Further analysis of factors associated with discontinuation and switching of contraceptive methods from quality-of-care perspective in Pakistan

1. Introduction

After experienced a rapid fertility decline during the decade of 1990s (Feeny & Alam, 200), empirical evidence implied Pakistan experienced the stalling of fertility since the onset of 21st century. The results of the last three rounds of Pakistan Demographic and Health Surveys (PDHS) show that the country's total fertility rate (TFR) was only marginally decline from 4.1 in 2006-07 to 3.6 in 2017-18 children per woman –half a child declined in 11 years. The stalling of fertility has been attributed in part to a slow increase of contraceptive prevalence.

High contraceptive discontinuation is often associated with the quality of care provided by family planning programs. In addition to its impact on overall contraceptive use, the analysis is important because it can inform efforts to improve service delivery in various ways. For instance, discontinuation of a method due to experiencing side effects may indicate that counselling needs improvement and that knowledge about the method needs to be conveyed more effectively. High levels of discontinuation due to access and availability problems suggest that supply distribution mechanisms need further examination.

Pakistan is among the countries where the contraceptive discontinuation is very high, the latest evidence from PDHS 2017-18 shows that 3 out of 10 contraceptive users (30%) discontinued use within 12 months, declined from 37% in 2012-13. It appears that discontinuation for all methods have decreased during the last two demographic & health surveys. In both surveys, pills and Injectables have been main methods that contribute the high discontinuation in Pakistan, 47% for each method followed by male condom.

Therefore, it is very essential to examine the levels and trends in contraceptive switching, contraceptive failure, and abandonment of contraception while still in need of pregnancy prevention. Further, the reasons for discontinuation of modern contraceptive methods and the characteristics of the women who discontinue contraception are necessary for the evaluation of FP strategy and the required resource allocation that can ensure the quality of and equitable access to FP information and services.

Not surprisingly, the impact of contraceptive failure and discontinuation is even greater on unwanted fertility. The reduction of failure and discontinuation rates can make a substantial contribution to reducing unwanted fertility. UNFPA Pakistan is planning to conduct a study to have an in depth understanding of these issues.

To date, there is no published study that has used the most recent data on contraceptive discontinuation from the DHS calendar in one place, particularly at the provincial level in Pakistan. The intention of this study is, therefore, to provide a comprehensive resource for researchers and program planners interested in improving quality of care by reducing contraceptive discontinuation and to explore the extent to which contraceptive discontinuation is a valid indicator of the quality of services.

2. Objectives of the study

The following are the objectives of the study

- To document overall trend and levels of discontinuation, and method-specific and reason-specific rates of discontinuation at the subnational level
- To estimate the associations of discontinuation with selected socioeconomic, demographic characteristics and quality of care services.
- To examine contraceptive behavior following a discontinuation or failure and its fertility consequences
- To assess the utility/linkages of contraceptive discontinuation as a reflection of the quality of the service environment

3. Data Sources and Methodology

The prime focus of this in-depth analysis is to analyze the rates of contraceptive discontinuation, failure, and switching, including reasons for discontinuation particularly from the quality-of-care perspective, at selected provincial level. We further estimate the associations with selected socioeconomic and demographic characteristics. We utilized the last two Pakistan Demographic & Health Survey: PDHS 2012-13 and PDHS 2017-18, where birth histories and contraceptive calendar is available. This result implies that as fertility declines, family planning programs would profit from a shift in emphasis from providing methods to new clients towards providing services to existing clients, such as counselling, that may help reduce failure and discontinuation rates.

The analysis unit of this study is the segment of contraceptive use, which refers to the continuous use of a contraceptive method. A woman could contribute multiple segments if she used multiple methods or zero segments if she did not use any method during the observation period. The five-year study period chosen for this study is 3-62 months before the interview month, which is commonly used in calculating contraceptive discontinuation and failure rates based on calendar data. Data within three months of the interview date were not used to avoid potential underestimation of the contraceptive failure rate because of unrecognition of a pregnancy in early pregnancy. Segments started before the calendar period were also excluded because information on the duration of use is not available. Segments that started within the observation period but ended outside the observation period were right-censored.

Table 1A and 1B presents the distribution of women and the number of segments contributing to the analysis. The PDHS 2012-13 had 4,732 women and 62.3 percent contributed at least one segment, and the sample reduced to 3,725 in PDHS 2017-18 and 71.2 percent women contributed at least one segment. Table 1B presents the number of segments by contraceptive methods, and there is total 7,146 segments are available in PDHS 2012-13 for analysis. For PDHS 2017-18, approximately 5,136 segments are available for PDHS 2017-18 for analysis. The tables also shows that about one-third of the episodes were for male condom (34%) followed by the withdrawal (23%). Episodes for the Pills, Injectables and IUD were much lower in number (8%, 13% and 8% respectively). The number of episodes is consistent with the contraceptive method mix at the time of the 2017-18 Pakistan DHS, which shows that male's condom were the most used method of contraception.

Table 1A: Percent distribution of women by number of segments contributing to the analysis, Pakistan

Number of Segments	Number of women	%	Number of women	%
	PDHS 2017-18		**PDHS 2012-13**	
1	2,653	71.2	2,947	62.3
2	824	22.1	1,309	27.7
3	189	5.1	362	7.7
4+	59	1.6	113	2.4
Total Women	**3,725**	**100.0**	**4,732**	**100.0**
Source: Author's own calculation using micro-data set of PDHS 2012-13 and 2017-18.				

