

Specific Issues in Family Planning in Pakistan

Policy and Programme Implications of Unmet Need for Family Planning in Pakistan

Shirin Ahmed, BA,¹ Ayesha Khan, MBBS, MPH,¹ Adnan Ahmad Khan, MBBS, MS¹

Abstract

Introduction: With the contraceptive prevalence rate (CPR) at 30% in 2006-7, the rates of contraception use among married women of reproductive age (MWRA) in Pakistan are among the lowest in the region. This paper explores some options of unmet need as a means of addressing the low CPR.

Methods: We conducted secondary data analysis of the Pakistan Demographic Health Survey (PDHS) 2006-7 to understand the context of unmet need in Pakistan. Univariate and multiple regression techniques were used to understand associations. The numbers of women with unmet need were calculated by multiplying PDHS proportions with actual population figures.

Results: There are 5.7 million women with an unmet need; 2.4 million with a need to space and 3.3 million with a need to limit. Unmet need decreases with age, increases with the number of children and increasing education, and is higher among poor women. Structural factors such as rural residence and exposure to family planning (FP) programmes and messages are relevant for unmet need for spacing, but not for unmet need for limiting.

There are twice as many women in Pakistan with an unmet need for FP than those who avail FP services. Additionally there is much more need to limit than the need to space. In fact the need to limit is nearly 10 fold higher than the services for long-term methods. Structural interventions, that increase service delivery, quality, and uptake may address unmet need in the short term, must be complemented with demand creation and behaviour-change interventions. All of these issues must be addressed concomitantly with research to understand how best to harness the "market forces" that are responsible for over half of all FP services.

¹Research and Development Solutions, Islamabad.

Correspondence: Adnan Ahmad Khan. Email: adnan@resdev.org

Introduction

The use of contraception remained unchanged in Pakistan in the past decade,¹ resulting in a high number of closely-spaced and ill-timed pregnancies and births that contributed to some of the highest infant and maternal mortality rates in the world^{2,3} and limited Pakistan's progress in attaining its millennium development goals (MDGs).⁴⁻⁸ While the maternal mortality ratio and the total fertility rate have been decreasing slowly,^{1,9} the pace implies that Pakistan may be short of reaching its targets for the MDG 4 and 5 by 2015.¹⁰

Since 1990, family planning (FP) rates in Pakistan have increased by around one percent per year.^{1,9} In 2006-7, 30% or around seven million married women of reproductive age (MWRA) were using some form of FP.¹ Of these, 5.1 million used a modern method and 1.9 million a traditional method.¹¹ Compared to these, the Pakistan Demographic Health Survey (PDHS) 2006-7 reported that 24.5% of MWRA or almost six million women had an unmet need for FP, defined as "women whose last birth or current pregnancy was mistimed or unwanted, or who are not currently using contraception but do not want another child, soon".¹

The unmet need in Pakistan is among the highest in the region.¹² This unmet need is both for spacing births and limiting births and represents an opportunity to increase contraception rates by addressing the needs of women who may be more convinced about using FP.¹³ This study aims to estimate the magnitude of unmet need for spacing and limiting and identify the socio-economic factors, and the socio-cultural and demographic background characteristics of women with an unmet need, in order to inform FP policy and services in Pakistan.

Methodology

Data sources and sampling

This is a secondary analysis of the PDHS 2006-7. During the PDHS survey, data teams from the National Institute

of Population Studies visited 972 sample points across Pakistan and collected a nationally representative sample of over 95,000 households identified via a stratified random sampling approach, using a sampling frame provided by the Pakistan Bureau of Statistics. Data were collected from four provinces of Pakistan (Punjab, Sindh, Baluchistan, and NWFP) in urban and rural areas. The sample was weighted to accurately represent the population from which the sample was drawn.

From these households, 10,023 MWRA were randomly selected to provide responses to a special women's questionnaire based on standardized instruments used by Macro International in many other countries and included detailed questions about reproductive health. Detailed methods have been described elsewhere.¹

Data analysis

The database was obtained from Measure International. It has a pre-generated variable for unmet need, whose accuracy was verified by cross-tabulating and checking agreement against measures of women who report that they had either an unintended child (Chi-square $p < 0.001$; Kappa stat 0.21, $p = 0.013$) or were currently pregnant without intending to become pregnant (Chi-square $p < 0.001$; Kappa stat 0.99, $p = 0.004$). Women with unmet need were separated into women with unmet need for spacing and unmet need for limiting, based of their desire to have further children.

