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Contraceptive use dynamics in Pakistan 2008-09

Arshad Mahmood
Population Council

Syeda Saman Naz

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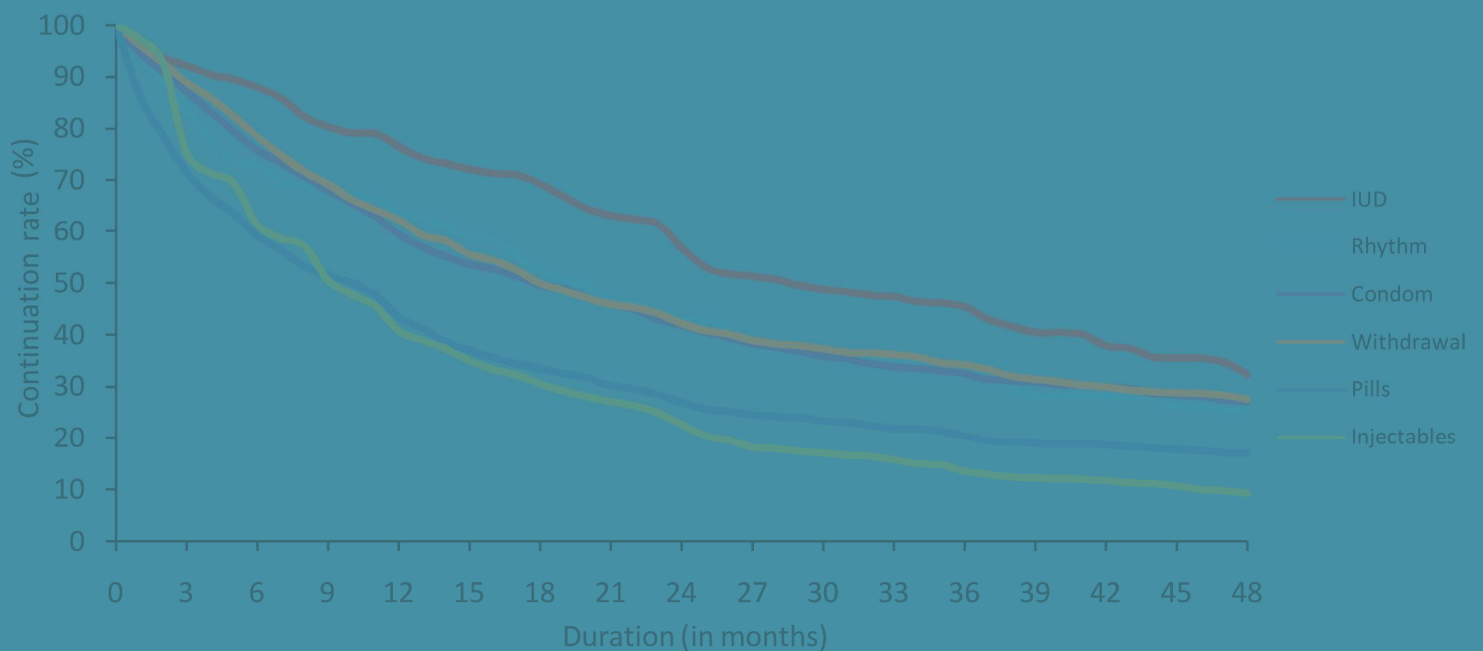
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Contraceptive Use Dynamics in Pakistan 2008-09



Authors:
Arshad Mahmood Ph.D.
Syeda Saman Naz



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Arshad Mahmood Ph.D.

Syeda Saman Naz



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For inquiries, please contact:

Population Council

Add: 7, Street 62, F-6/3, Islamabad, Pakistan

Tel: 92 51 8445566

Fax: 92 51 2821401

Email: info.pakistan@popcouncil.org

Web: <http://www.popcouncil.org>

<http://www.falah.org.pk>

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Executive Summary

This report looks at contraceptive use dynamics in Pakistan, focusing on contraceptive discontinuation, method failure, and contraceptive switching, as well as the reasons for discontinuation.

The main data source for this study was the FALAH project baseline survey conducted in 29 districts across Pakistan in 2008-09. A total of 17,124 currently married women of reproductive age (15-49 years) were interviewed. Detailed retrospective contraceptive use history was collected (for the four-year period prior to date of interview). This analysis focused on 6,026 women who had used at least one reversible contraceptive method in this four-year period.

The basic unit of analysis of the report is contraceptive episode; the 6,026 women generated a total of 8,838 reversible contraceptive method episodes. The most common entailed condom use followed by withdrawal and injectables. Contraceptive ever use and current use levels were 47 percent and 29 percent respectively, with modern methods accounting for more than traditional methods (ever use 44 percent modern vs. 19 percent traditional, current use 22 percent vs. 7 percent). Higher contraceptive use was found among women aged 35 or above, with 5 or more living children. Literate women and those belonging to a higher socioeconomic group were also more likely to be current contraceptive users. Overall, one third of the total women were considered to be in unmet need of family planning.

Contraceptive discontinuation rate at one year was 45 percent of the users. This was highest for the two hormonal methods: pill and injectables with the discontinuation rates of 57 percent and 59 percent at one year respectively. Discontinuation rates for IUD were the lowest: only 23 percent discontinued use after one year. In terms of women's background characteristics, discontinuation rates were highest for younger, rural women; those with fewer children; and those from a low socioeconomic group. There was little variation in contraceptive discontinuation based on literacy and education status. Limiters had higher continuation rates than spacers. In comparison with other developing countries, Pakistan has one of the lowest contraceptive prevalence rate (CPR) but the highest discontinuation rates.

The study found that almost one-third of discontinuations were due to side effects followed by one-fifth of them by the method failure. Side effects were the most common reason for discontinuing modern methods (IUDs and hormonal methods), while failure was the most common reasons for discontinuing barrier and traditional methods (condom, rhythm, withdrawal). Results show that elimination of the discontinuations caused by the side effects could increase contraceptive continuation rates (at one year) by 10 percent whereas elimination of method failure could increase contraceptive continuation rates (at one year) by 6 percent.

In relation to background characteristics, discontinuation because of side effects was higher among rural than urban women, as well as among illiterate women and those with higher parity. Discontinuation because of method failure was highest among the 25-34 year age group. Reasons for discontinuation were analyzed separately for limiters and spacers. Among spacers the most common reason was no further need (45 percent; mainly due to the desire for pregnancy) followed by side effects (26 percent). Among limiters side effects accounted for 43 percent of discontinuations, followed by method failure (21 percent) and no further need (18 percent; mainly due to menopause and infrequent sex).

Contraceptive failure rates reflect both the efficacy of contraceptive methods and how accurately the women used the methods, which in turn reflects the level of information provided at the time of method adoption. In the study, method failure accounted for 17 percent of closed reversible contraceptive episodes. Withdrawal and condom use together accounted for over 50 percent of these method failures. Failure rates within one year of any contraceptive method use was 9 percent which was highest for withdrawal (13 percent), followed by condom and pills (both 10 percent); they were lowest for IUDs and injectables (1 percent and 4 percent respectively).

Method failure rates were almost double among spacers as compared to limiters. Failure rates were higher for couples from low socioeconomic groups, but showed little variation by residency and literacy of the women. Among those who obtained their contraceptive method from a health facility, method failure was lower among those who were provided with information regarding the method use at the time of method acceptance. Comparison of the contraceptive failure rates with other developing countries shows that Pakistan has one of the highest contraceptive method failure rates.

In this study women were considered to have switched contraceptive methods if they adopted a different method in the following calendar month, or if they only had a one month gap with no contraception between discontinuation of one method and adoption of another. Just over one-fifth (21 percent) of discontinued episodes ended in switching; the overall switching rate at one year was 12 percent, rising to 18 percent by the second year of use. Switching rates at 12 months of use were highest for hormonal contraceptives (pill and injectables) followed by rhythm and condom; they were lowest among IUD and withdrawal users. Almost one-third of modern contraceptive users switched to traditional contraceptive methods. In relation to background characteristics, switching rates were slightly higher among literate than illiterate women, but almost double among the youngest age group compared to the oldest. Limiters and spacers showed similar switching rates.

As with reasons for switching, the most common reason was side effects (44 percent), while 24 percent wanted a more effective method; 15 percent of women switched to another method because their husband disliked the previous method. Overall, only a quarter of women who consulted a health provider were told about the possibility of switching to another contraceptive method. Among different types of health facility, FWC had the highest proportion of women told about switching options (37

percent), followed by LHW (29 percent) and BHU/RHC/MCH (25 percent). In comparison with other developing countries Pakistan has low switching rates; moreover the proportion of those switching to a more effective method is lower. Countries with similar discontinuation rates (Bangladesh, Colombia) have higher switching rates and higher CPR, showing that high switching rates are a good indicator for better CPR.

The key findings of the study have been summarized above. Particularly significant is the role played by side effects and method failure in contraceptive discontinuation: a 16 percent improvement in continuation rate (at one year) could be achieved by eliminating these. Also significant is the low level of information provided to clients at the time of method adoption. Based on these findings, the following recommendations could greatly improve contraceptive use in Pakistan:

- better training of health providers to provide family planning services;
- better information provision and counseling to clients, particularly about managing side effects and alternative contraceptive methods;
- more active promotion of IUD use, as one of the most effective contraceptives with the lowest failure and discontinuation rates;
- ensuring quality services are available at all levels of the health system, particularly local level;
- effective IEC strategy with the focus on the message that side effects of contraceptives are minor and temporary so that clients do not discontinue method due to them.

Chapter 1

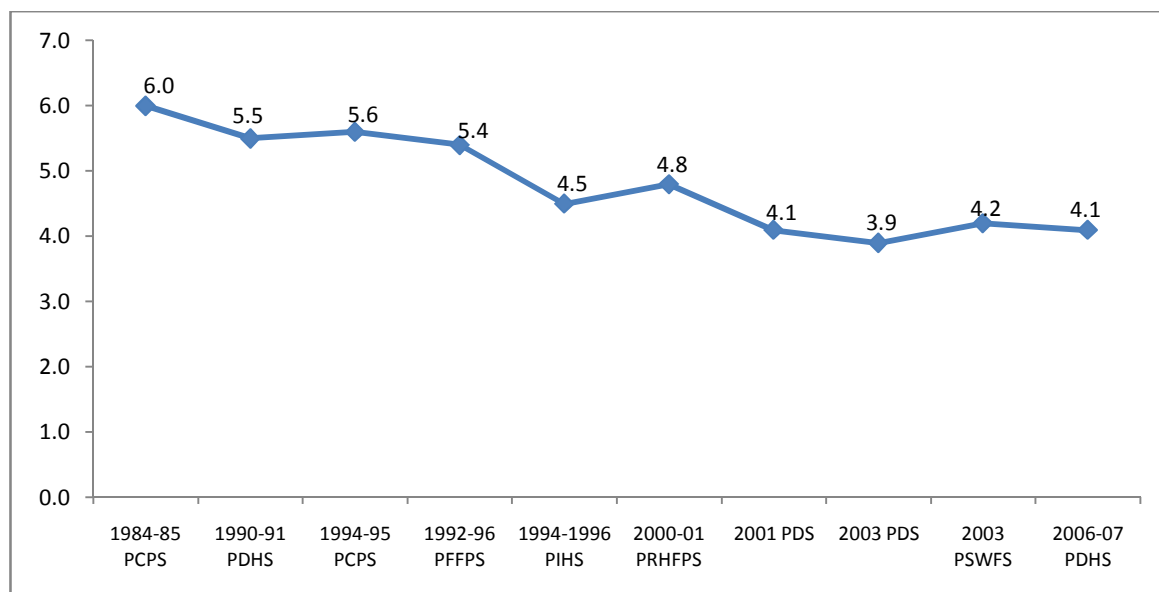
Introduction

In order to implement a family planning program, it is important to know how people use various contraceptive methods, how well these methods work, what problems they have and what they think of those problems. This report presents the analysis of the household survey data on contraceptive use dynamics in Pakistan. There have been many studies about contraceptive use prevalence in Pakistan but little is known about contraceptive use dynamics. The term “use dynamics” refers to the changes in contraceptive use status and the reasons for these. This report focuses on three main aspects of use dynamics: contraceptive discontinuation, failure and switching. It also examines the reasons for discontinuation.

1.1 Background and Aims

Pakistan is the sixth most populous country in the world with an estimated current population of 173 million (Planning Commission, 2010). Examination of the most recent data shows a very slow decline in fertility rate since the beginning of this century (Figure 1.1). However, data from the 1990s demonstrates a distinct decline in fertility levels. Estimates imply a decline of around 1.5 births between the 1980s and 1990s (Sathar et. al., 2009). After the 1990s the fertility rate continued to decline but at a slower pace; the latest PDHS 2006-07 shows the total fertility rate (TFR) stagnating at 4.1.

Figure 1.1: Trends in total fertility rate



While the data show a very slow decline in TFR over the past decade, the PDHS 2006-07 indicates stagnation in contraceptive use, with the contraceptive prevalence rate (CPR) falling slightly to 30 percent compared with 28 percent in PRHFPS 2001. Moreover, unmet need for family planning continues to remain one of the highest in the world: it increased from 33 percent in the PRHFPS 2000-01 to 37 percent in the PDHS 2006-07. In 2007 the UNFPA-sponsored seminar “Unpacking Unmet Need for Family Planning in Pakistan” led to the conclusion that, unlike earlier, the main factors behind unmet needs in Pakistan now are access (which encompasses the barriers of associated costs) and quality of services (which includes problems of side effects).

Consistent with the above mentioned findings is the trend in unplanned childbearing (the combination of unwanted births and mistimed births) in which the proportion of recent births that are unplanned rose from 21 percent in 1990-91 to 24 percent in 2006-07. The unmet need for contraception and the proportion of births that are unplanned confirm that a large fraction of currently married women in Pakistan are at risk of unwanted pregnancy and, potentially, of having an abortion. The annual unwanted pregnancy rate is 77 per 1,000 women, which is almost two-fifths of all pregnancies (Sathar et. al, 2007). Moreover, the estimated national annual abortion rate (the number of abortions per 1,000 women aged 15-49) is 29; abortion accounts for termination of one in every seven pregnancies (Sathar et al, 2007).

As Table 1.1 shows, despite no notable increase in CPR over the past decade, ‘ever use’ of family planning methods *has* increased during the past few years. Ever use of contraceptive methods steadily increased from 21 percent in 1991 to 34 percent in 2001 and finally to 49 percent in 2007, indicating a higher per annum increase since the beginning of this decade (2.5 percent per annum versus 1.3 percent per annum in the 1990s). This implies that almost half of currently married women have used contraceptives (modern or traditional methods) on at least one occasion, indicating that a significant share of women have discontinued the use of family planning. In this situation it is very important to examine the underlying reasons behind why current use remains low while at the same time the number of women trying family planning for the first time is increasing. These figures underscore the practical importance of studying contraceptive use dynamics (discontinuation, failure and switching) and their relevance to an understanding of the ability of couples in a country like Pakistan to achieve their reproductive intentions.

Table 1.1: Contraceptive use among currently married women 1968-2007

Contraceptive use	NIS 1968-69	PFS 1975	PLFMS 1979	PCPS 1984-85	PDHS 1990-91	PCPS 1994-95	PFPS 1996-97	PRHFPS 2001	PSWFS 2003	PDHS 2006-07
Current use of contraception	6	5	3	9	12	18	24	28	32	30
Have ever used contraception	12	11	5	12	21	28	36	40	42	49

Previous work on use dynamics in Pakistan

Little has been known about contraceptive use dynamics in Pakistan. Conventional cross-sectional studies can obtain information about contraceptive discontinuation as the proportion of past users of particular methods, as well as reasons for discontinuation, but these cannot be easily transformed into proper statistical rates. Data from clinical trials provide discontinuation rates, but only in experimental populations under controlled conditions. However, two field studies, one of IUD users in 1992 and one of users of injectable contraceptives in 1993, have been published using the life-table methods for data on contraceptive continuation and discontinuation (Ministry of Population Welfare, 1993; Ministry of Population Welfare & Population Council, 1993). These showed rates of continuation broadly comparable with internationally published rates for these methods. These studies used the follow-up approach, in which an attempt is made to locate acceptors from a given period from lists kept by clinics; the essential data are the length of use, and the reason, if any, for discontinuation. These studies have the advantages of providing an accurate date of acceptance, and enabling use dynamics to be estimated from a particular set of clinics. However, they have a number of disadvantages: they are not useful for estimation for methods (such as condoms or withdrawal) where obtaining acceptor lists is difficult; they obtain estimates for only one method at a time; they are inefficient in the field, particularly for medium and high prevalence populations; and they do not obtain information on use dynamics for a general population.

To address these difficulties, a method of cross-sectional data collection and analysis was proposed by Laing (1985) using a medium-term (e.g. 30 or 36 month) contraceptive history calendar, which obtains data on all segments of contraceptive use during a given calendar interval within a general population sample of married women of reproductive age. Laing's calendar approach has been adopted widely in the past two decades, especially by the Demographic and Health Survey program.

This cross-sectional calendar approach in Pakistan was first used by the Population Council for the User Satisfaction and Longevity Study (US/LS) of 1997. It presented data from a national sample of currently married women of reproductive age on use dynamics of six temporary methods: IUDs, pills, injections, condoms, withdrawal, and rhythm. The study showed that, by international standards, Pakistani continuation rates in general were quite high whereas failure rates were quite low. The all-method discontinuation rate at 12-month was 27 percent, with higher discontinuation rates for female than male methods. Side effects were the dominant reason for discontinuation of female methods whereas for couple methods failure was most common.

Objectives

The main objectives of the current analysis are:

- To highlight the importance of contraceptive use dynamics in Pakistan;
- To measure discontinuation rates for the major reversible contraceptive methods being used in Pakistan;
- To measure the contraceptive failure rates of these methods;
- To explore the reasons for discontinuation of each of these methods;
- To investigate rates and patterns of switching between contraceptive methods;

1.2 Data

Source: FALAH Baseline Survey

The data used for this study is derived from the baseline household survey of the Family Advancement for Life and Health (FALAH) project. This is a five-year project funded by the United States Agency for International Development (USAID) to support birth spacing and family planning in Pakistan. The FALAH Project works with the Government of Pakistan at federal, provincial, and district levels, as well as with the private sector, to improve birth spacing information and services.

The aims of the FALAH project are:

- a) To increase demand for and practice of birth spacing;
- b) To increase access to and quality of family planning services in the public sector;
- c) To increase the coverage and quality of family planning services in the private sector;
- d) To increase the coverage of social marketing of contraceptives and provide support to the commercial sector for marketing contraceptives to strengthen contraceptive security.

FALAH is implemented by a team of seven partner organizations: Population Council (as lead agency), Jhpiego, Greenstar Social Marketing, Save the Children (US), Mercy Corps, Health and Nutrition Development Society (HANDS), and the Rural Support Program Network (RSPN).

The FALAH baseline survey was conducted by the Population Council in 29 districts across Pakistan in 2008-09. The main purpose was to gauge knowledge, attitudes and practices with regard to fertility, reproductive health and child spacing/family planning. The baseline survey findings were to be compared with the end of project survey to assess the progress of FALAH.

The FALAH project was to be implemented in 20 districts across four provinces of Pakistan but, because of the deteriorating security situation in parts of the country in recent years, the project had to replace some of the districts after conduct of the baseline survey. As a result the baseline survey is available for 29 districts in total, listed below:

- **Balochistan:** *Gwadar*, Jaffarabad, Khuzdar, Lasbella, and *Turbat*;
- **Khyber Pakhtun Khwa:** *Battagram*, *Buner*, Charsadda, Mansehra, Mardan, Swabi and *Upper Dir*;
- **Punjab:** Bahawalpur, Dera Ghazi Khan, Jhelum, Khanewal, Multan and Rajanpur;
- **Sindh:** Dadu, Ghotki, Jacobabad, Karachi (Gadap, Lyari, Orangi), Larkana, Sanghar, Sukkur and Thatta.

(Note: districts where the FALAH project was not implemented are given in italics.)

The FALAH baseline survey included a contraceptive calendar to collect the contraceptive history of the women studied for the four months prior to the survey. This data is important as it is the only data currently available for the study of contraceptive use dynamics. The PDHS of 2006-07 did not include a contraceptive calendar since Measure DHS has a strategy of not including a contraceptive calendar for countries with low contraceptive prevalence.

An equal sample size of 520 households was selected from each of the FALAH project districts; this resulted in 17,124 currently married women of reproductive age (15-49 years old) being interviewed. Since an equal sample size was selected from each district, irrespective of its overall population and proportion in the national population, the analysis in this report is based on weighted sample. Table 1.2 shows the number of women interviewed from each district.

Table 1.2: Number of women interviewed by district

District	Women interviewed	
	N	%
Sukkur	585	3.4
Dadu	642	3.7
Larkana	604	3.5
Thatta	665	3.9
Sanghar	629	3.7
Ghotki	673	3.9
Shikarpur	668	3.9
Jacobabad	718	4.2
Lasbela	588	3.4
Jafarabad	478	2.8
Kech	644	3.8
Gawadar	691	4.0
Khuzdar	639	3.7
Upper Dir	548	3.2
Buner	716	4.2
Batagram	471	2.8

District	Women interviewed	
	N	%
Swabi	491	2.9
Charsada	542	3.2
Mansehra	518	3.0
Mardan	588	3.4
Jhelum	448	2.6
Dera Ghazi Khan	669	3.9
Multan	525	3.1
Khanewal	571	3.3
Bahawalpur	538	3.1
Rajanpur	609	3.6
Lyari	546	3.2
Orangi	538	3.1
Gadap	582	3.4
Total	17,124	100.0

The FALAH baseline survey used the standard Demographic and Health Surveys format to ask questions from women. The analysis in this report is mainly based on multi-year calendar data on women's contraceptive use and monthly reproductive behaviors. In all districts, the survey collected detailed retrospective histories of contraceptive use in the form of month-by-month calendars for the 48 months prior to the date of interview. Months of starting and stopping specific methods were recorded, together with the main reason for stopping and the occurrence of pregnancies, births and terminations. When a woman reported discontinuing a contraceptive method, she was asked the primary reason for that discontinuation. Since the format of the contraceptive calendar allowed only one reason for discontinuation, respondents were asked to provide just one main reason. In reality there could be multiple reasons for discontinuation.

