IUDs were provided.[35] Of those, 30% were provided through vouchers, while 45% were provided through referral (out-of-pocket, OOP) from field worker mobilisation. The analysis from Article 3 revealed that 76% of the current IUD users have received their services from a social franchise provider.[33] Out of those, around 35% received it through free vouchers and 42% had paid OOP for the services. Although the papers used in this review 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 to increasing Marie Stopes International (MSI) affiliated social franchises access and uptake of LARC.[51-53]

Task sharing through mid-level service providers — Suraj Social Franchise: 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.[53] 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.[33-37] 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. 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 voucher in a limited time duration (24 months) in the intervention areas which are rural and underserved, especially through enhancing the use of LARC - IUD.[33]

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.[33,54] 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%.[34] In addition, conditions that require referrals were also identified and subsequently addressed by appropriate referrals to relevant practitioners.[34,53] 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.[34] 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.[36] This is a very interesting finding as 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.[36] The only published literature that we have found from Pakistan on sustainability and retention of this cadre derives from Article 4 and 6 used in this review which discusses CMWs in detail in respect of providing exclusive family planning services.[34-36]

Community health workers: connecting clients with the local facility for social franchise and CMWs: Community health workers (CHWs) have emerged as a key resource within developing nations as providers of FP services.[55,56] One of the most important components of the multi-pronged health financing models described in Articles 3-6 was introducing a new cadre of CHWs at the grassroots level, mainly for promoting modern family planning/contraceptive services in the underserved areas.[33-36] 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.[33,34,36,57] 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 doorstep. 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.[33-36]

Multi-pronged models (vouchers and social franchise) 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.[11] The findings from the study in Articles 1 and 3 conform to national trends of contraceptive uptake.[16,32,33] In addition, Articles 3 and 4 also reported high condom uptake both in the intervention and control districts in the pre-intervention stage.[33,34] The post-intervention results from Article 3 reported a significant increase in the IUD and condom uptake.[33] 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 (cited in 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.[34]

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.[33,34] In combination with very slow-rising contraceptive uptake, high discontinuation rates are a matter of concern for FP programme managers in Pakistan.[11,16,32] Nationally, contraceptive discontinuation rates in Pakistan stand at 37% within the first 12 months of use.[11] Reported major reasons for discontinuation were side effects or health concerns (10%), followed by the desire to become pregnant (9%) and method failure (6%).[11] 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.[11] 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.[11] 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 6 and 7 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%.[11,36,37] 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.[11,36,37]

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.[37] 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.[37]

Conclusion

From the critical review of the above-stated seven (7) studies, we could conclude that there is a need to increase the availability of affordable and good quality FP method near the residence of married women in Pakistan. It also indicates the need to raise awareness about the various methods of contraception and change the mentality and educational status of men as they are the key decision makers in FP. Educating both the partners are of prime importance in increasing the uptake of various contraceptives and FP methods. The two-pronged approach of the Suraj model that involves spreading awareness by means of field workers and vouchers is a successful and effective method of FP. The Suraj and CMW models are useful in raising awareness about FP methods, current contraceptives, and long-term modern methods (IUD). To summarise, multi-pronged 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 because of increased contraceptive use and reduced total fertility. 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 lives and empowering vulnerable women in Pakistan. Carefully planned initiatives, if taken to scale, can help to support governmental policies in meeting national health targets as we move beyond 2015 MDGs to SDGs and catering to the needs of women in family planning, but subsequently decreasing the burden of morbidity and mortality resulting from unplanned and untimely pregnancies.

Recommendations

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.[58] Despite this, public sector FP services have largely failed to fulfil the needs of Pakistani women, particularly those living in rural areas.[59] 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.[58] 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.[60,61] It has been noted that investment in childbirth and delivery can save the lives of women and new-born and reduce stillbirths and disabilities by up to four times.[62,63] 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.[64]

Some of the key recommendations for policymakers is to strengthening health system to improve responsiveness to population needs consider improving MNCH-led community midwives training on counselling and provide them with a dedicated community health worker whether through establishing a new cadre of community health workers or by re-strengthening the linkages between MNCH and lady health worker programmes. Also, to encourage the private sector to ensure coverage where government does not have the footprint, hence, policymakers may consider focussing on enhancing outreach services and ensuring the continuity of commodities with public sector/donor support to increase access to modern family planning/contraceptive services to reduce the large unmet need. In addition, improve existing health facilities by reinvesting in the capacity building of service providers, retention of providers, increasing quality — with minimal resources, may be through a public-private partnership. Another important recommendation is to use innovation to drive impact for family planning programmes for example to promote use of IUDs as these are under-used in Pakistan by using multi-pronged health financing mechanisms as evident in this critical review; promote task sharing as a workable model especially for mid-level providers, to expand access to contraceptive services and to develop a policy framework encompassing collaboration between public sector and private sector stakeholders for provision of free FP services to targeted groups. Lastly, there is strong need for better accountability in the flow and use of funds through establish monitoring and evaluation systems to maintain standards of practice, ensuring quality and transparency provided through FP services and to frequently use data-driven decision-making, governmental advocacy encouraging health financing initiatives which is essential to further quantify the value of such initiatives for example, universal health coverage may serve as a bridge towards any social health insurance initiative especially with private health providers in areas where public sector is not available.

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 when generalising the findings for the purpose of reproductibility in Pakistan.

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