Frequencies and proportions were computed for categorical variables; and means and standard deviations for continuous variables. Univariate associations of socio-demographic variables (e.g. respondents' age, number of living children, place of residence, provincial differences, wealth quintiles, respondents' education, and respondents' work status) were cross-tabulated against unmet need and its subtypes. Variables that were significant at $p < 0.2$ in this preliminary analysis were included in multiple regression analysis. Two models were run. The first tested the factors associated with unmet need for spacing and the second tested the factors associated with unmet need for limiting. The factors included for separate regression models for unmet need for either spacing or limiting were 1) ever having a terminated pregnancy, 2) being visited by an FP worker in the last 12 months, and 3) having heard about FP from media sources like television and radio.

Results

The PDHS 2006-7 data show that 24.5% of MWRA have an unmet need for FP. This comes to around 5.8 million women in 2007. Of these, 10% or 2.4 million women have

Table-1: Characteristics of MWRA with An Unmet Need for Spacing or Limiting.

| | Unmet Need for Spacing | Unmet Need for Limiting | Any Unmet Need |
|----------------------------------|---------------------------|----------------------------|-------------------|
| National average | 10% | 14% | 24% |
| Actual women (in millions) | 2.38 | 3.32 | 5.7 |
| Mean age (years) | 26.33±6.07 | 35.32±6.91 | 31.45±7.93 |
| Age | % | % | % |
| 15-19 | 18 | 2 | 20 |
| 20-24 | 22 | 5 | 27 |
| 25-29 | 16 | 10 | 26 |
| 30-34 | 9 | 19 | 28 |
| 35-39 | 5 | 20 | 25 |
| 40-44 | 2 | 20 | 22 |
| 45-49 | 1 | 13 | 14 |
| P value (across age brackets) | < 0.001 | < 0.001 | < 0.001 |
| Mean level of education in years | 3.85±1.34years | 3.99±1.35years | 3.92±1.35years |
| MWRA* education | | | |
| No education | 10% | 15% | 25% |
| Primary | 11% | 13% | 24% |
| Secondary | 11% | 10% | 21% |
| Higher | 9% | 9% | 18% |
| P value | 0.095 | < 0.001 | < 0.001 |
| Mean no. of living children | 2.5 | 5.2 | 3.5 |
| Among those with < 5 children | 13% | 8% | 21% |
| Among those with 5+ children | 4% | 25% | 29% |
| P value | < 0.001 | < 0.001 | < 0.001 |
| Place of residence | | | |
| Urban | 9% | 13% | 21% |
| Rural | 11% | 14% | 25% |
| P value | < 0.001 | < 0.022 | < 0.001 |
| Provincial region | | | |
| Punjab | 9% | 13% | 22% |
| Sindh | 12% | 13% | 25% |
| Khyber Pakhtunkhwa | 13% | 16% | 30% |
| Baluchistan | 18% | 13% | 31% |
| P value | < 0.001 | 0.025 | < 0.001 |
| Wealth quintile | | | |
| Poorest | 13% | 17% | 30% |
| Poorer | 12% | 14% | 26% |
| Middle | 11% | 15% | 26% |
| Richer | 7% | 12% | 19% |
| Richest | 9% | 11% | 20% |
| P value | < 0.001 | < 0.001 | < 0.001 |
| Work status | | | |
| Working | 8% | 14% | 22% |
| Not working | 11% | 14% | 25% |
| P value | < 0.001 | 0.249 | 0.033 |

MWRA= Married Woman of Reproductive Age.

Table-2: Multivariate model for unmet need.

| | Unmet need to space Outcome N = 1,032 (10.3%) | | |
|-------------------------------------|--|----------|----------|
| | AOR | Lower CI | Upper CI |
| MWRA*age | 0.88 | 0.87 | 0.89 |
| No. of living children | 1.11 | 1.07 | 1.16 |
| Education in single years | 1.02 | 1 | 1.04 |
| Wealth index | | | |
| Middle to richest | 1 | | |
| Poorerto poorest | 1.19 | 1 | 1.4 |
| Region | | | |
| Punjab | 1 | | |
| Sindh | 1.28 | 1.08 | 1.51 |
| NWFP | 1.37 | 1.13 | 1.67 |
| Baluchistan | 2.28 | 1.7 | 2.9 |
| Place of residence | | | |
| Urban | 1 | | |
| Rural | 1.21 | 1.02 | 1.44 |
| Visited by an FP worker | | | |
| Yes | 1 | | |
| No | 1.23 | 1.04 | 1.44 |
| Respondent currently working | | | |
| Yes | 1 | | |
| No | 1.37 | 1.15 | 1.63 |