The unit of analysis for this report is episode of contraceptive use. An episode is defined as a period of uninterrupted use of contraceptives that may or may not have ended. One woman may report several episodes of contraceptive use in the contraceptive calendar. When extracting data from the calendar, a contraceptive events-based dataset was created wherein each episode of contraceptive use was one observation. All episodes of contraceptive use that occurred during the four-year period of observation were used in calculating discontinuation rates (Chapter 3). The calendar data yielded a total of 9,911 episodes of contraceptive methods by the 6,026 women in these 29 districts who used at least one contraceptive method during the four-year period prior to their interview.

Since the outcome of interest in this report was contraceptive discontinuation, the analysis was based on 6,026 women who used at least one reversible contraceptive method and discontinued during the period between January 2004 and the month of interview. This excludes women who did not use any contraceptive method during the 48 month period. In Chapter 5, however, since the contraceptive

switching behavior between different contraceptive methods is being studied, both reversible and non-reversible contraceptive episodes are included.

Women Included in the Analysis

Since the purpose of this report is to study contraceptive use dynamics, only those women who used at least one reversible contraceptive method during the four years prior to the survey were included in the analysis. Table 1.3 shows that 35 percent of the total sampled women from the FALAH baseline survey were included in this report.

Table 1.3: Percentage of married women 15-49 who were included in the events-based analysis and reason for exclusion among those excluded

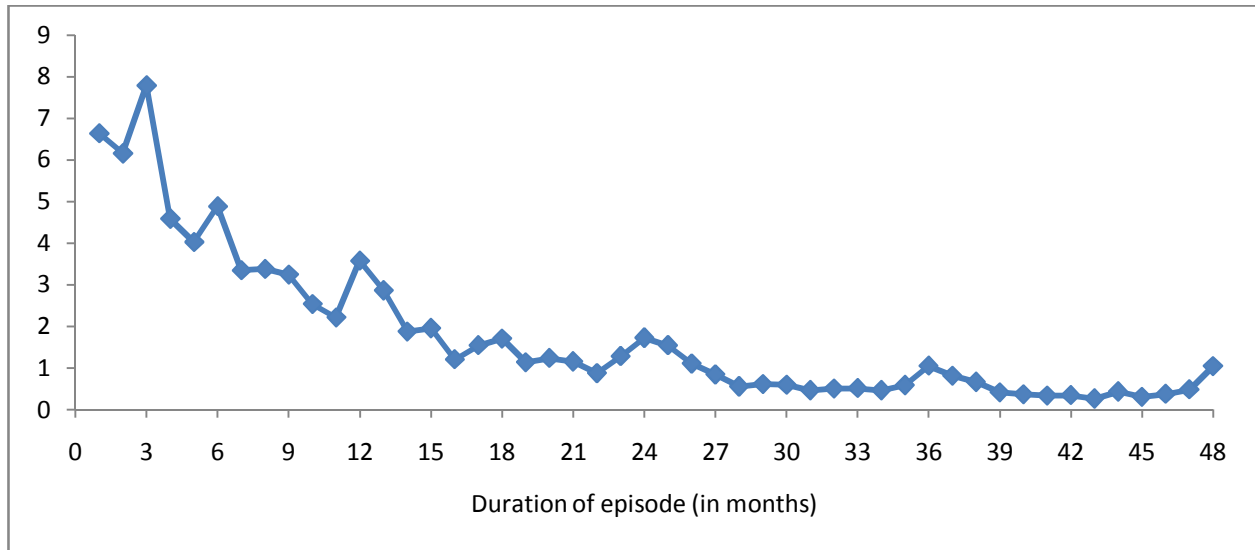
Description	Number	Percentage
Included in episode-based analysis	6,026	35.2
Reason excluded from events-based analysis:		
Never used contraception	9,004	52.6
Ever users who did not use any contraceptive during the period of observation	840	4.9
Only contraceptive used during the period of observation was sterilization	1,254	7.3
Total	17,124	100.0

Data Quality and Limitations

The quality of data can vary from survey to survey and depend on many factors. Contraceptive use histories collected in a calendar format are subject to recall bias. Retrospective reporting of contraceptive use and discontinuation rely heavily on the ability of respondents to accurately recall events, meaning there may be some tendency to forget or omit episodes, particularly short ones, and data from past years could be less reliable than the current status data. If this occurred, discontinuation rates would be underestimated to some extent, but methodological work suggests that they are of sufficient quality to sustain detailed analysis (Ali and Cleland, 2010).

Heaping of reported durations of use is also a potential source of bias in the data. It indicates a tendency among respondents to estimate durations that they may not recall very accurately. Figure 1.1 shows the percent distribution of reported durations of episodes of contraceptive use. Heaping in duration reporting could be seen at the 3,6,12, 18, 24, 36 and 48 months of duration. In the absence of heaping, this distribution would be expected to decline smoothly across duration.

Figure 1.1: Percent distribution of reported duration of episodes of contraceptive use



As explained above, an equal sample size was collected from all the districts irrespective of their national population share. However district weights were applied to the sample to cope with this problem. Listing of only one reason for discontinuation, when in fact there could be multiple, has also already been cited above.

The data have been adjusted for the left-censored episodes that began before the calendar period started. If the women were using a method on January 2004 they were asked how long they had been using that method. The duration of all such episodes was calculated by incorporating the entire period they had used that method. The problem of left-censoring has thus been addressed, but, since episodes that had not ended at the date of interview are included, the data does have right-censoring.

A further limitation that should be kept in mind when interpreting the results of this report is that, since the data is episode-based and one woman can contribute one or more episodes, the modeling approach involves correlations between repeated episodes contributed by single individuals.

1.3 Statistical Methods

Both descriptive analysis and life-table techniques were used to analyze the contraceptive discontinuations. The conventional life-table approach follows an episode of contraceptive use from the point of acceptance to the point of discontinuation. The method allows calculation of probabilities of continuing or terminating use from acceptance to any given month. Discontinuation rates by method type and by reason of discontinuation are also computed.

Independent variables

Definitions and categorization of the independent variables are summarized in Table 1.4. The multivariate models contain both episode and woman level variables. Woman level variables are contributed by the woman and remain the same for all episodes. They include: literacy status of woman, area of residence, socioeconomic status and inter-spousal communication. It is assumed that over the four-year period for which the contraceptive history has been obtained, the socioeconomic status of the woman did not change. A woman's communication with her husband about family planning over the past year has been included as a proxy for inter-spousal communication, with the assumption that if they talked about family planning in the past year, they would have talked about it in preceding years as well.

Episode level variables are those which vary at each episode. They include: woman's age, parity, contraceptive method, order of episode and contraceptive intent. The retrospective monthly age of the woman was calculated based on her age at the time of survey. Similarly the monthly retrospective parity of woman was calculated using the number of living children she had at the time of survey and the live births she listed in the calendar history.

The contraceptive intent of woman at a particular episode has been calculated by utilizing the information about her intent for the most recent episode of use and from her ideal versus actual number of children. If her most recent episode of use was for the purpose of spacing between births it is assumed that all the previous use of contraceptives was also for spacing. If the number of living children at the beginning of any episode equals or exceeds her ideal family size, she is assumed to be using the method for limiting purposes.

Table 1.4: Summary of independent variables used in the multivariate models of contraceptive discontinuation

Variable	Description/Categories
Demographic and method factors	
Woman's age	Woman's age (in years) at the time of discontinuing the episode 15 –24 25 – 34 35 – 49
Number of living children	Number of living children at the time of discontinuing the episode 0 – 2 3 – 4 5 or more
Method	Contraceptive method used
Order of episode (Order of the contraceptive episode out of the total episodes used during the 4-year period)	Recent most (contraceptive episode that was used most recently by the woman-for current users this would be the current contraceptive method) Previous (contraceptive episodes, other than the recent ones)
Contraceptive intent	Whether the episode of use was for spacing or limiting purposes — based on ideal versus actual family size
Inter-spousal communication (during the past one year)	Never At least once
Socioeconomic factors	
Literacy status of woman	Literate Illiterate
Schooling of the woman	No education Up to primary Up to secondary Above secondary
Area of residence (a proxy of accessibility)	Rural Urban
Socioeconomic status	Low Medium low Medium high High
Ethnicity	Mother tongue of the respondent

Chapter 2

Descriptive Results

Overall 17,124 women of reproductive age were interviewed in the FALAH baseline survey. Table 2.1 below shows the distribution of these women by their background characteristics. Since the sample was representative and urban-rural stratified, a majority of the women were from rural areas. Most of the women were between 25 and 34 years of age and two-fifths of them had two or fewer children. Less than 30 percent of the women were literate.

Table 2.1: Percentage distribution of women by the background characteristics

Background characteristics	All women	
	N	%
Age of the woman		
15 – 24	4,466	26.1
25 – 34	6,753	39.4
35 – 49	5,905	34.5
Residence		
Rural	12,749	74.4
Urban	4,375	25.6
Number of living children		
0 – 2	6,763	39.5
3 – 4	4,551	26.6
5 or more	5,810	33.9
Literacy		
Literate	5,048	29.6
Illiterate	11,987	70.4
Standard of living index		
Low	4,219	24.6
Medium low	4,054	23.7
Medium high	4,318	25.2
High	4,533	26.5
Province		
Balochistan	1,009	5.9
KPK	3,163	18.5
Punjab	5,785	33.8
Sindh	7,167	41.9
Total	17,124	100.0

2.1 Contraceptive knowledge and use

A woman's knowledge and use of contraceptives is important to study her contraceptive use dynamics. Her knowledge of various contraceptives shows that she is aware of a variety of methods and has the option to choose a method that most suits her. Moreover, if she is unsatisfied with one method she will be able to switch to another method. Table 2.2 shows the women's knowledge for each method and gives a comparison of the findings from the FALAH baseline survey (BS) and the PDHS 2006-07. PDHS data is nationally representative while this data is not, but even with this difference, the findings are comparable. The results show that knowledge of modern contraceptive methods is universal. The highest known methods among women were the pill followed by injectables and female sterilization. According to the PDHS, rhythm was known to half of the women, whereas the FALAH baseline survey findings show that less than a third of the women were aware of this method.

Table 2.2 also shows that ever use of contraceptives by the women is almost the same as depicted by the PDHS 2006-07. However FALAH BS shows a higher use of modern contraceptive methods as compared to the PDHS, and vice versa for traditional methods. According to the PDHS 17 percent women had ever used rhythm whereas in FALAH BS only 5 percent women reported the same.

As with ever use of contraceptives, the percentage of current users is almost the same as shown by the PDHS. Current use is also similar in both surveys when disaggregated by modern and traditional methods.

Table 2.2: Knowledge, ever-use and current use of contraceptive methods among currently married women of reproductive age by method and comparison with 2006-07 PDHS

Method	Knowledge		Ever use		Current use	
	FALAH BS 2008-09	PDHS 2006-07	FALAH BS 2008-09	PDHS 2006-07	FALAH BS 2008-09	PDHS 2006-07
Any method	99.4	95.9	47.4	48.7	29.0	29.6
Any modern method	99.3	95.7	43.7	38.8	21.9	21.7
Any traditional method	67.6	63.8	19.1	25.5	7.0	7.9
Pill	97.3	91.7	14.8	12.4	2.4	2.1
IUD	89.4	74.8	8.6	8.1	2.2	2.3
Injectables	96.9	89.5	16.6	11.4	3.4	2.3
Norplant	38.7	32.1	0.3	0.6	0.1	0.1
Condom	75.0	68.1	16.4	17.2	6.2	6.8
Rhythm	28.9	49.2	4.7	16.8	1.0	3.6
Withdrawal	61.0	48.9	15.7	17.1	5.7	4.1
Female sterilization	95.8	86.7	7.6	8.2	7.5	8.2
Male sterilization	35.7	40.7	0.2	0.1	0.2	0.1
Emergency contraception	13.5	18.0	0.7	0.9	na	na

The background characteristics of ever and current users of contraceptive by method are given in annex Tables A2 and A3.

Figure 2.1 depicting current contraceptive use by method in Pakistan, shows that more than a quarter of current users have opted for permanent methods (female sterilization and male sterilization: 8 percent). The second most common method among Pakistani couples after female sterilization is condom use, followed by withdrawal. This high proportion of couple method users in Pakistan shows a positive role of husbands in family planning.

Figure 2.1: Current contraceptive use by method

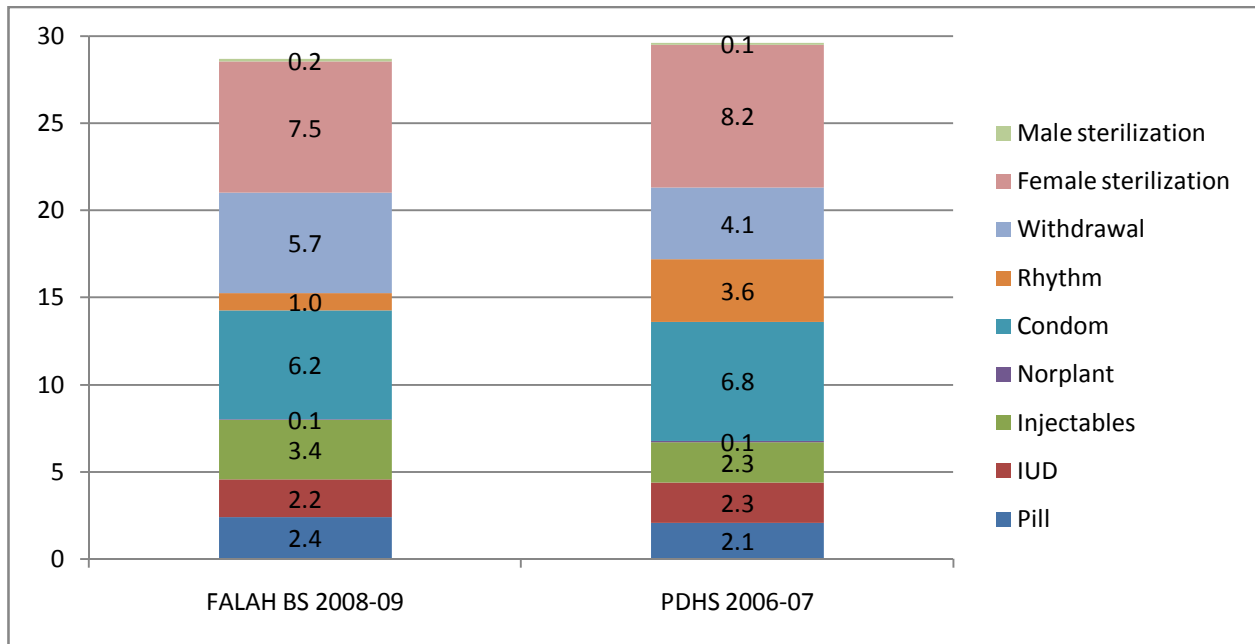


Table 2.3 gives the background characteristics of sampled women by their contraceptive use status. It shows that a higher proportion of current contraceptive users are 35 or more years of age with 5 or more living children. Similarly literate women living in urban areas and those belonging to the high socioeconomic group are more likely to be current users.

Table 2.3: Background characteristics of women by their contraceptive use status

Background characteristics	Current users	Past users	Never users	Total
Age of the woman				
15 – 24	13.9	10.9	75.2	100.0
25 – 34	30.0	21.5	48.5	100.0
35 – 49	39.2	20.6	40.2	100.0
Residence				
Rural	24.2	17.8	58.1	100.0
Urban	43.0	20.4	36.6	100.0
Number of living children				
0 – 2	13.6	11.7	74.7	100.0
3 – 4	37.2	21.7	41.1	100.0
5 or more	40.4	23.7	35.9	100.0
Literacy				
Literate	38.6	21.4	40.0	100.0
Illiterate	24.9	17.2	57.9	100.0
Standard of living index				
Low	16.9	12.1	71.0	100.0
Medium low	23.5	18.6	57.9	100.0
Medium high	32.7	20.2	47.1	100.0
High	41.6	22.5	35.9	100.0
Province				
Balochistan	17.5	13.1	69.3	100.0
KPK	30.5	23.9	45.5	100.0
Punjab	35.3	20.2	44.4	100.0
Sindh	24.8	15.3	59.9	100.0
Total	29.0	18.4	52.6	100.0

2.2 Fertility and Fertility Desires

Table 2.4 gives the mean number of children ever born and living children by the age of the mother. The figures indicate that early childbearing was fairly common in this sample. The mean number of living children of women aged 45-49 years was 6. Overall the mean number of children ever born was 4.1, and mean number of living children was 3.6. These results are almost similar to those of PDHS 2006-07.

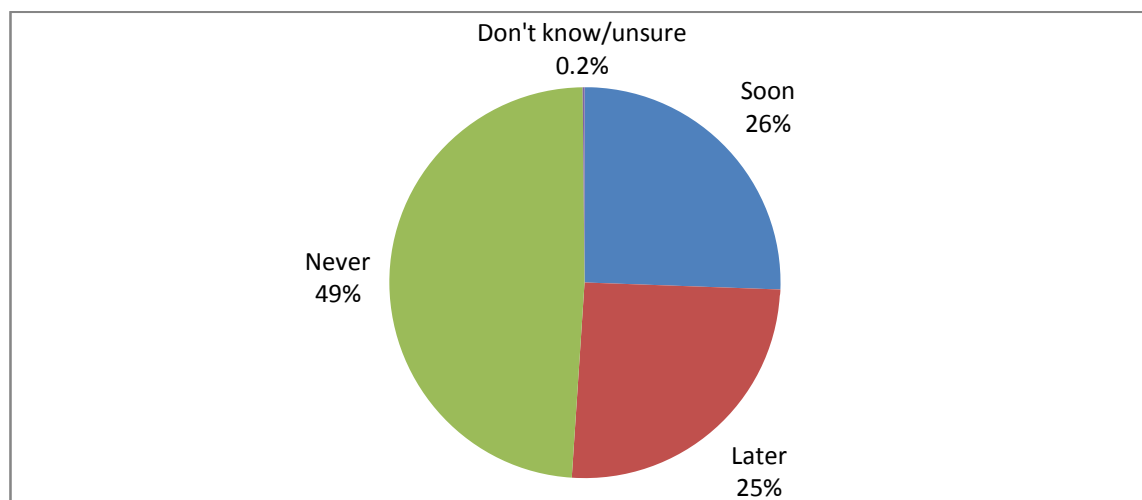
Table 2.4: Mean number of children ever born and living by age group

Age group	Children ever born	Total living children	N
15 – 19	0.6	0.5	1304
20 – 24	1.7	1.5	3162
25 – 29	3.1	2.8	3771
30 – 34	4.7	4.1	2982
35 – 39	5.8	5.0	2674
40 – 44	6.7	5.7	1862
45 – 49	7.4	6.2	1369
Total	4.1	3.6	17124
PDHS 2006-07	3.9	3.5	–

Desire for more children

Figure 2.2 shows the future desire for more children among currently married women. As seen, nearly half of the women did not want to have more children, while one quarter wanted to delay the next pregnancy and one quarter wanted to become pregnant soon.

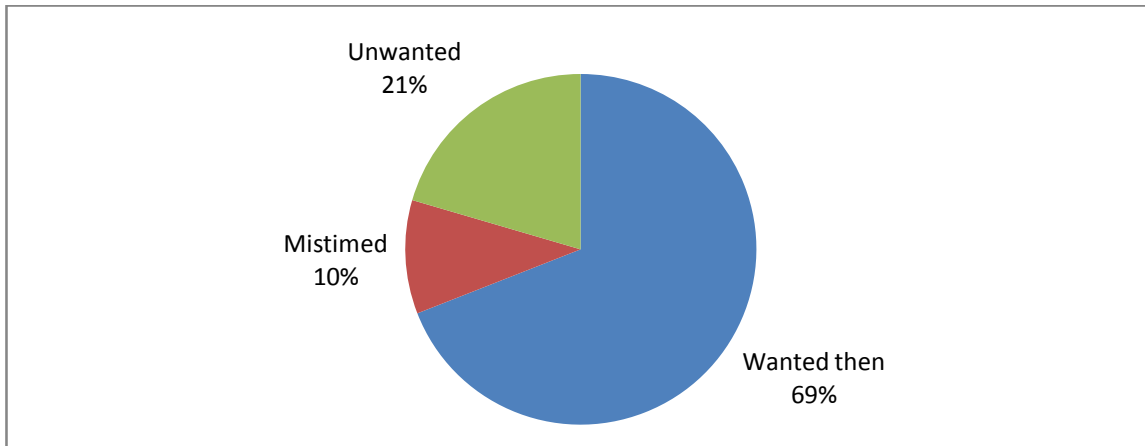
Figure 2.2: Future desire for children



Attitude toward last pregnancy

Another important dimension of fertility preference relates to whether the last pregnancy was mistimed (i.e. wanted later) or was not wanted at all. Pregnancies that are unwanted cause hardship in many ways, and represent a failure to realize a couple’s right to have the number of children they want, at the time they are wanted. In this survey, women were far more likely to report that their last pregnancy was unwanted (21 percent) or mistimed (10 percent).

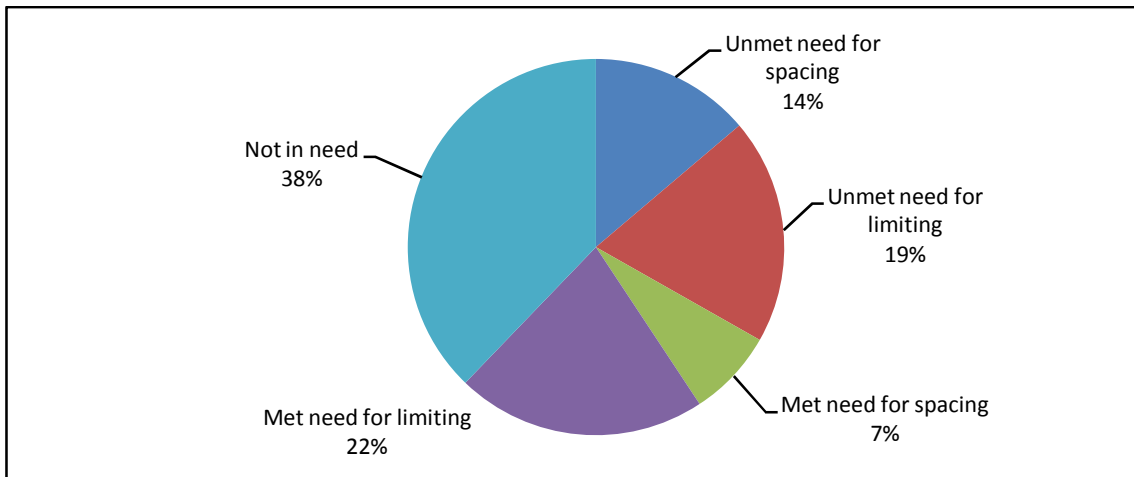
Figure 2.3: Distribution of women by their attitudes toward their last pregnancy



2.3 Unmet Need of Contraception

Table 2.4 gives the levels of unmet need for spacing and limiting among currently married women. Overall one-third of the total women were considered to be in unmet need for family planning. This proportion is higher than found by the PDHS 2006-07 using the same definition (33 percent versus 25 percent). This shows that unmet need was relatively higher in the FALAH baseline survey sample districts than at national level. Of the 33 percent women who had unmet need, for 14 percent it was for spacing, while for 19 percent it was for limiting.

Figure 2.4: Need and demand for family planning



Unmet need for spacing was concentrated among younger women with 1-2 living children. As could be expected, unmet need for limiting was highest among women with five or more living children. The correlation between unmet need and various socioeconomic indicators varied depending on whether the unmet need was for spacing or for limiting (Table 2.5). Unmet need for limiting was strongly

associated with low SLI, illiteracy and rural residence. While unmet need for spacing was high for rural women, association of unmet need for spacing with literacy, education levels and SLI was weak.

Table 2.5: Need and demand for FP by background characteristics

Characteristics	Unmet need for:		Total unmet need	Met need for:		Not in need	Total	
	Spacing	Limiting		Spacing	Limiting		%	N
Age of woman								
15 – 24	26.0	4.2	30.2	11.0	2.9	55.9	100.0	4466
25 – 34	15.5	19.5	35.0	10.0	20	35.1	100.0	6753
35 – 49	2.8	30.8	33.6	2.0	37.3	27.2	100.0	5905
Residence								
Rural	15.1	21.2	36.3	6.1	18.1	39.5	100.0	12749
Urban	10.1	14.1	24.2	11.5	31.5	32.9	100.0	4375
Literacy								
Literate	14.7	11.4	26.1	14.1	24.5	35.3	100.0	5048
Illiterate	13.5	22.8	36.3	4.7	20.2	38.8	100.0	11987
Education level								
No education	13.2	23.0	36.2	4.6	20.4	38.7	100.0	11820
Up to primary	16.1	14.7	30.8	10.4	22.0	36.8	100.0	2354
Up to secondary	15.1	8.9	24.0	16.1	25.2	34.6	100.0	2079
Above secondary	13.0	7.4	20.4	18.2	25.6	35.7	100.0	832
Children ever born								
None	3.8	0.2	4.0	1.0	0.0	95	100.0	1998
1 – 2	27.6	4.3	31.9	15.9	3.4	48.8	100.0	4180
3 – 4	17.9	19.0	36.9	10.7	24.9	27.5	100.0	3994
5 or more	6.1	34.3	40.4	2.5	36.6	20.6	100.0	6952
Standard of living index								
Low	15.2	24.5	39.7	3.6	13.3	43.4	100.0	4219
Medium low	15.2	22.3	37.5	5.8	17.7	39.1	100.0	4054
Medium high	13.3	18.1	31.4	8.0	24.7	35.8	100.0	4318
High	11.8	13.3	25.1	12.2	29.4	33.3	100.0	4533
Total	13.8	19.4	33.2	7.5	21.5	37.8	100.0	17124

2.4 Characteristics of Women Included in Analysis

Table 2.6 gives the background characteristics of the 6,026 women included in the analysis. Comparison of the characteristics of the overall sample (given in Table 2.1) with this sub-sample, shows that the latter women possessed somewhat different characteristics. A higher proportion of these women were literate, lived in urban areas and belonged to a better socioeconomic level. Similarly a higher proportion of these women were in the age group 25-34 years with 3 or more children.

Table 2.6: Percentage distribution of women (who contributed at least one episode during the period of observation) by their background characteristics

Background characteristics	Women included in analysis*	
	N	%
Age of the woman		
15 – 24	1053	17.5
25 – 34	2886	47.9
35 – 49	2087	34.7
Residence		
Rural	3986	66.15
Urban	2040	33.85
Number of living children		
0-2	1575	26.1
3-4	2081	34.5
5 or more	2369	39.3
Literacy		
Literate	2468	41.2
Illiterate	3524	58.8
Standard of living index		
Low	871	14.5
Medium low	1238	20.6
Medium high	1734	28.8
High	2182	36.2
Province		
Balochistan	248	4.1
KPK	1496	24.8
Punjab	2348	39.0
Sindh	1935	32.1
Total	6,026	100.0

*Women who used at least one episode of contraceptives in 48-months period prior to survey.

2.5 Contraceptive Episodes

Overall, 6,026 women contributed 9,911 contraceptive episodes, of which 8838 involved use of reversible methods. For analysis purposes, the data was transformed from woman level to episode level data; for the remainder of this report the data is episode based and not woman based. Table 2.7 gives the number of episodes contributed by the sample women from each FALAH district.

Table 2.7: Number of contraceptive episodes by district

District	Number of total contraceptive episodes		Number of reversible contraceptive episodes	
	N	%	N	%
Sukkur	368	3.7	311	3.5
Dadu	301	3.0	260	2.9
Larkana	288	2.9	205	2.3
Thatta	240	2.4	172	2.0
Sanghar	267	2.7	223	2.5
Ghotki	259	2.6	219	2.5
Shikarpur	204	2.1	153	1.7
Jacobabad	328	3.3	300	3.4
Lasbela	186	1.9	158	1.8
Jafarabad	138	1.4	123	1.4
Kech	359	3.6	338	3.8
Gawadar	280	2.8	259	2.9
Khuzdar	193	2.0	172	2.0
Upper Dir	171	1.7	164	1.9
Buner	343	3.5	332	3.8
Batagram	182	1.8	173	2.0
Swabi	365	3.7	348	3.9
Charsada	502	5.1	484	5.5
Mansehra	354	3.6	354	4.0
Mardan	681	6.9	681	7.7
Jhelum	345	3.5	292	3.3
Dera Ghazi Khan	416	4.2	359	4.1
Multan	517	5.2	457	5.2
Khanewal	486	4.9	422	4.8
Bahawalpur	415	4.2	361	4.1
Rajanpur	296	3.0	268	3.0
Lyari	507	5.1	431	4.9
Orangi	519	5.2	476	5.4
Gadap	401	4.1	343	3.9
Total	9,911	100.0	8,838	100.0

A total of 9,748 episodes of reversible contraceptive methods were available for analysis, covering 163,306 woman-months of use. Table 2.8 gives the method-wise distribution of these episodes and woman-months. Liang (1985) recommends at least 100 episodes of use for reliable analysis; by that standard, the number of episodes for Norplant and male sterilization are inadequate (22 and 26 respectively). However, for the other methods the numbers are large enough – ranging from 400 for rhythm to 2,479 for condoms - to give fairly reliable estimates.

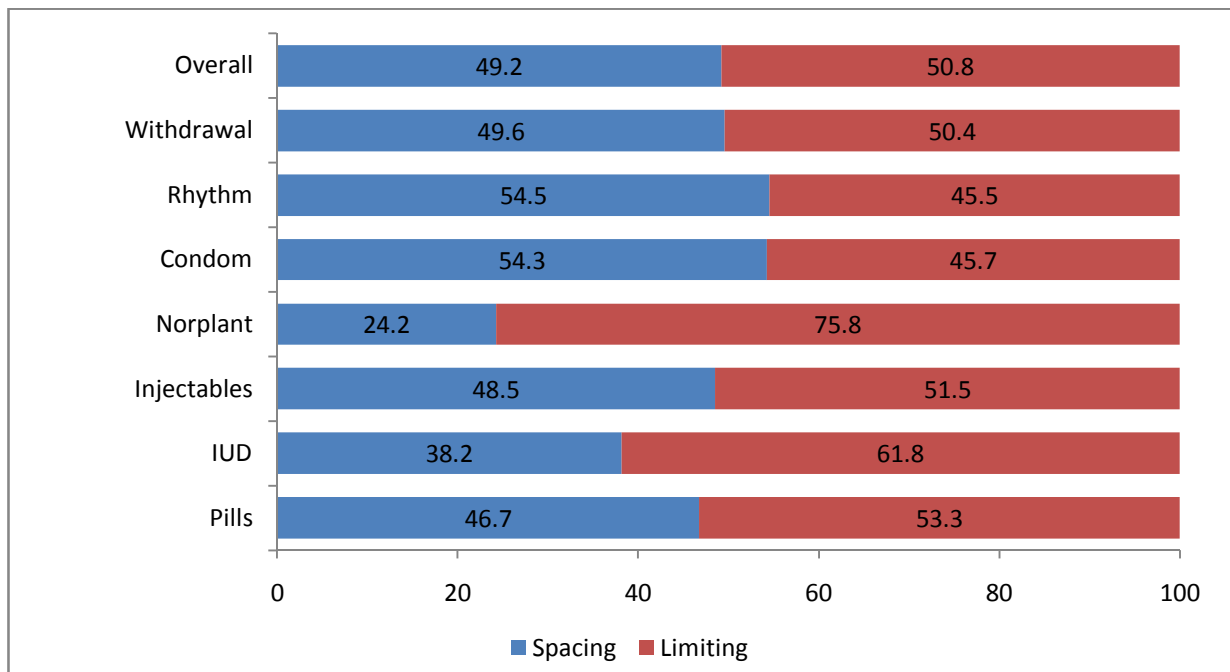
The highest number of episodes was contributed by condoms followed by withdrawal and injectables; the same order was seen for woman-months of use.

Table 2.8: Numbers and percentages of reversible contraceptive episodes and woman-months of use, by method

Methods	Episodes of use		Woman-months	
	N	%	N	%
Pills	1,643	16.9	22,106	13.5
IUD	845	8.7	20,777	12.7
Injectables	1,946	20.0	22,883	14.0
Norplant	22	0.2	406	0.2
Condom	2,479	25.4	45,566	27.9
Rhythm	400	4.1	7,084	4.3
Withdrawal	2,242	23.0	41,921	25.7
Others	172	1.8	2,563	1.6
Total	9,748	100.0	163,306	100.0

Figure 2.5 below, shows that over half (56 percent) of the episodes were being used by women for limiting childbearing. It also shows that, among the spacers, condom and rhythm were the most popular methods.

Figure 2.5: Intent of contraceptive use by method

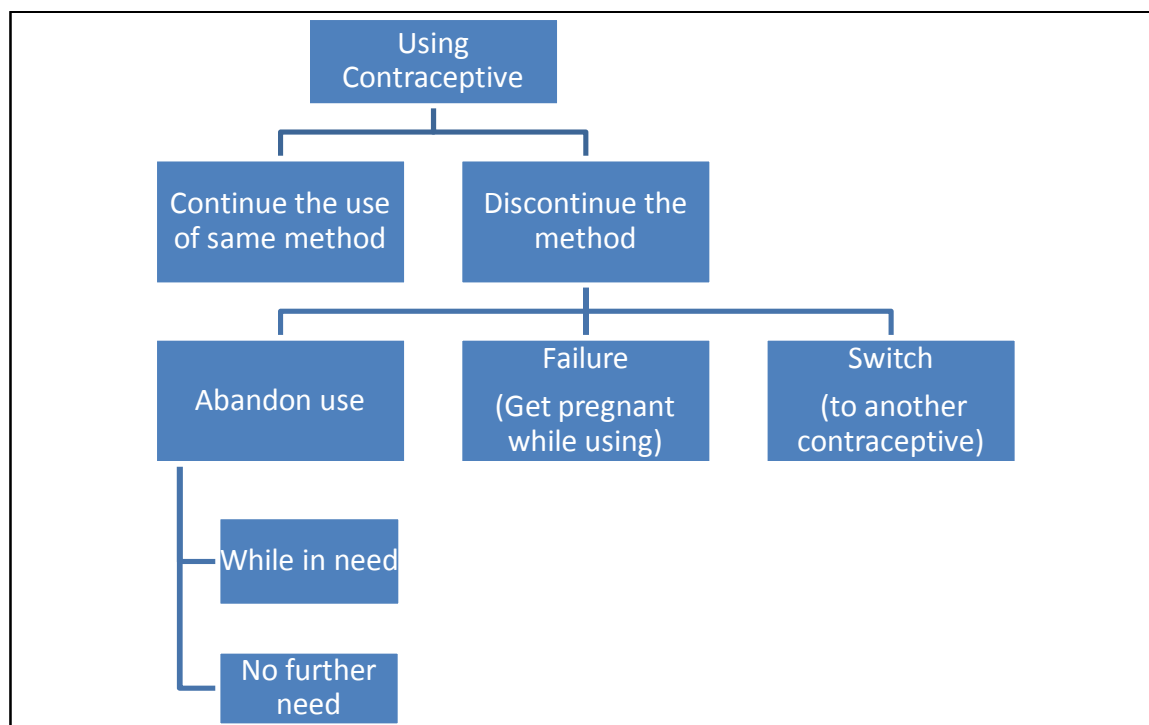


Chapter 3

Contraceptive Discontinuation

The number of women who are using a contraceptive method at a particular moment in time and their continuity of use affect the success of a particular method of contraception in preventing unwanted pregnancy. Figure 3.1 shows the conceptual model for contraceptive discontinuation. It depicts the primary changes in contraceptive use status among those who are using a method: getting pregnant while using (failure), switching to another method, and abandoning use. Those who abandon use, do so either because they have no further need of contraception or they discontinue while still in need. This chapter presents the overall contraceptive discontinuation rates, which include abandoning use, switching and failure of methods.

Figure 3.1: Conceptual model for contraceptive discontinuation



The episodes contributed by non-reversible methods were excluded from the analysis because they were not at risk of discontinuation. Table 3.1 gives the background characteristics of the women who contributed these 9,748 reversible contraceptive episodes. It shows that half of the episodes were used by women aged 25-34 years of age and a high proportion of them were literate. Moreover, half of the episodes were being used for limiting purposes.

Table 3.1: Percentage distribution of reversible contraceptive episodes by the background characteristics of women

Background characteristics	Reversible method episodes	
	N	%
Age at discontinuation		
15 – 24	1,961	20.1
25 – 34	4,854	49.8
35 – 49	2,932	30.1
Residence		
Rural	6,463	66.3
Urban	3,285	33.7
Parity at discontinuation		
0 – 2	3,000	30.8
3 – 4	3,265	33.5
5 or more	3,483	35.7
Literacy		
Literate	4,125	42.5
Illiterate	5,572	57.5
Order of Episode		
Recent most	6,058	62.2
Previous	3,690	37.8
Contraceptive intent		
Spacer	4,781	49.3
Limiter	4,927	50.8
Total	9,748	100.0

3.1 Contraceptive Discontinuation Rates

Contraceptive discontinuation is commonly measured by life-table continuation rates, representing the probability that a woman accepting a method at month x will stop using that method at time $x+n$. For instance, the life table discontinuation rate at 12-months represents the percentage of users who discontinue the use of a method within 12 months of use. Table 3.2 gives the life-table discontinuation rates by contraceptive method at select number of months (duration) of use. It shows that the discontinuation rates are highest for the two hormonal methods: pill and injectable. Around 14 percent of pill users discontinued within the first month of their use while one quarter (25 percent) of the injectable episodes were discontinued after the first dose. By the end of one year nearly three-fifths of the pill and injectable users had discontinued (57 percent and 59 percent respectively). Figure 3.1 shows that the continuation rates for pills were lower than for injectables during the first 9 months of use, while after 9 months this was reversed and continuation rates for pills were higher. The discontinuation

rates were lowest among IUD users; 77 percent of users continued use after one year, and only 12 percent removed the IUD within 6 months of use.

Table 3.2: Life-table discontinuation rates at selected months by method

Month	Pills	Injectables	IUD	Condom	Rhythm	Withdrawal	Total*
1	13.6	2.6	3.5	5.4	5.4	3.8	5.8
3	28.5	24.9	7.9	12.9	16.3	11.1	17.3
6	41.0	38.8	12.1	24.3	27.1	21.6	28.4
12	56.7	59.3	23.5	40.6	36.5	37.7	44.7
18	66.6	69.5	30.8	50.5	47.7	50.1	55.2
24	73.1	77.4	43.3	58.2	57.1	57.8	63.1
36	79.6	86.5	54.7	67.6	67.1	65.9	71.7
48	82.9	90.8	67.7	72.9	74.6	72.5	77.7
Number of episodes	1643	1,946	845	2,479	400	2,242	9748

*Total includes all reversible method rates including Norplant and Others.

Two methods - condom and withdrawal - had similar continuation rates for the whole period of use (Figure 3.2). At one year of using these methods, between 36 to 38 percent of women discontinued them, but at 36 months, slightly over two-thirds discontinued their use. The total discontinuation rate of all reversible contraceptive methods is 45 percent within one year of use and 63 percent within two years of use, while by the end of three years 72 percent of women discontinue the methods. Since the number of Norplant users was very low, separate analysis was not performed for them.

Figure 3.2: 48-month life-table continuation rates, by method

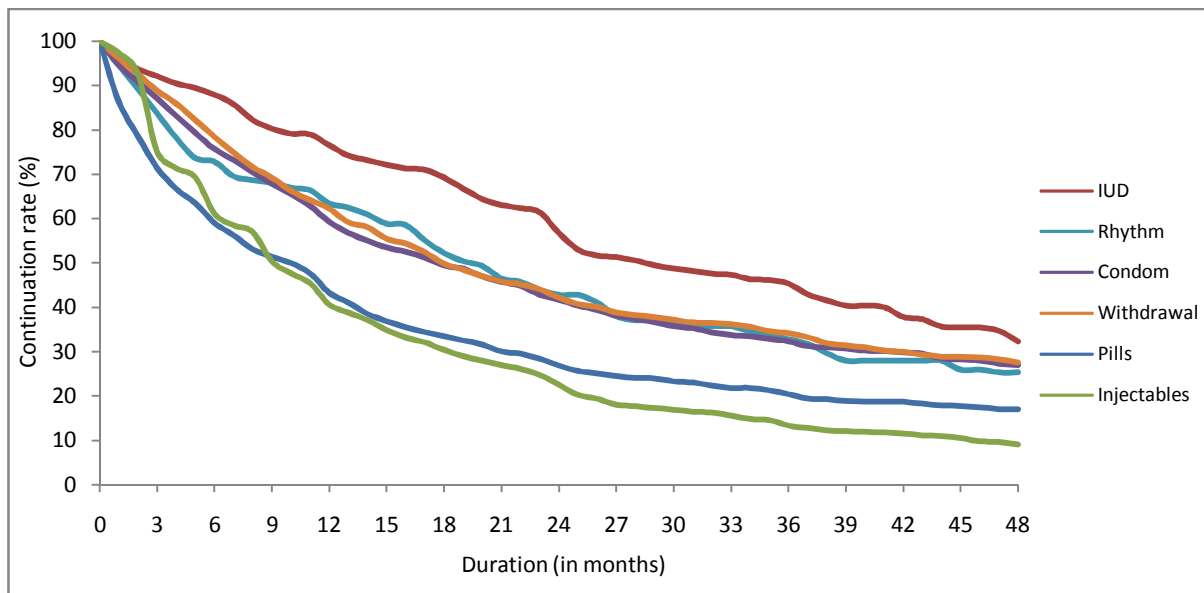
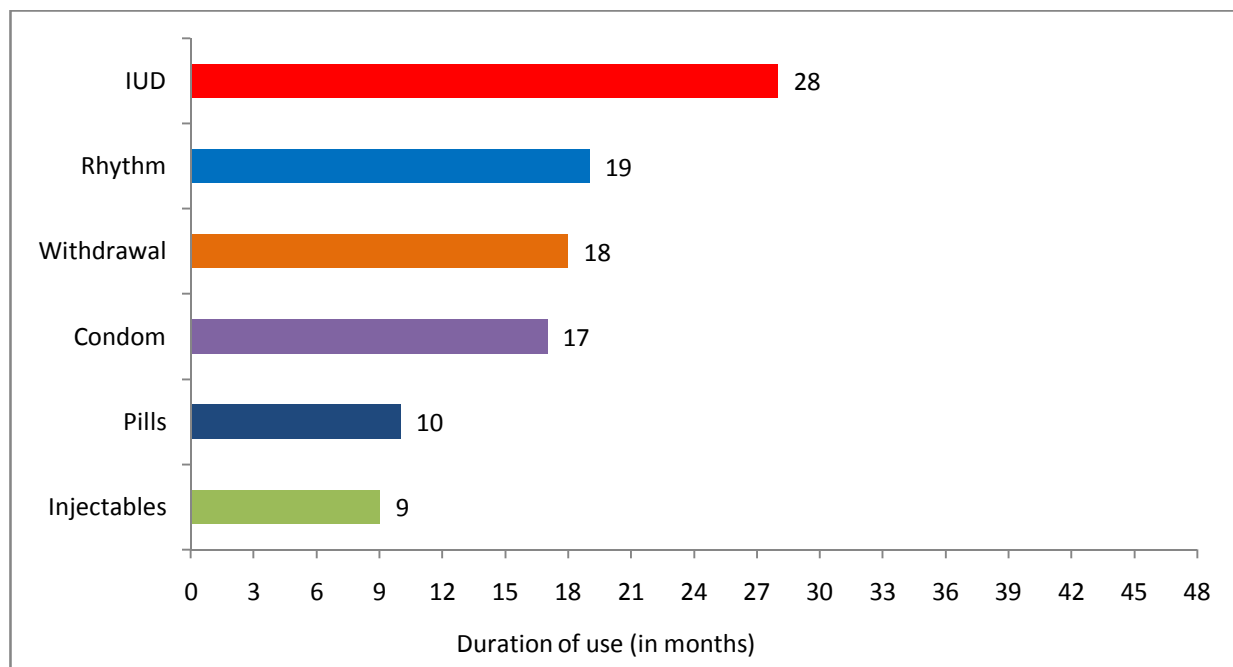


Figure 3.3 shows the median duration of use of each contraceptive method. The life table median is defined as the duration by which half of users have discontinued use. Similar to Figure 3.2, it shows that the median duration of use is highest for the IUD and lowest for injectables and pills.