| | Unmet need to limit Outcome N = 1,368 (13.6%) | | |
|---|--|----------|----------|
| | AOR | Lower CI | Upper CI |
| MWRA*age | 0.98 | 0.97 | 0.99 |
| No of living children | 1.41 | 1.36 | 1.45 |
| Education in single years | 1.01 | 0.99 | 1.03 |
| Wealth index | | | |
| Middle to richest quintiles | 1 | | |
| Poorer to poorest quintiles | 1.17 | 1.02 | 1.34 |
| Heard of FP on radio in last month | | | |
| No | 1 | | |
| Yes | 0.72 | 0.58 | 0.89 |

MWRA= Married Woman of Reproductive Age.

an unmet need for spacing while 14% (3.36 million women) have an unmet need for limiting births.

As expected, the unmet need to space births is higher among younger women and decreases with age. Women with a need to space have 2.5 children compared to 5.2 for those with a need to limit, which is one child more than the national average.¹ The need for spacing but not limiting is somewhat higher in rural locations than in urban ones. Both types of unmet needs are higher among poor women. Finally, education does not change the need to space, which remains around 10-11% for all education levels, but the need to limit is much higher among uneducated women (Table-1). Unmet need also varies by

province; unmet need was the lowest in Punjab (22%) and the highest in Balochistan (31%). Much of this variation is for the need to space, whereas the need to limit remains largely unchanged.

In multiple regression models, the need to space decreases by 12% for every one-year increase in the age of the woman and increases by 11% with every child. It was also higher among poorer women, those from rural locations, women never visited by an FP worker, and among those currently working for pay. It was lower in Sindh, Khyber Pakhtunkhwa (KPK) and Balochistan.

The model for the need to limit showed that the need decreases by two percent for every increasing year of age and increases by 41% for every child. It was higher among the poor and lower when the woman had heard about FP on the radio (Table-2).

Discussion

One couple in four in Pakistan have an unmet need for contraception, which is the highest in south Asia and among the highest, worldwide.¹⁴ This unmet need is for both spacing births and limiting families, and the extent of each varies by women's age, parity, and education. Extrapolating PDHS data to population figures, an estimated 3.4 million MWRA have a need to limit families and an additional 2.4 million for spacing services. Women with an unmet need have more children and are poorer. Structural factors such as rural residence, living in a less-developed province such as Balochistan, and prior exposure to FP messages or programmes, were relevant for unmet need for spacing, but not for limiting. This suggests that the need for spacing may be better addressed with service delivery solutions while the need for limiting is mostly an individual-level phenomenon and may be better addressed with behaviour change interventions/demand creation.

Commonly understood causes of unmet need from international literature include the lack of couples' knowledge about modern contraception, husbands' or other family members' reluctance to permit the use of FP, women's lack of access to contraceptive services, limited availability of contraceptive choices, couples' concerns about health effects or adverse effects from the use of modern contraception, and policy constraints that either limit funding or decrease the availability of services.^{15,16} It is possible that many women who become pregnant while not intending to, simply did not realize that they do not have to become pregnant. They could simply be unaware of the availability of means that can help them avoid pregnancy, either just then or permanently. The PDHS

2006-7 showed that prohibition by husbands/other family members accounted for around ten percent of FP non-use and only nine percent of non-users reported a fear of adverse effects or health concerns as a reason for their non-use. On the other hand, over 90% of MWRA know of at least one modern method and where to procure it.¹ Thus, the major reasons for the persisting unmet need in Pakistan relate to policy and service delivery.