Figure 3.3: Median duration of use by method



These contraceptive methods can be divided into different groups for comparison. The female only methods that are used by the women alone, possibly even without their husband’s knowledge: pills, injections, IUDs and Norplant, and couple methods: condom, withdrawal and rhythm which intrinsically require the participation of the husband. Figure 3.1 shows that, among the female methods, the discontinuation rates for IUD users are very different from those for the other three female methods. Hence, for comparison purposes, another category has been created of hormonal methods that include the pill, injectables and Norplant.

Table 3.3: Life-table discontinuation rates for female-only methods, for couple methods, and for all methods combined by selected months

Month	Female methods	Couple methods	Hormonal methods
1	6.9	4.7	7.7
3	22.9	12.4	26.4
6	34.2	23.3	39.6
12	50.9	39.1	57.7
18	60.5	50.1	68.0
24	68.7	58.0	75.2
36	77.1	66.8	82.9
48	82.9	72.8	86.8
Number of episodes	4455	5121	3611

Comparison between hormonal methods and IUD shows that at 6 months, discontinuation rates are more than three times less among IUD users (Table 3.2 and Table 3.3). Similarly, at 12 months three-quarters of hormonal method users discontinued whereas only two-fifths of IUD users discontinued within the same period.

3.2 Variations in Discontinuation Rates

As seen in Table 3.4, 12-month discontinuation rates are highest for younger, rural women and women with fewer children. They are also higher among women belonging to low SLI. But these rates show little variation with the literacy and education status of the users. However, the order of episode is relevant, with the most recent episodes having a lower discontinuation rate than previous episodes. The results also show that continuation rates are higher if the contraceptive episode was being used for limiting purposes; contraceptive continuation rates were lower for the women using contraceptives for birth spacing.

Examination of 12-month discontinuation rates by ethnicity of contraceptive users shows that rates are lowest among Brahvi, Urdu and Hindko speaking users. Punjabi, Pushto, Saraiki and Sindhi speakers have high and almost similar levels of contraceptive discontinuation rates at 12-months.

Figure 3.4 shows contraceptive continuation over the 4-year period by the background characteristics of the women. Tables A4 in the annex give the differentials in discontinuation rates by the background characteristics of the women.

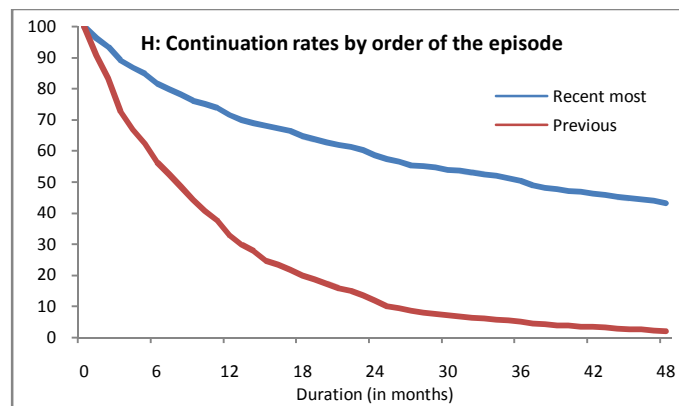
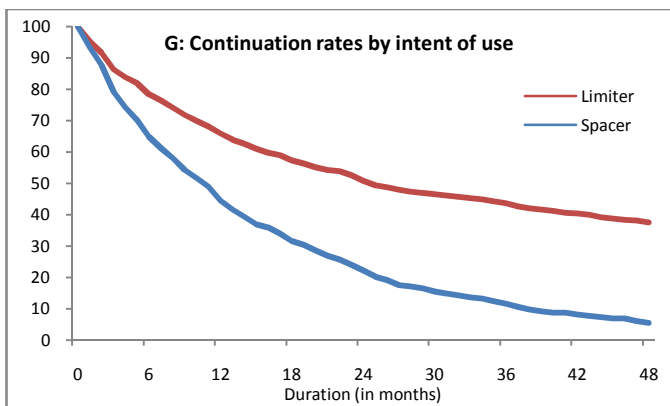
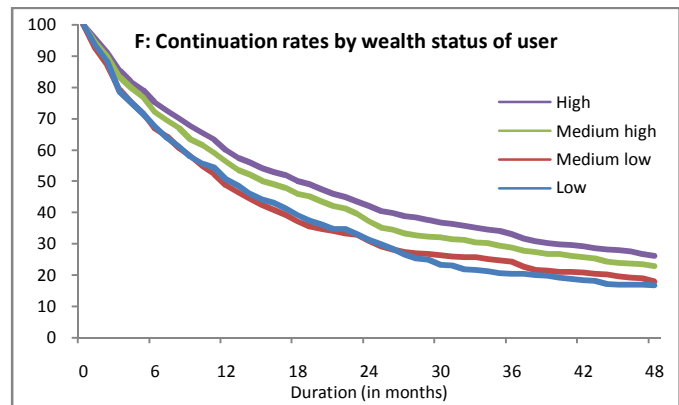
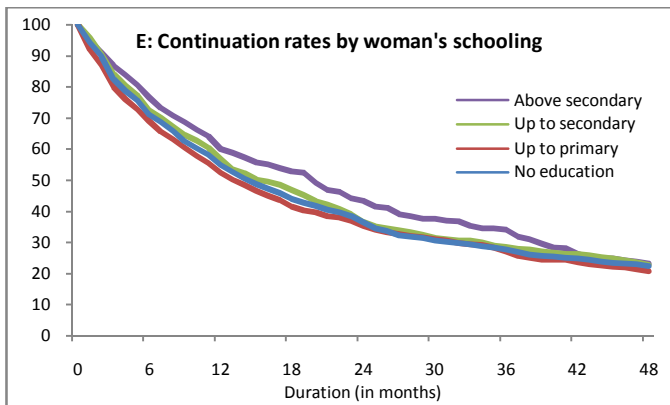
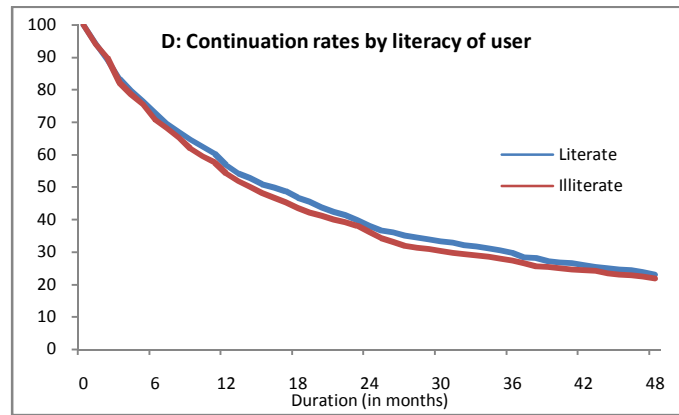
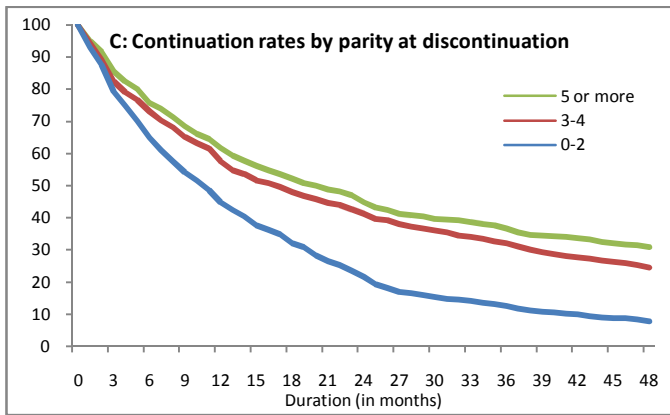
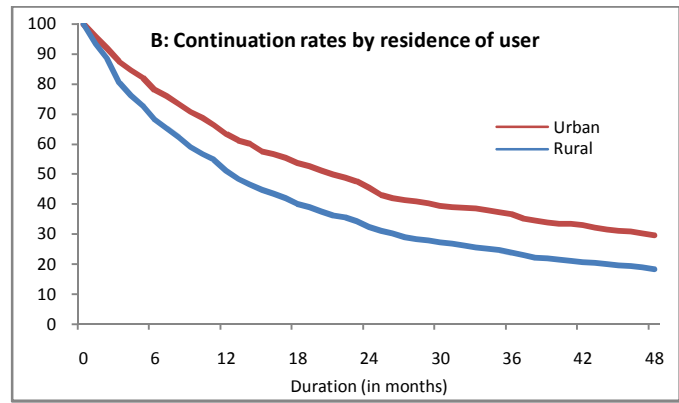
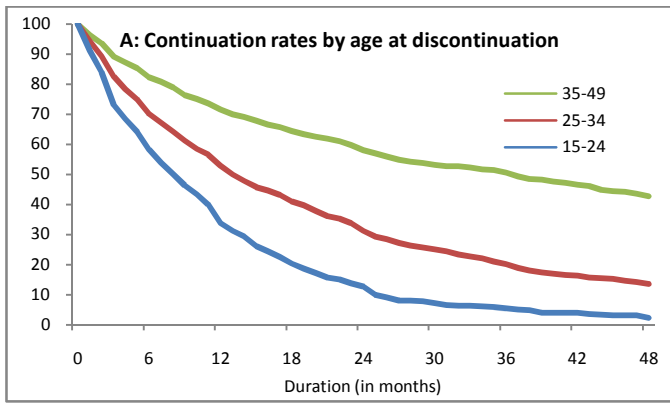
Figure 3.4A shows the continuation rates by age of the women. As seen, there is marked variation across the three age groups, with rates highest among women aged 35-49 years, and lowest continuation rates among women aged 15-24 years. In the same way, those with higher parity have higher rates of contraceptive continuation as compared to low parity women (Figure 3.4C).

The contraceptive continuation rates by literacy of the women show that, for the first six months of use, rates are similar among literate and illiterate women, but for higher duration of use rates are marginally higher among literate women. The same is true for contraceptive continuation rates by schooling of the women, with slightly higher continuation rates from 3 to 42 months of use for women with above secondary level schooling.

Table 3.4: Contraceptive discontinuation rate by selected socio-demographic characteristics at selected durations of use

Background characteristics	Contraceptive discontinuation rate at 12-months
Age at discontinuation	
15 – 24	66
25 – 34	47
35 – 49	29
Residence	
Rural	49
Urban	37
Parity at discontinuation	
0 – 2	55
3 – 4	42
5 or more	38
Literacy	
Literate	43
Illiterate	46
Woman’s schooling	
No education	45
Up to primary	48
Up to secondary	43
Above secondary	40
Standard of living index	
Low	50
Medium low	51
Medium high	44
High	40
Order of episode	
Recent most	28
Previous	67
Contraceptive intent	
Spacer	56
Limitter	34
Ethnicity	
Urdu	32
Punjabi	46
Sindhi	47
Pushto	47
Hindko	40
Balochi	45
Barahvi	32
Saraiki	47
Others	48
Total	45

Figure 3.4: 48-month life-table continuation rates, by background characteristics



Continuation rates by SLI of the women are almost similar up to three months of contraceptive use, but for durations above three months they are better among women with high and medium high SLI (Figure 3.4F).

The findings show that intent of contraceptive use has a high impact on the continued use of contraceptives. Women who were using a method for limiting their births used it for a longer duration than the women who were using contraceptives for spacing purposes (Figure 3.4G). This supports the argument that a stronger desire to avoid a pregnancy will result in a more committed use of contraceptives. Similarly contraceptive continuation rates were much higher for the most recent episodes of contraceptive use.

Intent and Variation in Discontinuation Rates

As just explained, contraceptive users whose intention is to have no more children are more likely to use contraception than those who want to delay their next pregnancy. This may be due to the fact that the desire to stop childbearing among the former is stronger than the desire to space births among the latter. For this reason, the analysis of continuation/discontinuation rates has also been performed separately for limiters and spacers (See Figure 3.6 and Figure 3.7).

Figure 3.5 show that contraceptive continuation rates among couples using a particular contraceptive method were better among limiters than spacers. The median discontinuation rate was 24 months among limiters compared to 10 months for spacers (Figure 3.4-G).

Figure 3.5: 48-month life-table continuation rates among spacers and limiters by method

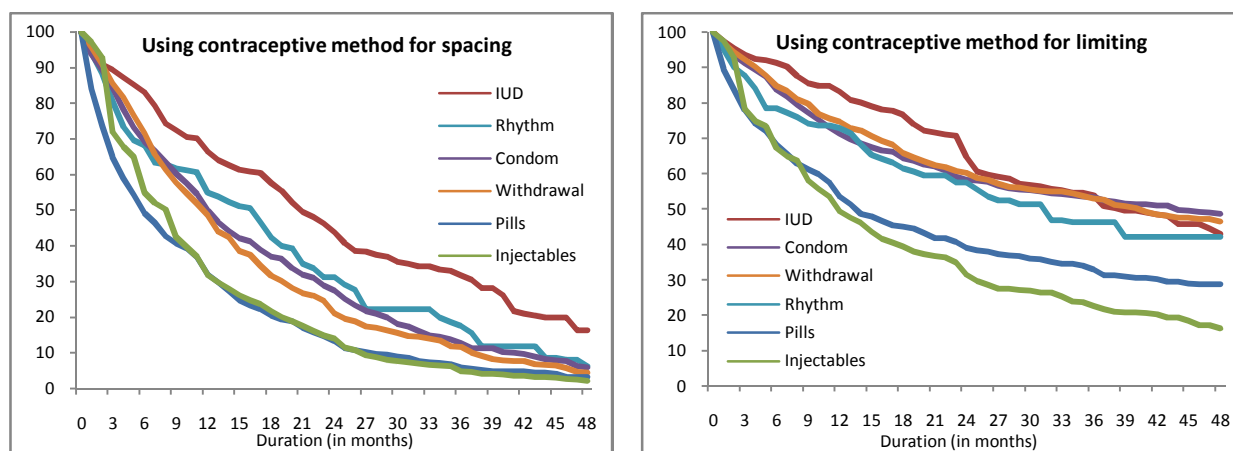


Figure 3.6: 48-month life-table continuation rates, by background characteristics among limiters

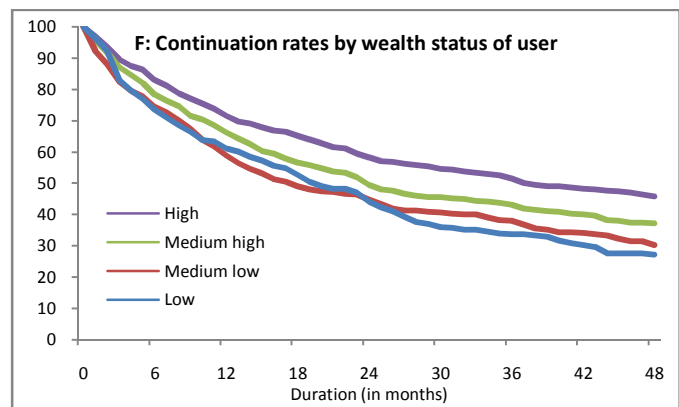
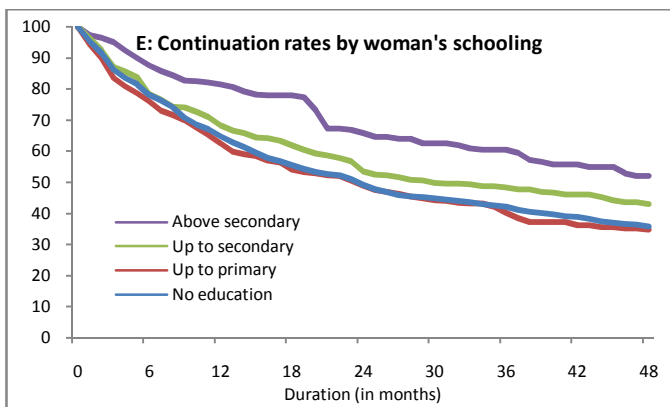
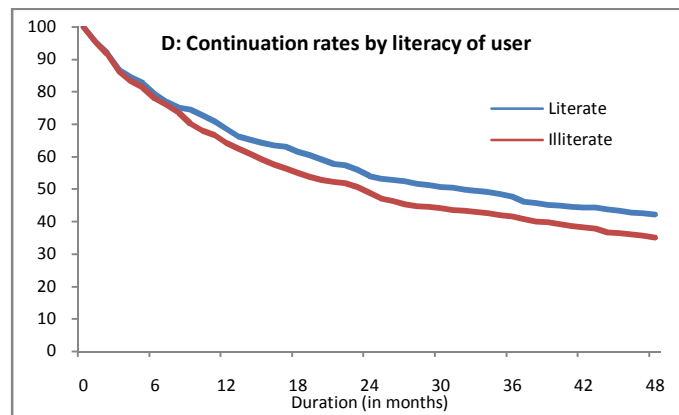
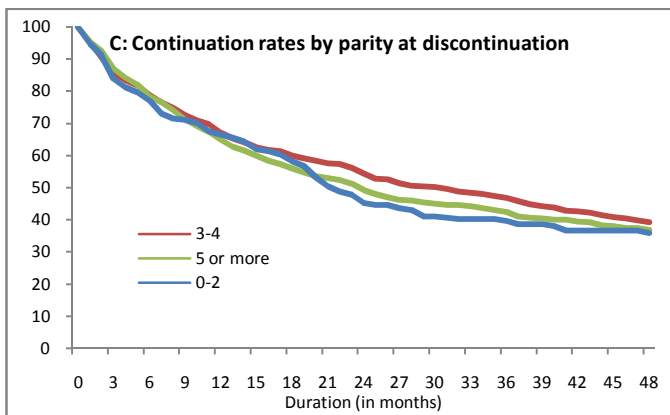
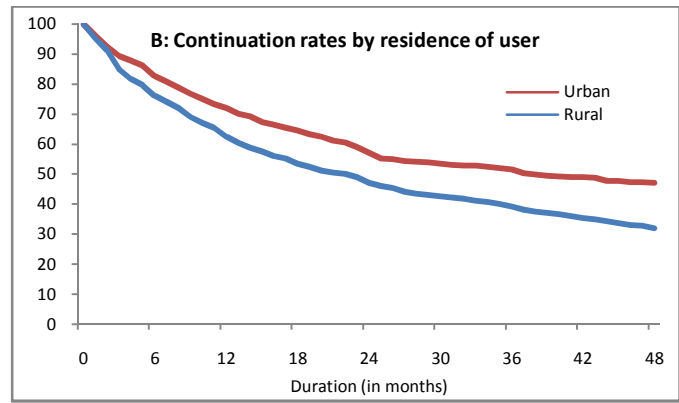
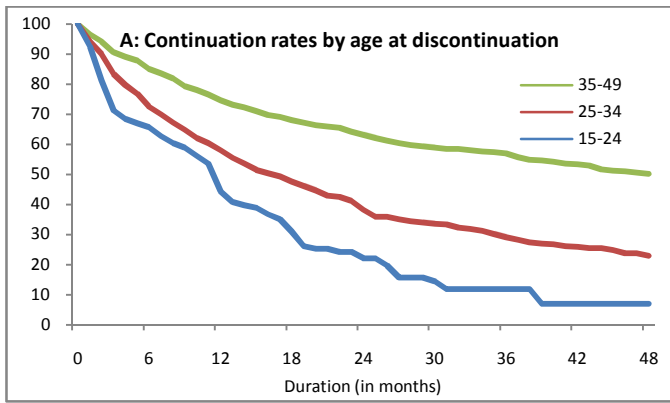
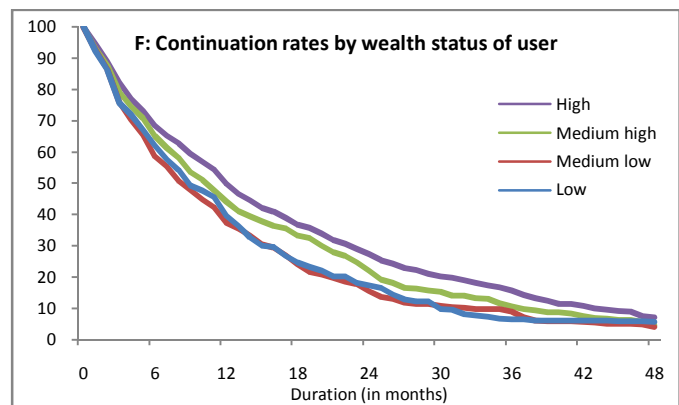
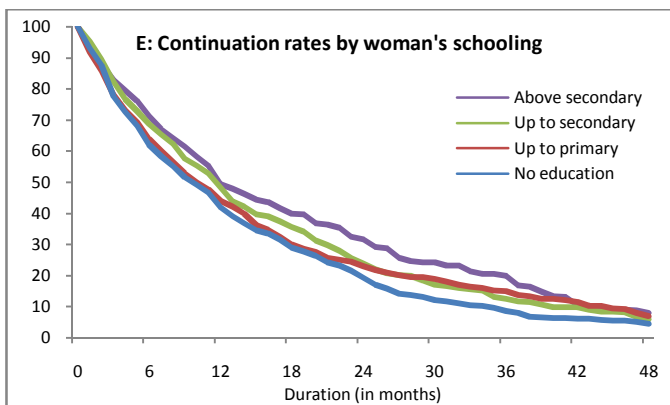
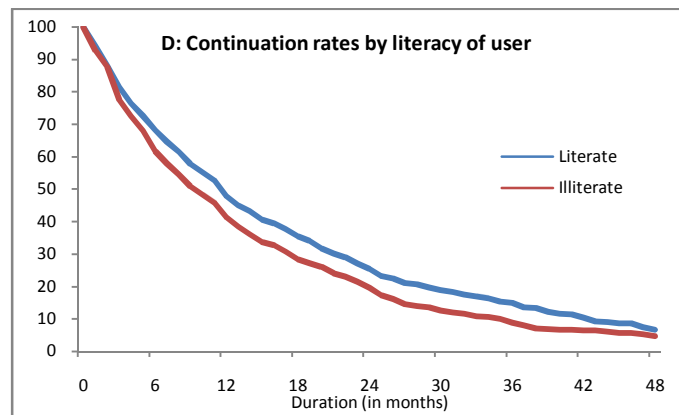
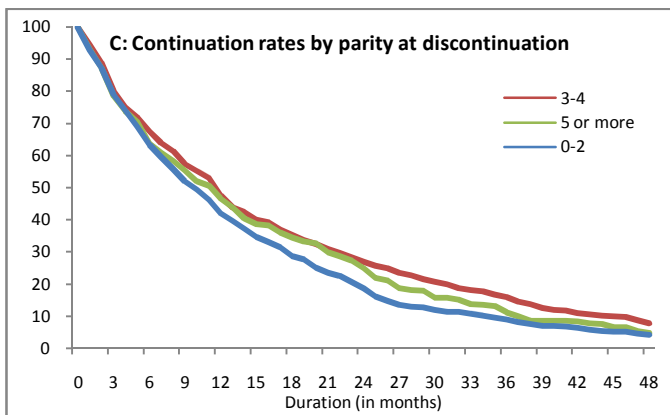
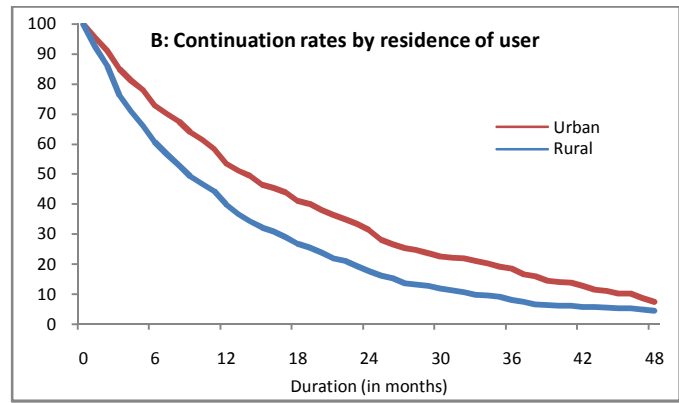
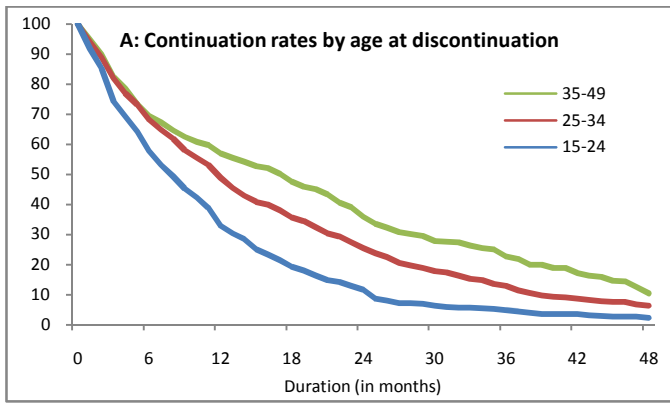


Figure 3.7: 48-month life-table continuation rates, by background characteristics among spacers



3.3 National and International Comparison

When compared with other developing countries, Pakistan has one of the highest contraceptive discontinuation rates (Table 3.5). It is noteworthy that although Pakistan is one of the lowest contraceptive prevalence countries, its discontinuation rates are in line with those of high CPR countries. Similarly Pakistan has the lowest proportion of women who ever used any contraceptive, but the highest discontinuations among these women. When rates among those who discontinued while in need are compared, Pakistan has one of the highest discontinuation rates during the first year of use.

Table 3.5: 12-month discontinuation rates by method, selected developing countries

Country	12-month discontinuation rates	Ever use	CPR	12-month discontinuation rates of those in need
Pakistan 2008-09	45	49	30	30
Bangladesh 2004	49	83	59	36
Kenya 2003	36	64	39	29
Zimbabwe 2005-06	18	87	60	12
Egypt 2005	32	81	59	24
Indonesia 2002-03	21	82	60	15
Colombia 2005	44	93	78	37

The Pakistan User Satisfaction and Longevity Study, 1997 (US/LS) is the only national level study available for comparison with the results of this report (the current analysis does not have a nationally representative sample size). Comparison of the 12-month discontinuation rates of US/LS and FALAH show an increase of 18 percentage points. In the US/LS survey, IUD and couple methods had almost similar and lower discontinuation rates than the hormonal methods. The FALAH BS results show that for couple methods the discontinuation rates have increased notably, while they have increased by 16, 17 and 16 percentage points for condom, rhythm and withdrawal respectively. The discontinuation rates for IUD remain the lowest of all methods, with a smaller percentage point increase (4 percent). The discontinuation rates for pills have increased from 45 percent in 1997 to 57 percent in 2008-09 (12 percentage points) whereas for injectables they have increased by 7 percentage points.

Table 3.6: Comparison of USLS-1997 and FALAH BS 2008-09 discontinuation rates at 12-months by method

Discontinuation rates at 12-months	US/LS 1997	FALAH BS 2008-09
Pills	45	57
Injectables	52	59
IUD	20	24
Condom	25	41
Rhythm	20	37
Withdrawal	22	38
Overall	27	45
Female methods	35	51
Couple methods	23	39

Table 3.7 gives the method-wise prevalence rates by both US/LS and FALAH baseline survey. It shows a 5 percent increase in modern method users compared to almost no increase in the proportion of traditional method users. This includes a 2.1 percent increase in injectable users and 1.6 percent increase in users of female sterilization and the pill.

Table 3.7: Comparison of contraceptive prevalence rate for currently married women by method from US/LS 1997 and FALAH BS 2008-09

Method	Contraceptive Prevalence Rate	
	US/LS 1997	FALAH BS 2008-09
Any Method	23.9	29.0
Any Modern Method	16.5	21.9
Condom	5.2	6.2
Pill	0.8	2.4
Injectables	1.3	3.4
IUD	3.0	2.2
Norplant	0.0	0.1
Female Sterilization	5.9	7.5
Male Sterilization	0.3	0.2
Any Traditional Method	7.4	7.0
Withdrawal	6.9	5.7
Rhythm	0.5	1.0
Others	0.0	0.3
N	2,722	17,124

Chapter 4

Reasons for Discontinuation

When a woman reported that she had discontinued a contraceptive method, she was asked to provide the main reason for discontinuation. There are many ways to classify the reasons for discontinuation; these are not standard in the literature. In this report reasons are divided into seven categories: 1) no further need, 2) method failure, 3) side effects, 4) dissatisfied, 5) cost/access, 6) opposition and 7) others. Table 4.1 gives the number of responses for each reason. As seen, almost one-third of the discontinuations were as a result of side effects. The third biggest reason for discontinuation was failure of method (18 percent).

Table 4.1: Percent distribution of reasons for discontinuation

Category	Reason	N	Percent	
No further need	Wanted to become pregnant	1,401	25.3	
	No/infrequent sex/husband away	426	7.7	
	Difficult to get pregnant/menopause	63	1.1	34.1
Failure	Became pregnant while using	1,005	18.1	18.1
Side effects	Side effects	1,450	26.2	
	Health concerns	163	3.0	29.1
Dissatisfied/inconvenience	Wanted more effective method	299	5.4	
	Method inconvenient to use	95	1.7	7.1
Cost/access	Lack of access/too far	66	1.2	
	Costs too much	16	0.3	1.5
Opposition	Husband opposed	259	4.7	4.7
Other	Just not using / too lazy	167	3.0	
	Other	132	2.4	5.4
Total		5,543	100.0	100.0

Table 4.2 gives the reasons for discontinuation by method. As seen, a majority of injectables and pill users discontinued because of side effects (55 percent and 43 percent respectively). The table also shows that, although discontinuation rates are lowest among IUD users (Table 3.2: at 12-months the discontinuation rate was around one quarter for IUD users), a majority of those who removed it, did so because of the side effects (69 percent). A higher proportion of rhythm, withdrawal and condom users discontinued use because of no further need (50 percent, 45 percent and 43 percent respectively).

Figure 4.1 further shows the reasons for discontinuation by method among those women who discontinued while in need. As seen, the main reason IUD and hormonal method users discontinued was due to side effects, whereas for the traditional and barrier methods failure was the main reason. It also shows that discontinuations caused by the opposition of husbands and dissatisfaction with the method, are relatively higher among couple methods compared to female methods.

Table 4.2: Percent distribution of reasons for discontinuation of contraceptive episodes by method

Reason	Pills	IUD	Injectable	Condom	Rhythm	Withdrawal	Total
Not in need	28.2	21.1	24.1	43.4	49.8	44.7	34.1
Failure	12.8	2.9	6.5	23.7	20.6	34.2	18.1
Side effects	43.4	68.6	55.3	7.0	0.0	0.0	29.1
Dissatisfaction/inconvenience	5.8	3.0	4.0	7.5	19.1	11.4	7.1
Cost/access	1.8	0.0	2.7	1.7	0.0	0.1	1.5
Opposition	1.3	0.6	0.8	10.7	4.8	7.4	4.7
Other	6.7	3.7	6.6	6.1	6.0	2.2	5.4
Number of discontinuations	1079	442	1268	1297	189	1159	5,543

*Total includes all reversible methods including Norplant and Other.

Figure 4.1: Reasons for discontinuation by method

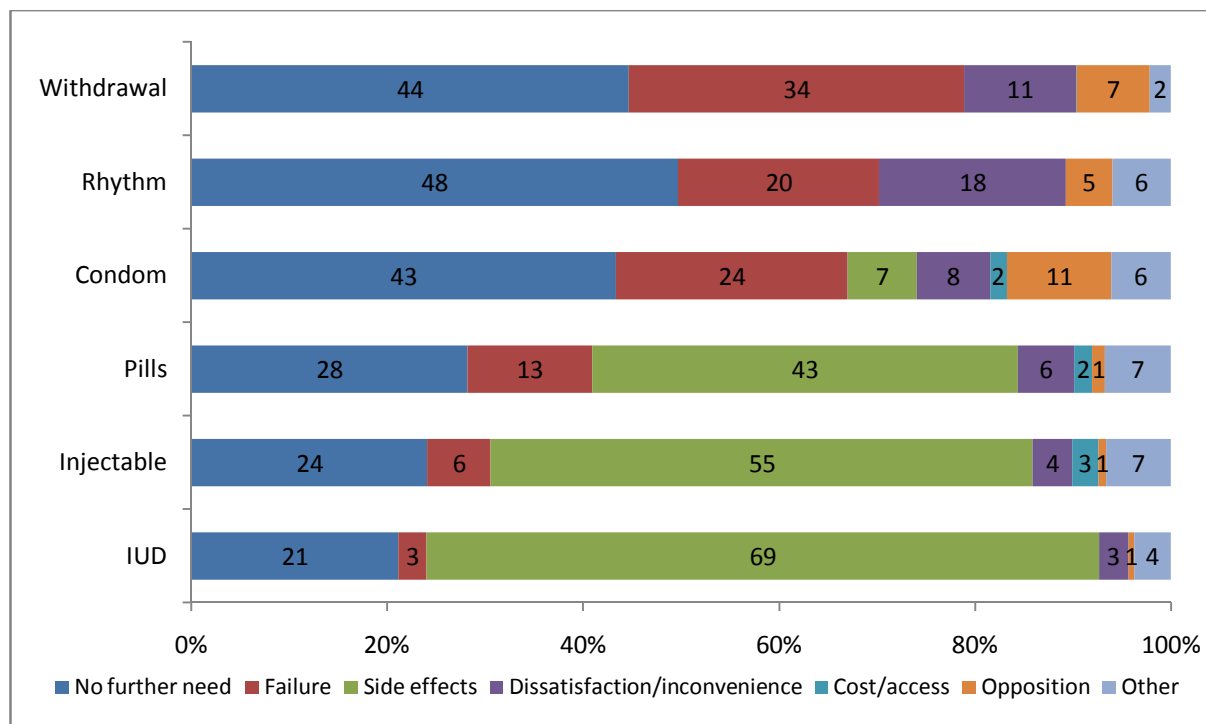


Table 4.3 gives the reasons for discontinuation in the first 12 months of use as a proportion of the total, for each method used. It shows that a majority of condom, rhythm and withdrawal users discontinued within the first year of their use because of no further need. Discontinuation as a result of side effects, as a proportion of the total reasons cited, is higher among injectable and pill users.

Table 4.3: 12-month discontinuation rate by method and reason for discontinuation, all reversible contraceptive methods

Reason	Pills	IUD	Injectable	Condom	Rhythm	Withdrawal	Total
No further need	16.0	5.0	14.3	17.6	17.5	16.6	15.2
Failure	7.2	0.7	3.8	9.6	7.2	12.7	8.1
Side effects	24.6	16.1	32.8	2.9	0.0	0.0	13.0
Dissatisfaction/ inconvenience	3.3	0.7	2.4	3.1	6.7	4.3	3.2
Cost/access	1.0	0.0	1.6	0.7	0.0	0.0	0.7
Opposition	0.7	0.1	0.5	4.3	1.7	2.8	2.1
Other	3.8	0.9	3.9	2.5	2.1	0.8	2.4
Total 12-month discontinuation rate	56.7	23.5	59.3	40.6	36.5	37.7	44.7

Life-table discontinuation rates presented in Table 4.4 show the probabilities of discontinuation by reason for each method over specified periods of time. Probabilities of discontinuation as a result of side effects are highest for injections, pills and IUDs. By contrast, probabilities of discontinuation as a result of method failure are highest for withdrawal and condom use. The probabilities of discontinuation because of cost and access are very low for all methods.

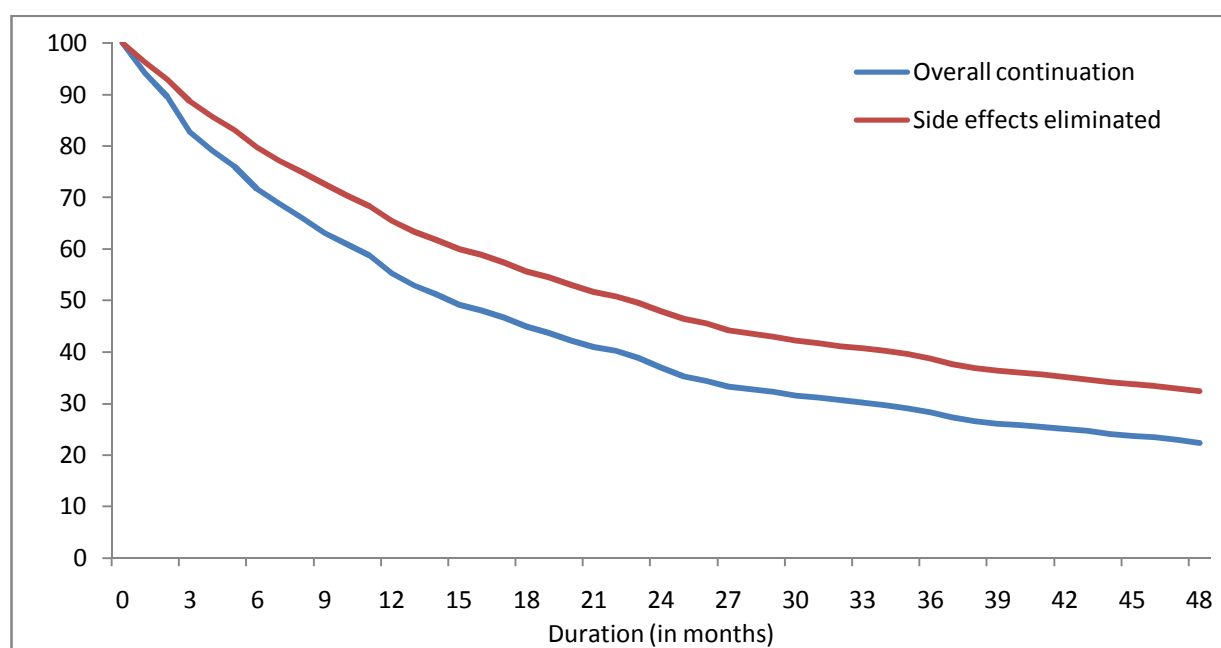
Table 4.4: Life-table discontinuation rates at 3, 12 and 36 months, by reason for discontinuation according to method

Reason for discontinuation	Pills	IUD	Injectable	Condom	Rhythm	Withdrawal
No further need						
3-month	7.2	0.3	4.1	4.1	5.2	4.8
12-month	19.2	2.9	16.9	16.6	16.0	16.9
36-month	35.8	15.1	38.5	38.3	39.5	35.1
Failure						
3-month	3.4	0.1	1.4	1.6	3.2	2.3
12-month	10.0	1.2	4.6	10.3	7.3	13.3
36-month	18.0	2.7	14.2	22.8	12.2	29.1
Side effects						
3-month	13.6	6.5	14.8	3.7	0.9	0.9
12-month	27.6	17.3	36.8	8.9	2.8	3.8
36-month	43.8	39.6	59.8	11.5	6.0	7.1
Dissatisfaction/inconvenience						
3-month	1.0	0.0	0.9	1.1	3.7	1.4

Reason for discontinuation	Pills	IUD	Injectable	Condom	Rhythm	Withdrawal
12-month	3.6	0.3	3.0	3.9	7.8	4.8
36-month	8.1	1.5	5.8	6.4	14.0	10.3
Cost/access						
3-month	1.1	0.1	0.7	0.3	0.0	0.0
12-month	1.4	0.1	2.5	1.1	0.0	0.0
36-month	1.9	0.0	4.2	1.7	0.0	0.0
Opposition						
3-month	0.4	0.0	0.1	0.1	0.0	0.1
12-month	0.7	0.0	0.3	0.2	0.3	0.1
36-month	0.7	0.0	0.3	0.3	0.3	0.1

Figure 4.2 shows the overall contraceptive continuation rates by duration of use, and the same rates if there were no discontinuations caused by side effects. As seen, contraceptive continuation rate (at one year) could be improved by 10 percent if discontinuations caused by side effects are eliminated.

Figure 4.2: Contraceptive continuation rates with discontinuations caused by the side effects eliminated



Factors Associated with Different Reasons of Discontinuation

It is of great program relevance to identify the factors associated with different reasons for discontinuation. Examination of annex Table A7 shows that the proportion of those who discontinued because of side effects is higher among rural women than those residing in urban areas (36 percent

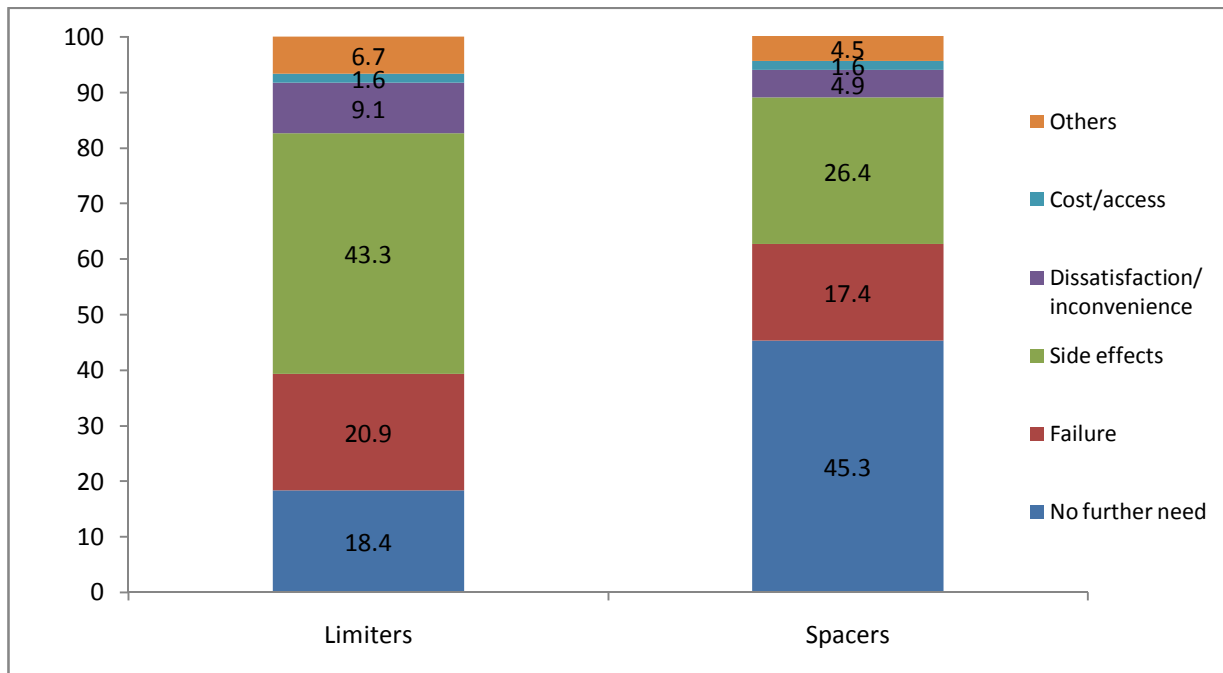
versus 29 percent). Similarly this proportion is higher among illiterate women and those with higher parity.