There are 5.7 million women in Pakistan who have an unmet need for contraception — nearly twice as many as those availing contraception services.¹¹ Nearly 3.4 million of these have a need for limiting which ten times higher than the 275,000 women who receive a long-term contraception method—female or male sterilization or intrauterine contraceptive devices (IUCDs) from any provider in any given year.^{1,11} Around 145,000 sterilizations are conducted nationwide every year in nearly 3,300 facilities of the population welfare departments¹⁷ at an average of one procedure per facility per week. This very low utilization is in part due to a lack of referrals to these centres from the lady health workers (LHWs) or health department facilities. Despite decades of talk of integration, great dissonance persists between the two public sector departments responsible for FP with the result that women needing FP remain underserved and facilities remain underutilized. Beyond referrals, service quality at population welfare and health facilities must improve. Few facilities of the health departments see their role in FP and seldom stock FP supplies.¹⁸ Lady health workers hired under the National Programme for Family Planning and Primary Healthcare do provide FP services, but receive intermittent supplies and seldom refer women for long-term methods provided by population welfare or NGO facilities. In fact, they serve approximately 430,000 women with FP services annually, at an average of four women per LHW per year,¹¹ and devote around five percent of their time to FP.¹⁹ Non-government organizations (NGOs) accounted for around 12% of all FP services, nationwide in the private sector, until 2007.¹ Thus despite the availability of many trained providers and facilities — many with large fixed expenses — the system under delivers, leaving many women with persisting unmet need.

The first step in addressing existing unmet need would be to increase access to "high-quality services".^{20,21} This is defined as the availability of adequate services utilized without undue personal or psychological cost to individuals, their travel time, and any further monetary implications for users.¹⁵ In the public sector, this would include increasing referrals between health and

population departments and between the public and private sector, increasing the efficiency of public sector facilities that provide FP services (particularly long-term methods), and of the quality of services that are delivered. In theory, the LHWs see around 60% of all MWRA. If they were to routinely ask women about their FP needs and refer those in need of long term methods to existing population welfare facilities, unmet need for limiting can decrease substantially. Health and population services were recently devolved to the provinces in Pakistan. This devolution presents an opportunity to improve services by targeting these systemic issues — something that did not happen sufficiently when the federal ministries controlled all decisions about how such services would be funded or delivered.

Women with an unmet need for spacing should be able to access a wider array of methods and quality services. There is more opportunity to do so now than ever before. Since 2008, increased donor funding has re-invigorated the private and NGO sector.^{22,23} Some NGOs are now implementing programmes at scales that are comparable to those of government ministries and provide a comprehensive array of short- and long-term methods.²⁴ A co-operative approach is required where the departments of health and population and large NGOs, work together. This would allow information sharing and referrals when applicable, the increased use of existing facilities, leading to an increase in the contraceptive prevalence rate (CPR) and a decrease in unmet need.

Finally, while there has been a great deal of emphasis on providing free services, data show that over half of the women currently buy the methods they use.^{1,11} A more nuanced approach of mixing free or subsidized services — including those that specially target poor women²⁵ — with more complete cost recovery or even market-based costing of FP services, may be feasible and will likely promote sustainability.

Our main limitation is that we presented a secondary analysis of the PDHS data where the unmet need variable was pre-calculated in the database. However, we cross-referenced this variable against standard definitions of unmet need, such as those expressing a desire for contraception but not using it, and those that had a recent unwanted pregnancy, and found the variable to be accurate. The other limitation is that this being a secondary analysis using data collected by a third party, we were limited to using the sample size that was available. This sample limited sub-national and provincial-level inferences. Finally, the extrapolation to actual number of women would be limited by the

accuracy of the extrapolation of population figures - done by the Pakistan Bureau of Statistics - based on the census conducted in 1998.

Our findings suggest avenues for future programming. While no single approach works in all cases,²⁶ a large unmet need for limiting in the face of underutilized facilities that provide long-term methods, suggests the need for better linkages between major actors and referrals to existing facilities in order to increase facility utilization. Other obvious solutions include maintaining steady supplies and services for existing providers, something that has not occurred consistently in the public sector. However, more than half of all services are self-procured and very little is known about women who buy FP methods by themselves, the prices they pay (and the prices that are prohibitive), their buying patterns, their implications for fertility (e.g. if they can only afford to buy contraceptive pills for part of the month), or how these women may be reached with messages and marketing approaches. The sheer number of these women makes these questions very important and suggests a research agenda that incorporates elements of conventional academic research with marketing.

Acknowledgements

Funding for this work was provided by the USAID grant: SGAFP/2011/SGF/002 Pakistan. There are no conflicts of interest.