When the proportion of women who discontinued contraceptive use because of method failure is examined, it is noteworthy that this is highest among the 25-34 year age group, and lower among those younger or older than them (22 percent).

Contraceptive Use Intent and Reason for Discontinuation

Contraceptive users can be classified into two categories: limiters and spacers. Limiters are usually considered as more committed to follow their fertility intentions compared to those who use contraception for spacing purposes. The reasons for discontinuation are therefore analyzed separately for spacers and limiters. Figure 4.3 shows that more than two-fifths of limiters discontinued because of side effects whereas one quarter of spacers discontinued for the same reason. Similarly the proportion of those who discontinued because of dissatisfaction or inconvenience of the method was higher among limiters than spacers. Those discontinuing because of no further need among spacers mainly represent women who wanted to get pregnant, whereas among limiters they mainly represent those reaching menopause.

Figure 4.3: Reason of discontinuation by the intent of use



Chapter 5

Contraceptive Method Failure

This chapter deals with the episodes of contraceptive use that ended in method failure. Contraceptive failure rates not only show the efficacy of the methods but also how accurately women use them (use effectiveness). High contraceptive failure rates also indicate poor levels of information provided to the client at the time of method adoption. This chapter analyzes the failure rates of contraceptive methods along with the factors associated with higher rates of failures.

Table 5.1 shows that, out of the total closed reversible contraceptive episodes contributed by the sample women, 17 percent ended in method failure. Of these, withdrawal and condom episodes accounted for the highest numbers of method failures (31 percent and 22 percent respectively).

Table 5.1: Percent episodes ended in method failure out of total discontinuations in 48-month period by method

Episode type	Number of failures	Number of closed (discontinued) episodes	Percent failures out of discontinuations
Withdrawal	391	1,264	30.9
Condom	307	1,418	21.6
Rhythm	37	225	16.7
Pills	138	1,166	11.8
Injectables	82	1,368	6
IUD	13	474	2.7
Others	37	124	29.6
Total	1,005	6,053	16.6

5.1 Failure Rates

The results show that 9 percent of the contraceptive episodes ended in method failure within a year of method use. Method failure rates were highest for withdrawal, used by one-fifth (20 percent) of the current contraceptive method users. The results also show that 10 percent of pill and condom users became pregnant within a year of their use. Failure rates were lowest for IUD followed by injectables (1 percent and 4 percent respectively). The findings also show that, within the first three months of use, method failure was highest for the pill and rhythm (3 percent each).

Table 5.2: Life-table failure rates by method and selected months

Month	Pill	Injectables	IUD	Condom	Rhythm	Withdrawal	Total*
1	1.3	0.2	0.0	0.5	0.9	0.3	0.56
3	3.0	1.4	0.0	1.5	3.0	2.3	1.94
6	4.9	2.5	0.3	4.6	6.0	6.8	4.6
12	9.4	4.3	1.0	10.2	7.1	13.3	9.03
18	12.2	6.4	1.7	15.3	9.5	19.3	13.02
24	14.5	9.5	1.7	19.0	11.1	23.1	15.94
36	17.4	13.4	2.2	22.6	12.0	28.8	19.57
48	19.5	15.8	2.9	24.0	21.6	34.5	22.86
Number of episodes	1,643	1,946	845	2,479	400	2,242	9,748

*Total includes all reversible method rates including Norplant and Others.

Figure 5.1: Contraceptive failure rates at 12-months

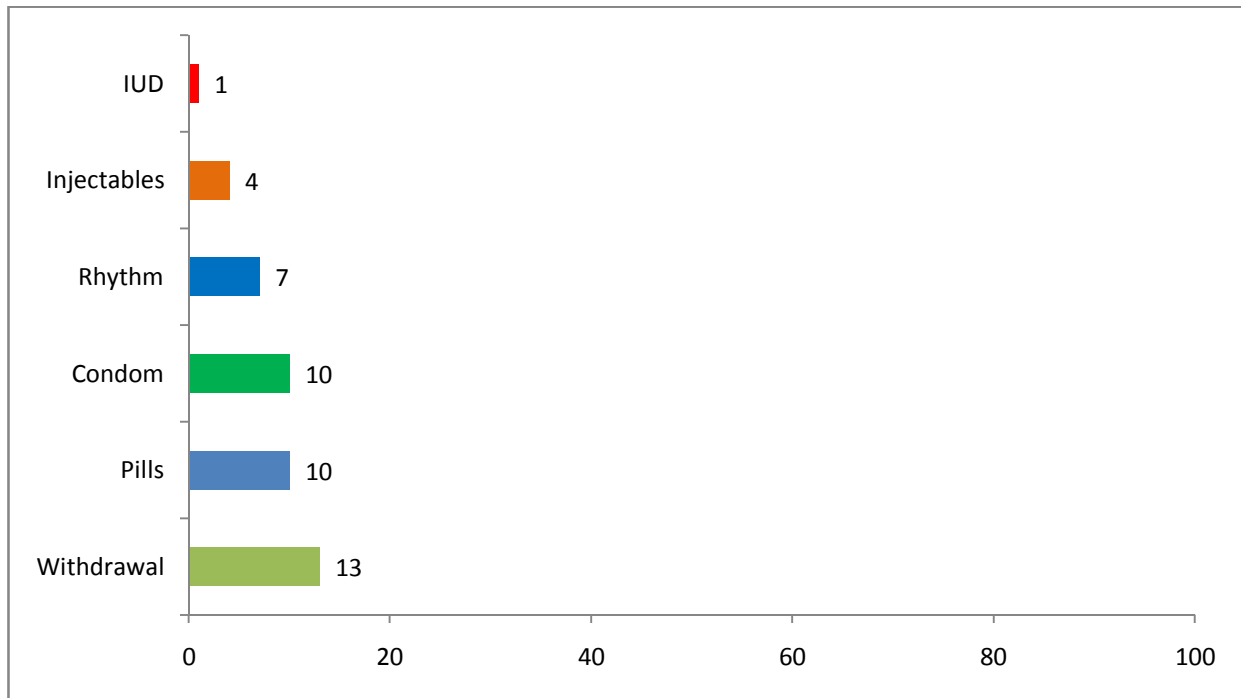
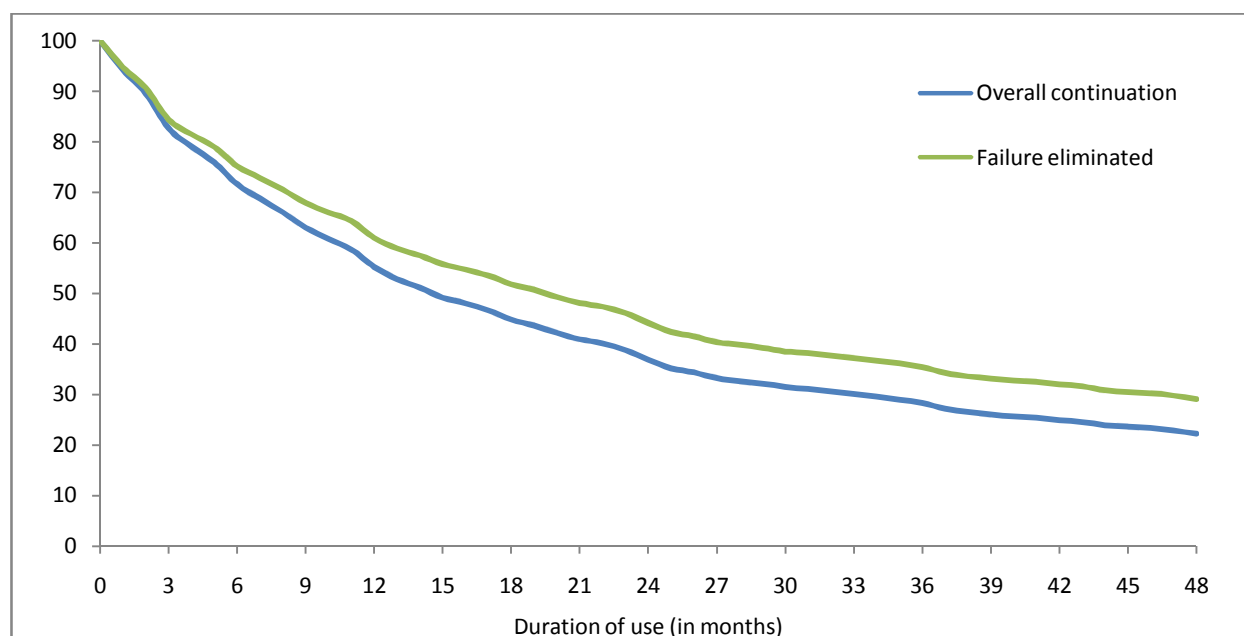


Figure 5.2 shows contraceptive continuation rates by duration of use, and the same rates if there were no discontinuations caused by method failure. As seen, contraceptive continuation rates (at one year) could be improved by 6 percent if discontinuations caused by method failure were eliminated.

Figure 5.2: Contraceptive continuation rate with failure eliminated



5.2 Variations in Contraceptive Failure

Table 5.3 gives the variation in contraceptive method failure by background characteristics of the women. As seen, the contraceptive method failure rate was almost double among those couples who were using contraceptives for birth spacing compared to those using them for limiting purposes (12 percent vs. 7 percent). The failure rate was also high among couples belonging to low SLI compared to those belonging to high SLI. These rates showed little variation by residence and literacy of the women.

Table 5.3: Contraceptive failure rates by selected characteristics

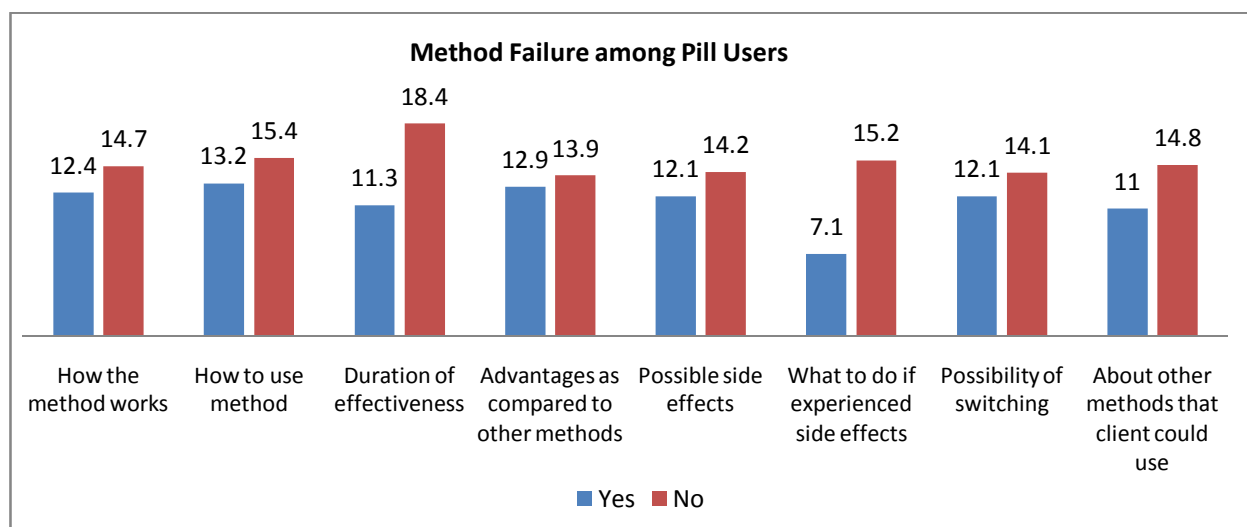
Background characteristics	Life-table failure rate at 12-months
Age at method failure	
15 – 24	13.7
25 – 34	11.4
35 – 49	3.8
Residence	
Rural	9.7
Urban	7.8
Parity at method failure	
0 – 2	11.7
3 – 4	9.0
5 or more	7.2
Literacy	
Literate	9.4
	40

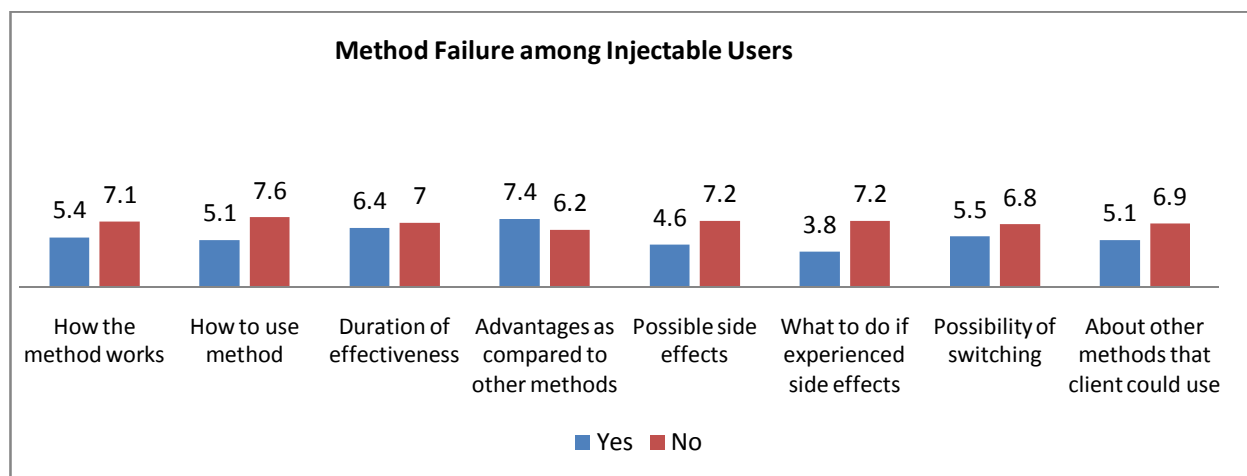
Background characteristics	Life-table failure rate at 12-months
Illiterate	8.7
Standard of living index	
Low	10.2
Medium low	10.0
Medium high	8.7
High	8.3
Order of episode	
Previous	16.4
Recent most	5.0
Contraceptive intent	
Spacer	11.8
Limitier	6.8

5.3 Contraceptive Failure and Quality of Care

Respondents who obtained their contraception from a health facility were asked whether they were provided information at the time of method adoption. Table 5.5 compares the different kinds of information provided with the rates of method failure. As seen, method failure was lower among those users who were given information at the time of method acceptance. Among oral pill users, those women who were informed about the duration of effectiveness and the management of side effects, experienced much lower method failure than those who were not given this information. Similarly, failure was much lower among those injectable users who were told about the side effects and their management.

Figure 5.3: Quality of care and method failure among pill and injectable users





5.4 National and International Comparison

Comparison of the failure rates obtained in this study with results obtained by various Demographic and Health Survey studies, shows that Pakistan and Colombia have one of the highest contraceptive failure rates followed by Kenya and Bangladesh.

Table 5.4: 12-month life table failure rates by selected countries

Country	Discontinuation rates (%)	Failure rates (%)	CPR (%)
Pakistan (BSF 2008-09)	45	9	30
Pakistan (US/LS 1997)	27	7*	24
Bangladesh 2004	49	5	59
Kenya 2003	36	6	39
Zimbabwe 2005-06	18	2	60
Egypt 2005	32	3	59
Indonesia 2002-03	21	2	60
Colombia 2005	44	9	78

*Pearl pregnancy rate

Chapter 6

Contraceptive Switching

This chapter focuses on the contraceptive method switching aspect of use dynamics, i.e. the behavior of adopting a different contraceptive method after stopping use of the method already adopted. Method switching should generally be seen as a positive form of contraceptive discontinuation, as long as the switch is to an equally or more effective method. Examination of method switching patterns can help identify methods that users are not satisfied with, as well as the basis of the dissatisfaction.

For switching rates the reason given for discontinuation is considered along with a woman's actions. If a woman discontinues a contraceptive method but begins using a different method in the following calendar month, that episode of use is categorized as a contraceptive switch, irrespective of the reason she gives for discontinuing. Following the DHS standard methodology, a woman is also considered to have switched methods if: (a) the reason she gave for discontinuation was "wanted a more effective method"; (b) she used no contraception for only one month following this discontinuation; and (c) she began using a different contraceptive method in the following month. This additional consideration allowed women one month to switch to a different method if that was their stated objective.

Table 6.1: Percent episodes switched out of total discontinuations in 48-month period by method

Episode type	Number of episodes ended in switching	Number of closed (discontinued) episodes	Percent switched out of discontinuations
Pills	289	1,166	24.7
IUD	131	474	27.6
Injectables	270	1,368	19.7
Norplant	3	13	24.6
Condom	275	1,418	19.4
Rhythm	55	225	24.5
Withdrawal	232	1,264	18.4
Others	17	124	13.3
Total	1,271	6,053	21.0

As seen in Table 6.1, out of the total closed reversible contraceptive episodes, 21 percent entailed switching to another method. This chapter looks at these 21 percent episodes of switching to explore the following:

1. what was the origin and the destination of the methods,
2. what was the duration of use of these methods before switching to other methods, and
3. what were the reasons for these switches and what were the characteristics of the women who switched from one method to another.

6.1 Switch Rates

Table 6.2 gives the switching rates at different durations of use by contraceptive method. As seen, the overall 12-month switching rate between contraceptive methods is 12.3 percent, which means that 12 percent of those who start using a contraceptive method change their method within the first year of use. The switching rate increases to 18 percent by the end of the second year of use.

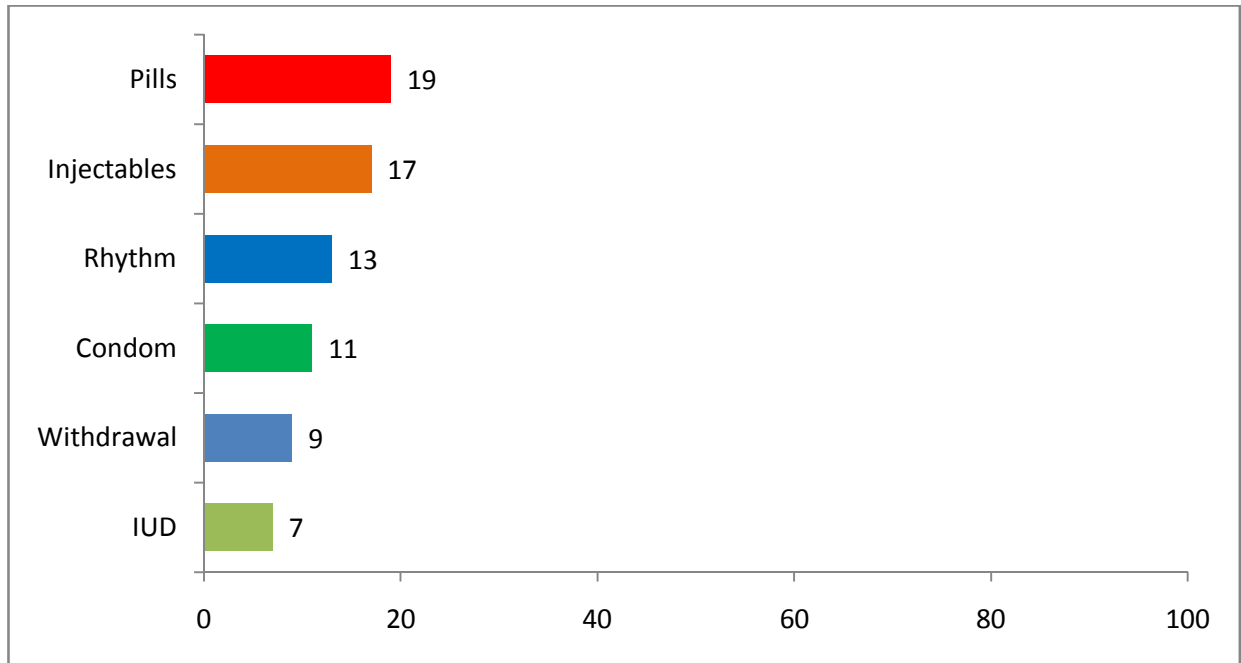
Table 6.2: Life-table switching rates by selected months and contraceptive method

Month	Pills	Injectables	IUD	Condom	Rhythm	Withdrawal	Total*
1	3.8	0.3	1.1	2.0	0.4	1.2	1.6
3	8.6	6.2	2.7	4.6	5.7	3.0	5.1
6	12.7	9.2	3.9	7.3	10.1	5.0	7.8
12	18.5	16.8	6.8	11.1	12.9	8.9	12.3
18	23.6	20.0	9.1	13.0	16.5	12.2	15.4
24	26.9	23.8	14.0	14.1	17.2	13.9	17.8
36	29.4	28.0	19.2	16.3	19.7	16.4	20.8
48	32.0	35.0	26.9	18.3	22.9	19.0	24.4
Number of episodes	1643	1,946	845	2,479	400	2,242	9748

*Total includes all reversible method rates including Norplant and Others.

Figure 6.1 shows that, as with contraceptive discontinuation rates, switching rates are higher for hormonal contraceptives (pills and injectables) followed by rhythm and condom. The findings show that almost one in five pill users and one in six injectable users switched to another method within a year of their use. The lowest switching rates are seen among IUD and withdrawal users, indicating method satisfaction.

Figure 6.1: Contraceptive switching rates at 12-months



6.2 Patterns of Contraceptive Switching

After discontinuing a contraceptive method, a woman may switch immediately to an alternative method, in which case comparison of the effectiveness of her new method with that of her old one is of interest. Of particular concern is switching from a modern method to an inefficient method. If a woman switches immediately to an equally effective method, the implications for her fertility are clearly less serious than if she were to change to an inefficient method.

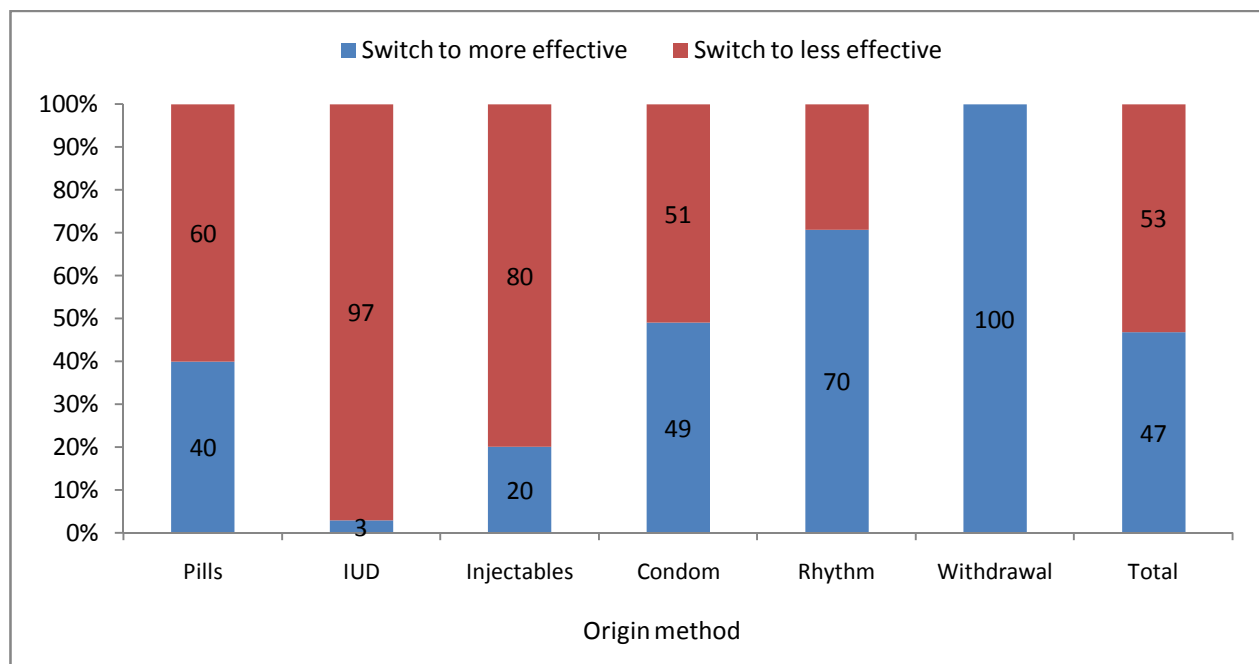
Table 6.3 gives the correlation between methods switched to and switched from. It shows that more than one-third of pill users switched to condom use, while one quarter of them switched to injectables and one-fifth to withdrawal. Over one-third of injectable users switched to pills followed by withdrawal and the condom (19 percent and 17 percent respectively). Half of condom users switched to traditional-couple methods, while a majority of withdrawal users switched to condoms (39 percent) followed by pills (22 percent). The proportion of users switching from reversible methods to permanent methods was highest for injectables followed by pills.

Table 6.3: Percentage of episodes by method switched to according to method switched from

Origin method	Switched to:										Total
	Pills	IUD	Injectable	Norplant	Condom	Rhythm	Withdrawal	Female sterilization	Male sterilization	Others	
Pills	0.0	10.1	26.5	0.0	35.8	1.3	20.5	3.3	0.0	2.5	100.0
IUD	23.0	0.0	24.8	0.0	24.7	0.8	22.7	2.9	0.0	1.1	100.0
Injectable	36.6	14.8	0.0	1.2	17.4	3.7	19.0	4.1	0.0	3.2	100.0
Norplant	0.0	0.0	0.0	0.0	54.3	0.0	45.7	0.0	0.0	0.0	100.0
Condom	23.5	8.2	14.9	0.0	0.0	4.8	44.0	2.4	0.0	2.2	100.0
Rhythm	10.8	10.4	13.7	3.4	31.1	0.0	29.6	1.0	0.0	0.0	100.0
Withdrawal	22.1	12.7	16.0	0.0	39.3	4.7	0.0	2.8	1.9	0.6	100.0
Others	28.5	9.1	28.3	0.0	7.1	13.5	13.5	0.0	0.0	0.0	100.0

Figure 6.2 shows that four-fifths of injectable users and three-fifths of pill users switched to less effective methods. Similarly slightly more than half of condom users switched to a less effective method. For the calculation of these results the order of effectiveness of contraceptive methods was determined by use effectiveness (actual use) as determined by Hatcher et al (2007) (given in annex Table A).

Figure 6.2: Contraceptive method switching by the origin method and type of method switched to



It is also interesting to note (see Table 6.4) that almost a third of modern contraceptive users switched to traditional contraceptive methods. This is explained by Table 6.6 which shows that 43 percent of the episodes of method switching were due to side effects or complications.

Table 6.4: Percentage of episodes by method switched to according to method switched from

Origin method	Switched to:		
	Modern method	Traditional method	Total
Modern method	67.4	32.6	100.0
Traditional method	87.1	12.9	100.0

6.3 Variations in Contraceptive Switching

Table 6.5 gives the differentials in contraceptive switching at 12-months by the background characteristics of the women. As seen, contraceptive switching rates were higher among literate than illiterate women (13 percent vs. 11 percent). Similarly switching rates were almost double among the youngest age group compared to the older women (16 percent vs. 9 percent). However, contraceptive switching rates showed little variation based on intent, with 12 percent among both spacers and limiters.

Table 6.5: Differentials in contraceptive switching

Background characteristics	Life-table switching rate at 12-months
Age at method switching	
15 – 24	16.4
25 – 34	13.3
35 – 49	8.7
Residence	
Rural	13.1
Urban	10.9
Parity at method switching	
0 – 2	13.1
3 – 4	11.4
5 or more	12.4
Literacy	
Literate	13.4
Illiterate	11.2
Standard of living index	
Low	10.4
Medium low	13.0
Medium high	13.7
High	11.6
Contraceptive intent	
Spacer	12.1
Limiters	12.2

6.4 Reasons for Switching

Examination of the reasons for switching (Table 6.6) shows these to be consistent with the reasons for discontinuation. Over two-fifths of the episodes were switched because of side effects (44 percent) whereas a quarter wanted a more effective method of contraception (24 percent). Almost one in seven women (15 percent) switched to another method because their husband disliked the initial method.

Table 6.6: Percent distribution of reasons for method switching

Reason	Number	Percent
Side effects/complications	483	43.6
Wanted more effective method	265	23.9
Health concern	55	4.9
Lack of access/ too far	20	1.8
Cost too much	5	0.5
Inconvenient to use	62	5.6
Husband's disapproval	166	15.0
Other reasons	53	4.8
Total	1109	100.0

Table 6.7 gives the method-wise reasons for switching along with the method adopted after switching. As seen, pill users who switched because of the side effects mostly took up use of the condom or traditional methods (38 and 28 percent respectively), while almost a quarter adopted the other hormonal method, i.e. injectables (24 percent).

A majority of injectable users cited the experience of side effects as the reason for leaving injectables; among these, more than a third of episodes entailed switching to the pill while just under one-third adopted traditional methods (37 and 30 percent respectively). Similarly most IUD users switched because of the side effects, taking up a variety of different methods.

Those who switched from condom use gave the following three main reasons in order of prevalence: husband's disapproval, wanted more effective method; and experience of side effects. A majority of those citing husband's disapproval as the main reason, switched to traditional methods. However, among those who wanted a more effective method, most adopted injectables (31 percent).

Table 6.7: Percentage distribution of reasons given for switching from a specific method by the type of method switched to

Origin method	Switched to:						Total	
	Pills	IUD	Injectables	Condom	Traditional	Sterilization	%	N
Pills								
Side effects/complications	0.0	10.5	23.9	37.9	27.5	0.2	100.0	167
Wanted more effective	0.0	8.0	49.3	15.6	5.4	21.8	100.0	26
Health concerns	0.0	22.7	13.6	31.2	32.5	0.0	100.0	17
Inconvenient to use	0.0	4.1	23.8	54.6	2.2	15.3	100.0	21
Other reasons	0.0	18.2	12.1	42.7	27.0	0.0	100.0	13
IUD								
Side effects/complications	24.4	0.0	22.7	21.3	29.8	1.8	100.0	89
Health concerns	30.5	0.0	8.4	52.8	8.4	0.0	100.0	12
Other reasons	16.7	0.0	42.3	12.6	15.8	12.6	100.0	15
Injectables								
Side effects/complications	36.9	11.5	0.0	17.9	29.5	4.2	100.0	167
Wanted more effective method	30.4	29.7	0.0	12.4	9.4	11.7	100.0	32
Health concerns	36.9	17.7	0.0	33.1	5.6	0.0	100.0	18
Other reasons	59.6	17.3	0.0	11.8	11.9	0.0	100.0	17
Condom								
Side effects/complications	32.6	0.0	10.5	0.0	56.9	0.0	100.0	44
Wanted more effective method	21.3	18.8	30.5	0.0	21.0	8.5	100.0	54
Inconvenient to use	0.0	9.9	1.6	0.0	88.5	0.0	100.0	19
Husband's disapproval	26.6	8.6	13.1	0.0	51.7	0.0	100.0	90
Other reasons	11.1	0.0	8.9	0.0	80.0	0.0	100.0	18

6.5 Contraceptive Switching and Quality of Care

A woman's decision to switch to another method is likely to be influenced by the level of information and counseling she received before and after the adoption of her current contraceptive, and by the range of method options from which she can select a suitable alternative (Steele, 1999). In the FALAH baseline survey, the ever users of contraceptives were asked about the information their health provider gave them at the time of advising the most recent method. The findings show that only a quarter (24 percent) of those who consulted a health provider were told about the possibility of switching to another method.

As seen in Table 6.8 the highest proportion of women who were told about the possibility of switching their contraceptive method by the service provider went to an FWC (37 percent) followed by those going to an LHW and BHU/RHC/MCH (29 percent and 25 percent respectively).

Table 6.8: Percentage of women told about the possibility of switching by the facility consulted at the time of method adoption

Facility/provider	Percent told the possibility of switching
DHQ/THQ	18.2
BHU/RHC/MCH	25.4
FWC	37.4
LHW	29.0
Pvt. hospital/clinic	26.0
Dispenser/componder	14.6
Pharmacy/ chemists/grocery shop	14.0
Homeopath/ <i>hakeem</i>	17.6
TBA/ <i>Dai</i>	15.0
Other facilities/providers	21.0
Total	24.0
N	4,273

6.6 International comparisons

Table 6.9 gives a comparison of switching and discontinuation rates for Pakistan and other developing countries. It shows that Pakistan has high contraceptive discontinuation but low switching rates: only a third of those who discontinue switch to another method. By contrast, in Bangladesh and Colombia, which have the highest discontinuation rates (in this list), almost half of those who discontinue switch to another method (49 vs. 25 percent in Bangladesh and 44 vs. 21 percent in Colombia). Similarly comparison of CPR in these three countries shows that Bangladesh and Colombia - despite having high discontinuation rates - have much higher CPR than Pakistan. These findings show that contraceptive switching is an important indicator for the overall contraceptive prevalence in a country.

Table 6.9: International comparison of contraceptive switching and discontinuation rates

Country	Discontinuation rates (%)	Switching rates (%)	CPR (%)
Pakistan 2008-09	45	12	30
Bangladesh 2004	49	25	59
Kenya 2003	36	8	39
Zimbabwe 2005-06	18	5	60
Egypt 2005	32	12	59
Indonesia 2002-03	21	9	60
Colombia 2005	44	21	78

All rates are calculated at 12-months.

Table 6.10 gives the type of switching by county. It shows that Pakistan not only has low switching rates but the proportion of these switching to a more effective method is lower.

Table 6.10: Type of switching by selected developing countries

Country	Switch to more effective method (%)	Switch to less effective method (%)
Pakistan 2008-09	47.1	52.9
Bangladesh 2004	49.8	50.2
Kenya 2003	59.3	40.7
Zimbabwe 2005-06	65.5	34.5
Egypt 2005	59.2	40.8
Indonesia 2002-03	42.2	57.8
Colombia 2005	63.7	36.3

Chapter 7

Discussion and Recommendations

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 CPR, high discontinuation and failure rates, and low rates of contraceptive switching.

Side effects are the main reason for discontinuation of hormonal methods. The findings show that 12-month discontinuation rates are highest for younger, rural women and women with fewer children. They are also higher among women belonging to the poor segments of population. These women primarily use public sector facilities to get their family planning (FP) requirements.

An important factor may be that public sector health providers are not trained in providing FP/BS services. At the basic health unit (BHU)/ Rural Health Centers (RHC) it is proposed that medical officers/medical technicians, dispensers and lady health visitors provide FP services as part of the preventive health care package. These services must include provision of information on benefits of birth spacing, range of contraceptive options available, provision of condoms, pills, injectables and IUD insertion.

In order to facilitate provision of FP/BS services it is recommended that lady health visitors/women medical officers be trained in counseling and contraceptives technology, including IUD skills and client centered services. If FP trained providers are available and contraceptives commodities are available, it is more likely that FP/BS services will be provided to couples who have unmet need. Similarly BHU/RHC staff must vertically refer clients to secondary and tertiary level facilities where RHS-A are providing surgical implants as well as minilap and vasectomy services. The referral system should ensure priority care to the referred clients.

A full range of services should be available at secondary and tertiary care level (THQ/DHQ) because the maximum number of clients is likely to access these for their reproductive health needs. Female staff members are also more likely to be present at tertiary level facilities. This level must be prepared for all cases of referral by LHWs, BHUs and RHCs. Service provision can be ensured through the availability of properly trained women medical officers and a functional operation theatre for reproductive health needs.

CPR could be improved notably by reducing the discontinuations resulting from side effects and method failure. Failure is the main reason for discontinuation for traditional and couple methods. The higher

failure rates of couple methods underline the importance of involving husbands to increase method effectiveness. Moreover, high levels of discontinuation that do not involve switching to other methods place couples at risk of unwanted or unintended pregnancies. The outcome of these unwanted and unintended pregnancies is opting for abortion or having an unwanted child. As the PDHS 2006-07 findings show, one child out of a total fertility rate of 4.1 children is unwanted.

CPR could also be improved by encouraging couples to switch to other contraceptive methods in case of method dissatisfaction. If the health provider offers quality services at the time of method acceptance, including sufficient information about alternative contraceptive methods, the clients may switch to other contraceptive methods as needed. Counseling of clients about the side effects needs to be improved to ensure better management of side effects. Providers should be trained to emphasize the importance of quality of care. The findings show that those contraceptive users who were informed about these aspects at the time of method adoption are less likely to discontinue compared to those not receiving any such information.

Similarly, the results show that contraceptive failure rates are high for couple methods and low for IUD and injectables. The findings emphasize the importance of counseling at the time of method acceptance to increase the use-effectiveness of contraceptive methods. IUD insertion and injectables are provided by comparatively trained providers, as opposed to oral pill and other methods which are available over the counter. IUD in particular can only be inserted by trained providers and the method is largely offered by outlets of Population Welfare Departments and NGOs.

Family planning is an essential part of the mandate of the MNCH Program. The greatest challenge is to improve the functioning of the DoH in delivering family planning services through its DHQ/THQ hospitals and outlets, particularly RHCs and BHUs, and to ensure that Lady Health Workers receive the full support for their family planning activities. This will be ensured by assigning family planning a higher priority at all levels through a clear directive from federal down to district level. This would ensure that systems work within their respective mandates.

Lady Health Workers (LHWs) are the main outreach mechanism and are already mandated to provide family planning advice, as well as supplies of condoms and pills, injectables and referrals for clinical methods and further counseling. Efforts are needed to coordinate the working of all outreach providers from both sectors.

The main recommendations for improving contraceptive continuation and thus contraceptive prevalence in Pakistan are as follows:

- The PWD should offer FP/BS trainings at their RTIs for medics and paramedics of provincial health departments. Without such trainings the health providers cannot provide FP/BS services;

these personnel have not studied contraceptives technology and have not learnt IUD skills during their medical studies. Hence training is an essential requisite for provision of FP services.

- Departments of Health should declare that they will ensure the provision of family planning services, including contraceptive commodities, through all their health facilities. All the providers should be trained in providing FP/BS services.
- A dialogue needs to be initiated at provincial and district levels to sort out the issue of PPHI (Peoples' Primary Healthcare Initiative), which has acquired majority of the BHU in the districts and must recognize FP/BS services are part of the primary health care package. PPHI also build the capacity of medics and paramedics on contraceptive technology, IUD skills and CCA.
- All stakeholders working in the health and population sector should be taken on board to evolve a comprehensive FP strategy.
- An effective IEC strategy with the focus on the message that side effects of contraceptives are minor and temporary so that clients do not discontinue method due to them.

Annex

Table A1: Use effectiveness of contraceptive methods*

Method	Use Effectiveness** (%)
Male sterilization	99.9
Female sterilization	99.5
IUD	99.2
Injectables	97.0
Oral Pill	92.0
Condom	85.0
Rhythm	75.0
Withdrawal	73.0

*Derived from Hatcher, et al (2007).

** How well a contraceptive method works in “typical use”, taking into consideration human error and other non ideal factors.

Table A2: Ever users of contraceptive methods by their background characteristics

Background characteristics	Pill	IUD	Injectable	Norplant	Condom	Rhythm	Withdrawal	Female sterilization	Male sterilization	N
Age of the woman										
15 – 24	15.1	6.4	19.7	0.0	28.4	3.3	24.1	1.9	0.0	1108
25 – 34	13.6	8.2	20.6	0.3	23.5	3.3	19.0	9.7	0.2	3475
35 – 49	12.6	8.4	14.8	0.2	15.1	3.1	17.2	26.3	0.6	3532
Residence										
Rural	14.8	8.8	21.3	0.2	16.7	3.2	17.3	15.7	0.4	5342
Urban	10.7	6.6	11.4	0.2	27.8	3.1	22.1	16.1	0.3	2773
Parity										
0 – 2	13.5	5.5	15.0	0.1	33.0	3.5	26.9	1.9	0.0	1714
3 – 4	12.7	8.6	16.0	0.2	22.5	3.2	20.4	14.8	0.1	2679
5 or more	13.8	8.8	20.7	0.2	13.4	3.1	14.2	23.1	0.7	3722
Literacy										
Literate	12.2	7.0	11.4	0.1	31.4	3.2	22.6	10.8	0.3	3027
Illiterate	14.1	8.6	21.8	0.3	14.0	3.2	16.8	18.9	0.3	5045
Woman's schooling										
No education	14.1	8.4	21.7	0.3	14.1	3.1	17.3	18.9	0.3	4970
Up to primary	15.7	8.9	15.0	0.0	22.5	3.2	19.3	13.3	0.6	1282
Up to secondary	11.4	5.5	10.2	0.1	34.6	3.8	24.9	9.0	0.1	1310
Above secondary	6.0	8.8	8.9	0.2	40.9	3.3	18.7	11.2	0.2	535
SLI										
Low	14.9	8.0	26.2	0.0	9.9	4.5	15.8	17.9	0.4	1221
Medium low	15.8	7.6	23.1	0.2	14.2	3.0	17.2	16.6	0.2	1705
Medium high	12.9	8.4	17.1	0.2	21.9	3.1	20.2	14.5	0.4	2284
High	11.7	8.0	12.1	0.2	27.6	2.9	20.3	15.6	0.4	2905
Ethnicity										
Urdu	6.8	4.7	6.9	0.0	38.1	4.7	25.6	12.1	0.4	856
Punjabi	6.3	7.1	7.5	0.2	31.2	5.0	23.0	17.5	0.5	1145
Sindhi	15.1	7.0	23.8	0.3	12.4	5.3	8.8	24.4	0.1	1533
Pushto	15.8	7.0	24.7	0.1	23.8	0.4	21.6	5.7	0.0	1521
Hindko	11.8	9.4	23.9	0.0	21.0	1.6	19.9	12.4	0.0	265
Balochi	27.0	7.3	29.5	1.0	11.1	0.8	7.1	14.7	0.0	418
Barahvi	25.7	14.2	37.9	0.3	8.4	0.0	2.2	11.3	0.0	133
Saraiki	13.7	10.8	14.7	0.1	12.8	3.0	23.1	18.8	0.9	2025
Others	11.5	10.4	15.2	0.0	27.3	3.1	16.9	15.4	0.0	209
Total	13.4	8.1	17.9	0.2	20.5	3.2	18.9	15.9	0.3	8106

Table A3: Current users of contraceptive methods by their background characteristics