References

1. National Institute of Population Studies P, Measure DHS. Pakistan Demographic and Health Survey 2006-7. 2008 Jun.
2. Stover J, Ross J. How increased contraceptive use has reduced maternal mortality. *Matern Child Health J* 2010 Sep;14(5):687-95.
3. Campbell OM, Graham WJ. Strategies for reducing maternal mortality: getting on with what works. *Lancet* 2006 Oct 7;368(9543):1284-99.
4. Blencowe H, Cousens S, Oestergaard MZ, Chou D, Moller AB, Narwal R, et al. National, regional, and worldwide estimates of preterm birth rates in the year 2010 with time trends since 1990 for selected countries: a systematic analysis and implications. *Lancet* 2012 Jun 9;379(9832):2162-72.
5. Kerber K, Tsaone-Nkhasi M, Dorrington RE, Nannan N, Bradshaw D, Jackson D, et al. Progress towards Millennium Development Goal 4. *Lancet* 2012 Mar 31;379(9822):1193-5.
6. Bhutta ZA, Chopra M, Axelson H, et al. Countdown to 2015 decade report (2000-10): taking stock of maternal, newborn, and child survival. *Lancet* 2010;375(9832):2032-44.
7. Shelton JD, Gray R. Maternal mortality for 181 countries, 1980-2008. *Lancet* 2010 Oct 23;376(9750):1389-90.
8. Liu L, Johnson HL, Cousens S, Perin J, Scott S, Lawn JE, et al. Global, regional, and national causes of child mortality: an updated systematic analysis for 2010 with time trends since 2000. *Lancet* 2012 Jun 9;379(9832):2151-61.
9. National Institute of Population Studies P, Measure DHS. Pakistan Demographic and Health Survey 1990-1. 1990.
10. Khan A. Lady Health Workers and Social Change in Pakistan. *Economic and Political Weekly* 11 A.D. Jul 23;46(30):28-31.
11. Research and Development Solutions. Policy Brief 02: Family Planning Services in Pakistan. 2012. Ref Type: Pamphlet.
12. Westoff CF. Unmet Need, Demographic and Health Surveys Comparative Series. 1995. Report No.: 16.
13. Jooma R, Khan AA. Contraception, synergies and options. *J Pak Med Assoc* 2009 Sep;59(9 Suppl 3):S39-S40.
14. UNFPA. State of the World Population 2011. 2011.
15. Bongaarts J, Bruce J. The causes of unmet need for contraception and the social content of services. *Stud Fam Plann* 1995 Mar;26(2):57-75.
16. Cleland J, Bernstein S, Ezeh A, Faundes A, Glasier A, Innis J. Family planning: the unfinished agenda. *Lancet* 2006 Nov 18;368(9549):1810-27.
17. Research and Development Solutions. Policy Brief 07: Understanding Female Sterilization in Pakistan. 4-1-2012. Ref Type: Pamphlet.
18. Sosec Consultants. Thrid Party Evaluation of the PPHI in Pakistan. 2011.
19. The Oxford Policy Management Group. The Third Party Evaluation of the Lady Health Worker Program. 2009.
20. Robey B, Ross J, Bhushan I. Meeting unmet need: new strategies. *Popul Rep J* 1996 Sep;(43):1-35.
21. Shaikh BT. Unmet Need for Family Planning in Pakistan - PDHS 2006-7: It's time to re-examine deja vu. *Open Access Journal of Contraception* 2010 Oct 19;1:113-8.
22. Hennink M, Clements S. The impact of franchised family planning clinics in poor urban areas of Pakistan. *Stud Fam Plann* 2005 Mar;36(1):33-44.
23. Azmat SK, Shaikh BT, Hameed W, Bilgrami M, Mustafa G, Ali M, et al. Rates of IUCD discontinuation and its associated factors among the clients of a social franchising network in Pakistan. *BMC Womens Health* 2012;12:8.
24. Research and Development Solutions. Policy Brief 13: Family Planning Service Delivery and its Uptake in Pakistan. 7-1-2012. Ref Type: Pamphlet.
25. Gillespie D, Ahmed S, Tsui A, Radloff S. Unwanted fertility among the poor: an inequity? *Bull World Health Organ* 2007 Feb;85(2):100-7.
26. Mwaikambo L, Speizer IS, Schurmann A, Morgan G, Fikree F. What works in family planning interventions: a systematic review. *Stud Fam Plann* 2011 Jun;42(2):67-82.