Background characteristics	Pill	IUD	Injectable	Norplant	Condom	Rhythm	Withdrawal	Female sterilization	Male sterilization	N
Age of the woman										
15 – 24	12.0	8.1	15.6	0.1	28.9	4.1	27.6	3.3	0.0	622
25 – 34	8.2	8.2	15.2	0.4	26.4	3.6	19.8	16.7	0.4	2023
35 – 49	7.6	6.7	7.6	0.1	15.1	3.2	17.6	40.1	0.9	2316
Residence										
Rural	8.7	8.8	14.1	0.3	17.3	3.7	18.2	27.3	0.6	3080
Urban	7.8	5.4	7.9	0.2	28.1	3.1	22.4	23.8	0.4	1881
Parity										
0 – 2	10.3	5.7	12.0	0.3	34.4	4.0	29.4	3.5	0.0	923
3 – 4	7.8	8.6	10.6	0.3	23.8	3.6	20.6	23.4	0.1	1694
5 or more	8.0	7.4	12.5	0.2	14.6	3.2	15.4	36.7	1.1	2345
Literacy										
Literate	8.6	6.4	7.8	0.1	32.0	3.6	23.3	16.8	0.5	1947
Illiterate	8.1	8.2	14.2	0.3	14.6	3.4	17.5	31.9	0.6	2990
Woman's schooling										
No education	8.2	7.7	14.1	0.3	14.6	3.4	18.4	31.6	0.6	2964
Up to primary	10.4	8.0	9.6		23.7	3.8	19.9	22.3	1.0	763
Up to secondary	9.2	5.6	7.5	0.1	34.5	4.4	24.5	13.8	0.2	859
Above secondary	3.4	8.6	7.0	0.4	41.6	1.7	19.4	16.5	0.3	364
SLI										
Low	8.5	9.8	18.0	0.1	8.9	5.2	16.2	30.7	0.6	712
Medium low	8.7	6.6	14.6	0.2	15.4	3.9	19.5	29.8	0.3	951
Medium high	8.7	7.4	11.1	0.2	23.4	3.4	21.1	23.5	0.6	1412
High	7.9	7.2	8.4	0.3	27.7	2.7	20.3	24.1	0.6	1887
Contraceptive intent										
Spacer	9.9	7.4	15.4	0.2	31.4	5.3	26.3	2.9	0.0	1283
Limiter	7.8	7.5	10.4	0.2	18.0	2.9	17.5	34.0	0.7	3679
Ethnicity										
Urdu	5.3	4.1	5.1	0.0	36.5	4.1	26.5	16.9	0.5	610
Punjabi	3.5	6.7	5.3	0.3	28.6	5.1	21.4	27.2	0.8	737
Sindhi	9.9	5.9	12.9	0.5	13.7	6.0	9.5	40.2	0.1	930
Pushto	10.4	7.6	18.5	0.2	26.4	0.4	25.4	10.2	0.0	857
Hindko	6.9	7.5	16.0	0.0	23.3	1.4	23.5	21.3	0.0	154
Balochi	20.2	8.8	17.6	1.0	14.4	1.4	8.0	27.5	0.0	224
Barahvi	19.4	18.5	33.0	0.4	9.0	0.0	2.8	16.8	0.0	90
Saraiki	7.6	10.0	10.1	0.0	13.5	3.4	22.2	30.7	1.4	1238
Others	7.0	5.1	9.7	0.0	28.4	2.8	19.5	27.6	0.0	117
Total	8.4	7.5	11.7	0.2	21.5	3.5	19.7	26.0	0.6	4957

Table A4: Contraceptive discontinuation rates by selected socio-demographic characteristics at selected durations of use

Background characteristics	Life-table discontinuation rate at:				
	1-month	3-months	6-months	12-months	36-months
Age at discontinuation					
15 – 24	8.9	26.8	41.8	66.2	94.5
25 – 34	5.9	17.5	29.8	47.0	79.9
35 – 49	3.7	10.8	17.6	28.5	49.4
Residence					
Rural	6.6	19.7	31.7	48.9	76.1
Urban	4.3	12.7	22.0	36.7	63.4
Parity at discontinuation					
0 – 2	6.9	20.7	35.0	55.2	87.4
3 – 4	5.6	17.4	26.8	42.3	67.8
5 or more	5.1	14.4	24.3	38.3	63.4
Literacy					
Literate	5.7	16.7	27.3	43.3	70.3
Illiterate	5.8	17.7	29.2	45.8	72.7
Woman's schooling					
No education	5.7	17.5	28.7	45.0	72.3
Up to primary	8.0	20.0	30.9	47.5	72.8
Up to secondary	4.4	15.9	27.3	43.2	71.4
Above secondary	5.2	13.1	23.2	40.0	65.9
SLI					
Low	6.8	21.3	32.5	49.5	79.8
Medium low	7.7	20.8	33.2	51.4	75.9
Medium high	5.7	16.6	27.8	43.9	71.4
High	4.5	14.4	24.8	40.1	66.9
Order of episode					
Recent most	3.7	10.9	18.3	28.3	49.5
Previous	9.2	27.4	43.7	67.0	95.0
Contraceptive intent					
Spacer	6.7	20.8	35.2	55.5	88.3
Limiter	4.7	13.6	21.6	34.1	56.3
Ethnicity					
Urdu	3.0	9.2	18.0	32.4	59.4
Punjabi	5.9	16.7	29.9	45.5	70.7
Sindhi	7.4	20.8	31.3	47.1	73.7
Pushto	6.6	18.1	29.9	47.3	70.6
Hindko	5.9	13.9	23.5	40.3	68.7
Balochi	5.6	17.0	29.3	44.6	77.6
Barahvi	0.4	6.0	11.8	31.7	60.8
Saraike	5.2	19.5	30.7	47.4	77.7
Others	10.9	19.3	29.8	48.1	76.7
Total	5.8	17.3	28.4	44.7	71.7

Table A5: Discontinuation rates among limiters by background characteristics

Background characteristics	Life-table discontinuation rate				Number of episodes
	3-month	6-month	12-month	24-month	
Age at discontinuation					
15 – 24	28.8	34.2	55.7	78.0	233
25 – 34	16.7	27.6	42.1	61.8	2278
35 – 49	9.4	14.8	25.4	37.0	2416
Residence					
Rural	15.3	23.9	37.5	52.8	3226
Urban	10.6	17.4	28.0	42.8	1701
Parity at discontinuation					
0 – 2	16.2	23.0	33.4	54.9	317
3 – 4	14.4	21.0	32.8	45.6	1723
5 or more	12.9	21.8	35.0	50.8	2887
Literacy					
Literate	13.2	20.7	31.5	46.0	1754
Illiterate	13.9	22.2	35.8	51.2	3153
Woman's schooling					
No education	13.8	21.8	35.3	50.8	3133
Up to primary	16.4	23.8	37.4	51.1	778
Up to secondary	13.0	21.6	31.6	46.5	762
Above secondary	5.0	12.4	18.5	34.2	245
Standard of living index					
Low	17.0	26.3	38.9	55.8	738
Medium low	17.5	25.5	41.1	55.3	1006
Medium high	12.9	21.8	33.7	50.6	1536
High	10.4	16.9	28.4	41.9	1648
Order of episode					
Recent most	7.1	10.8	17.4	25.6	1616
Previous	26.6	42.0	63.5	85.7	3312
Ethnicity					
Urdu	5.2	13.2	24.0	40.2	588
Punjabi	13.1	20.6	29.4	42.3	599
Sindhi	15.1	22.3	35.7	53.1	633
Pushto	14.7	23.5	37.9	51.0	1288
Hindko	12.4	18.1	31.4	46.9	207
Balochi	15.2	26.1	35.0	47.8	159
Barahvi	5.1	8.1	17.6	32.2	55
Saraiki	15.7	23.4	37.2	54.0	1278
Others	21.3	31.4	41.8	57.9	115
Total	13.6	21.6	34.1	49.2	4927

Table A6: Discontinuation rates among spacers by background characteristics

Background characteristics	Life-table discontinuation rate					Number of episodes
	1-month	3-month	6-month	12-month	24-month	
Age at discontinuation						
15 – 24	8.2	25.8	42.2	67.1	88.4	1705
25 – 34	5.9	18.2	31.7	51.2	74.6	2561
35 – 49	5.1	17.6	30.7	43.0	64.2	516
Residence						
Rural	7.6	23.7	39.2	60.0	82.3	3198
Urban	4.7	15.0	27.1	46.5	68.7	1582
Parity at discontinuation						
0 – 2	7.2	21.2	36.5	58.0	81.5	2673
3 – 4	5.6	19.9	32.5	52.4	73.1	1519
5 or more	7.0	21.4	36.3	53.3	75.1	589
Literacy						
Literate	5.9	18.7	31.8	52.0	74.7	2346
Illiterate	7.2	22.6	38.3	58.7	80.6	2402
Woman’s schooling						
No education	6.9	22.4	38.0	58.0	80.6	2328
Up to primary	8.2	21.8	36.1	56.0	77.0	854
Up to secondary	4.8	17.8	31.3	51.7	76.2	1083
Above secondary	6.5	17.1	28.6	50.7	68.3	498
Standard of living index						
Low	8.0	24.3	37.8	60.4	82.6	630
Medium low	7.4	24.3	41.4	62.6	84.6	941
Medium high	7.0	20.9	34.8	55.8	78.1	1309
High	5.6	17.8	31.5	50.2	72.7	1901
Order of episode						
Recent most	5.1	15.5	27.4	42.0	63.1	2731
Previous	8.8	27.6	44.7	69.5	90.1	2049
Ethnicity						
Urdu	4.5	14.2	23.8	42.9	66.9	495
Punjabi	6.7	19.3	36.6	57.8	78.8	818
Sindhi	8.1	24.8	37.6	55.3	74.0	885
Pushto	7.9	21.7	38.5	60.7	82.3	846
Hindko	7.6	16.2	32.0	54.5	86.4	133
Balochi	6.4	17.9	31.0	49.6	76.6	302
Barahvi	0.0	6.7	14.6	41.6	63.9	86
Saraiki	5.8	23.8	38.8	59.0	82.5	1088
Others	8.2	17.4	28.3	54.1	76.8	120
Total	6.7	20.8	35.2	55.5	77.8	4781

Table A7: Reasons by background characteristics

Background characteristics	No further need	Failure	Side effects	Dissatisfaction/ inconvenience	Cost/ access	Opposition	Total
Age at discontinuation							
15 – 24	42.3	15.1	32.3	5.2	1.0	0.5	1323
25 – 34	33.3	21.6	31.1	6.9	1.6	0.3	2902
35 – 49	28.2	15.9	40.3	7.4	1.9	0.5	1291
Residence							
Rural	33.3	17.8	35.7	6.4	1.9	0.4	3840
Urban	36.5	20.7	28.7	7.0	0.9	0.4	1676
Parity at discontinuation							
0 – 2	47.3	16.2	25.1	5.7	0.9	0.6	1959
3 – 4	33.9	20.8	32.8	6.2	1.6	0.4	1787
5 or more	20.1	19.3	43.7	8.0	2.3	0.2	1771
Literacy							
Literate	37.8	19.9	29.0	7.2	0.6	0.6	2302
Illiterate	31.7	17.7	37.0	6.1	2.2	0.2	3185
Woman’s schooling							
No education	31.7	17.6	37.8	5.6	2.3	0.2	3102
Up to primary	35.1	19.1	31.6	7.1	0.7	0.8	965
Up to secondary	38.1	20.8	26.4	7.9	0.6	0.6	1022
Above secondary	42.4	20.0	24.4	9.2	0.6	0.2	411
Standard of living index							
Low	32.8	19.7	33.8	5.2	4.3	0.2	810
Medium low	31.6	17.4	37.5	5.6	1.7	0.2	1180
Medium high	33.0	18.6	35.1	6.8	1.4	0.8	1583
High	37.5	19.1	29.8	7.7	0.5	0.3	1944
Order of episode							
Recent most	44.8	16.3	31.0	0.9	1.5	0.6	2226
Previous	27.1	20.3	35.3	10.4	1.6	0.3	3291
Contraceptive intent							
Spacer	45.4	17.3	26.3	4.9	1.6	0.5	3237
Limiter	18.4	20.9	43.3	9.1	1.6	0.3	2243
Ethnicity							
Urdu	34.9	22.5	25.7	6.2	0.5	0.8	526
Punjabi	40.1	18.8	23.9	11.4	1.8	0.2	825
Sindhi	29.2	14.9	40.9	6.2	1.5	0.6	815
Pushto	34.2	19.0	36.8	4.3	1.2	0.5	1254
Hindko	31.3	20.7	31.6	8.6	1.8	1.2	184
Balochi	41.9	13.2	33.8	1.1	2.4	0.5	268
Barahvi	49.1	14.3	31.6	2.7	1.2	0.0	59
Saraiki	31.4	20.9	35.5	6.9	1.9	0.1	1440
Others	38.5	10.7	31.8	9.6	2.2	0.0	138
Total	34.2	18.7	33.6	6.6	1.6	0.4	5509
(N)	1884	1031	1849	364	86	21	5509

Table A8: Reason of discontinuation by background characteristics among limiters

Background characteristics	No further need	Failure	Side effects	Dissatisfaction/ inconvenience	Cost/ access	N
Age at discontinuation						
15 – 24	17.2	17.7	50.5	5.0	1.2	121
25 – 34	16.5	24.2	40.5	9.8	1.7	1189
35 – 49	21.0	17.1	46.0	8.7	1.4	933
Residence						
Rural	17.7	19.7	45.7	8.7	1.8	1552
Urban	19.9	23.6	38.0	10.0	1.0	690
Parity at discontinuation						
0 – 2	17.9	22.1	42.1	6.0	0.0	146
3 – 4	22.4	23.1	38.1	9.3	1.5	748
5 or more	16.2	19.6	46.4	9.4	1.8	1349
Literacy						
Literate	19.8	23.1	38.8	10.1	0.7	758
Illiterate	17.6	19.7	45.9	8.7	2.0	1477
Woman’s schooling						
No education	18.1	19.3	47.0	8.0	2.0	1447
Up to primary	19.9	19.1	41.6	10.2	0.6	392
Up to secondary	17.1	26.9	33.6	11.3	0.6	318
Above secondary	21.1	34.1	26.0	14.7	2.0	84
Standard of living index						
Low	10.4	25.6	42.7	9.0	5.0	347
Medium low	17.7	19.3	48.5	7.3	1.5	513
Medium high	19.8	18.7	45.9	9.0	0.8	685
High	21.5	22.0	37.4	10.7	0.7	698
Order of episode						
Recent most	13.0	20.9	44.5	13.3	1.6	1444
Previous	28.0	21.0	41.2	1.5	1.6	798
Ethnicity						
Urdu	17.4	31.0	32.8	8.3	0.5	219
Punjabi	24.0	21.9	32.3	12.8	1.4	252
Sindhi	11.7	17.8	51.1	7.1	1.5	271
Pushto	22.5	20.9	45.0	5.3	2.0	618
Hindko	23.1	16.2	37.9	15.9	1.2	92
Balochi	13.8	19.7	42.8	1.9	4.0	70
Barahvi	11.6	22.8	53.5	7.7	2.6	16
Saraiki	15.3	20.7	46.6	11.2	1.4	643
Others	19.2	5.9	44.3	22.2	1.8	60
Total	18.4	20.9	43.3	9.1	1.6	2240
(N)	412	469	969	205	35	2240

Table A9: Reason of discontinuation by background characteristics among spacers

Background characteristics	No further need	Failure	Side effects	Dissatisfaction/ inconvenience	Cost/ access	N
Age at discontinuation						
15 – 24	45.3	15.1	29.6	5.3	1.0	1181
25 – 34	45.1	19.9	24.3	4.8	1.6	1699
35 – 49	46.9	12.7	25.3	4.0	3.2	358
Residence						
Rural	44.2	16.8	28.1	4.9	1.9	2252
Urban	48.1	18.6	22.3	4.9	0.8	985
Parity at discontinuation						
0 – 2	49.7	15.8	23.6	5.7	0.9	1805
3 – 4	42.8	19.4	28.0	4.0	1.7	1017
5 or more	33.0	18.6	34.1	3.7	4.0	415
Literacy						
Literate	47.2	18.5	23.3	5.8	0.6	1520
Illiterate	43.9	16.2	29.1	4.0	2.4	1695
Woman's schooling						
No education	43.6	16.3	29.7	3.5	2.5	1642
Up to primary	46.6	19.6	22.7	5.1	0.9	557
Up to secondary	47.8	18.1	22.7	6.4	0.6	697
Above secondary	47.9	16.4	24.0	7.7	0.3	327
Standard of living index						
Low	51.0	16.0	24.8	2.4	3.9	443
Medium low	42.1	16.0	29.1	4.3	1.8	666
Medium high	43.1	18.7	26.9	5.1	1.9	895
High	46.7	17.6	25.0	6.0	0.3	1234
Order of episode						
Recent most	38.6	20.1	27.2	8.3	1.6	1822
Previous	54.1	13.7	25.2	0.6	1.5	1416
Ethnicity						
Urdu	47.3	16.5	20.6	4.7	0.5	306
Punjabi	47.1	17.5	20.2	10.8	1.9	573
Sindhi	37.7	13.6	35.9	5.8	1.6	542
Pushto	46.5	17.8	27.0	3.5	0.5	610
Hindko	39.5	25.3	25.2	1.2	2.4	91
Balochi	51.7	10.9	30.6	0.8	1.8	199
Barahvi	63.0	11.4	24.1	0.0	0.7	42
Saraiki	44.7	21.2	25.7	3.5	2.3	789
Others	53.1	14.3	22.4	0.0	2.4	79
Total	45.3	17.4	26.4	4.9	1.6	3232
(N)	1464	561	853	159	50	3232

References

- Ali, M. M., and Cleland, J. (1996). Determinants of contraceptive discontinuation in six developing countries: A discrete event history analysis approach. *International Family Planning Perspectives*, vol. 21/3, 92–97.
- Ali, M. M. and Cleland, J. (2010). Oral contraceptive discontinuation and its aftermath in 19 developing countries. *Contraception*, 81/1, 22–29.
- Andreea A. Creanga, Acharya Rajib, Ahmed Saifuddin, Tsui Amy O. (2007). Contraceptive Discontinuation and Failure and Subsequent Abortion in Romania: 1994–99. *Studies in Family Planning*, 38/1, 23–34.
- Bradley, Sarah E.K., Hilary M. Schwandt, and Khan, Shane. (2009). Levels, Trends, and Reasons for Contraceptive Discontinuation. *DHS Analytical Studies No. 20*. Calverton, Maryland, USA: ICF Macro.
- Casterline, J.B, Sathar, Z.A., and ul Haque, M. (2001). Obstacles to Contraceptive Use in Pakistan: A Study in Punjab. *Studies in Family Planning*, 32/2, 95–110.
- Collumbien M, Gerressu M, Cleland J. (2004). Non-use and use of ineffective methods of contraception. *Comparative Quantification of Health Risk Factors*, vol. 2. Geneva: World Health Organization. 1255–320.
- Kayani, A, Miller, P. C, Douthwaite, M, and Minhas, A. J. (2001). Pakistan Contraceptive User Satisfaction and Longevity Study 1997. *Population Council, Islamabad*. Research Report No. 18.
- National Institute of Population Studies (NIPS) [Pakistan] and Macro International Inc. (2008). Pakistan Demographic and Health Survey 2006–07. Islamabad. *NIPS and Macro International Inc*.
- National Institute of Population Studies (NIPS) [Pakistan] and IRD/Macro International Inc. (1992). Pakistan Demographic and Health Survey 1990/1991. Columbia, Maryland, USA: *NIPS and IRD/Macro International Inc*.
- National Institute of Population. (1998). Pakistan fertility and family planning survey 1996–97. Islamabad.
- National Institute of Population Studies. (2001). The Pakistan reproductive health and family planning survey 2000–2001. Islamabad.
- National Institute of Population Studies. (2007). Status of women, reproductive health and family planning survey, 2003. Islamabad.
- Planning Commission. (2010). Population Projections of Pakistan 2010–2030, *Government of Pakistan, Islamabad*.

- Rutstein, S.O., and K. Johnson. (2004). The DHS Wealth Index. *DHS Comparative Reports No. 6*. Calverton, Maryland: ORC Macro.
- Sathar, Z. A. (2007). Stagnation in fertility levels in Pakistan. *Asia-Pacific Population Journal*, 22/2.
- Sathar, Zeba and Zaidi, Batool. (2009). Fertility Prospects in Pakistan. Submitted to UN Expert Group Meeting on Recent and Future Fertility Trends, New York. *Population Division United Nations Department of Social and Economic Affairs*.
- Sathar, Z. A., Singh, S., and Fikree, F. F. (2007). Estimating the incidence of abortion in Pakistan. *Studies in Family Planning*, 38/1, 11–22.
- United Nations. (1999). Key Actions for the Further Implementation of the Program of Action of the International Conference on Population and Development: Resolution Adopted by the General Assembly. New York: United Nations.
- StataCorp. (2009). Stata Statistical Software: Release 11. College Station, TX: StataCorp LP.
- Ministry of Population Welfare, Population Council. (1993). IUD Follow-up Study, 1992. Research Report No. 2. Islamabad; Population Council.
- National Research Institute of Fertility Control, Ministry of Population Welfare, Government of Pakistan. (1993). Injectable Contraceptive Acceptors Study, 1993, Karachi.
- Potter, R. (1966). "Application of Life Table Techniques to Measurement of Contraceptive Effectiveness." *Demography*. August. 297–304.
- Tietze, C. and S. Lewit. (1970). "Evaluation of Intrauterine Devices: Ninth Progress Report of the Cooperative Statistical Programme." *Studies in Family Planning*. No. 55. 1–40.
- Laing, John E. (1985). "Continuation and Effectiveness of Contraceptive Practice: Across-sectional approach". *Studies in Family Planning*. Vol. 16, No. 3, May/June, 138–153.
- Population Council. (1997). Pakistan contraceptive user satisfaction and longevity study. Islamabad: *Population Council*.
- Hatcher, et al. (2007). *Contraceptive Technology*, 19th Revised Edition. New York.