Table 1B. Percent distribution of segments analysed, by contraceptive methods

Contraceptive Method	# Of Segments	%	# Of Segments	%
	PDHS 2017-18		**PDHS 2012-13**	
IUD	382	7.5	554	7.8
Injection	663	12.9	1,010	14.1
Pill	423	8.2	583	8.2
Male condom	1,752	34.1	1,970	27.6
Rhythm	163	3.2	151	2.1
Withdrawal	1,175	22.9	1,573	22.0
Other	575	11.2	1,307	18.3
	5,136	100.0	7,146	100.0
Source: Author's own calculation using micro-data set of PDHS 2012-13 and 2017-18.				

Reproductive-contraceptive calendar questions (month-by month). Differentials in contraceptive discontinuation and switching rates (socio-economic and QoC) will be assessed using life table approach. Cumulative incidence rates of discontinuation and confidence intervals in a multiple risk setting. All-method discontinuation rates, which measure the rate at which women stop using any method of contraception, are calculated separately for two groups of reasons: reduced need and quality related reasons. The life table approach was used to estimate the probability of discontinuation for the periods of 12 months and 24 months. A woman could discontinue a method for a variety of reasons. We used the multiple-decrement life table to determine the discontinuation rates for each method by reason, given the presence of other competing reasons.

Reasons for discontinuation were categorized into seven groups: 1) failure/become pregnant; 2) desire to become pregnant; 3) other fertility reasons, including infrequent sex or husband away, difficult to get pregnant or menopause, or marital dissolution; 4) health concerns with the method or side effects; 5) method related (inconvenience to use or wanted a more effective method); 6) cost of or access to the method; 7) other reasons, including husband's disapproval.

Contraceptive failure was one of the seven competing reasons in the calculation. A woman was considered to have contraceptive failure when she reported the reason for discontinuation was "became pregnant while using". Contraceptive failure rates were then calculated based on this response. The contraceptive failure rates calculated here are gross failure rates, which account for the confounding effects of discontinuation for reasons other than pregnancy (Farley 1983; Bongaarts and Potter 1983).

Contraceptive switching behavior was also examined. Women who reported use of a different method in the following month after discontinuation were considered to have a method switching event. The discontinuation rates and switching rates, for each method and all methods combined, were examined by women's background characteristics. All analyses accounted for the DHS sampling weights.

4. Results and Discussion

4.1. Overview of contraceptive prevalence rate in Pakistan

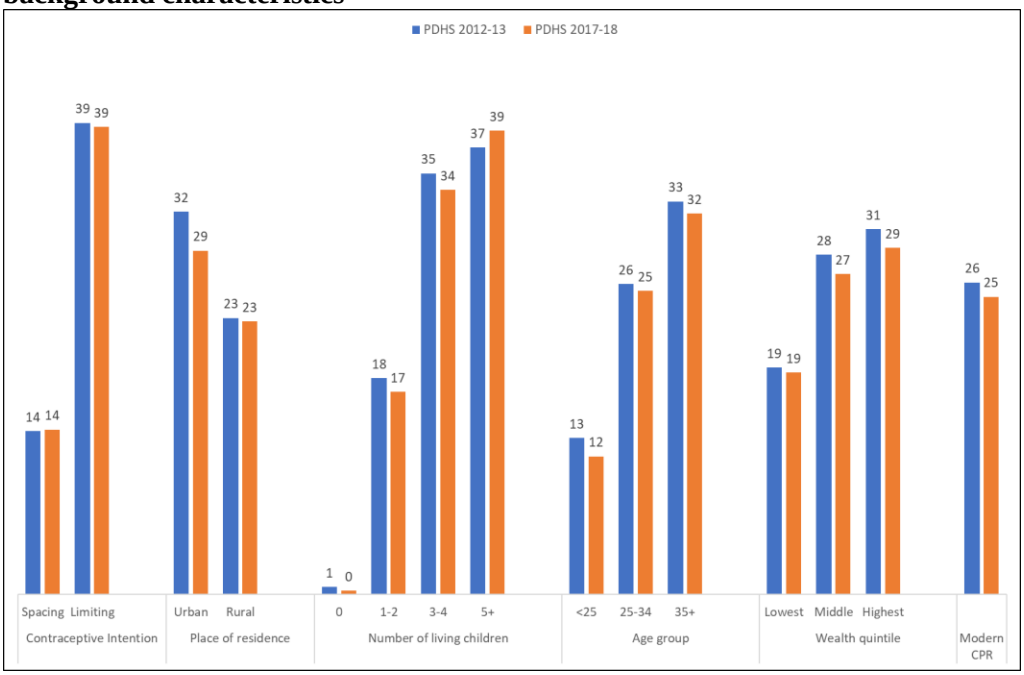
In 1990, the contraceptive prevalence rate (CPR) was only 11.4 percent in Pakistan; but clearly, conditions have changed sharply since then. The decade of the 1990s experienced a rapid increased in CPR, approximately 1.3 percent at the national level from 1990-2000 with significant provincial variation as high as 1.7 percent in Punjab and as low as 1 percent in Balochistan. It is interesting to note that during the 1990s, greater part of the uptake observed in modern methods of contraceptives, while the traditional methods increased marginally (CCI recommendations).

The contraceptive prevalence rate in Pakistan is quite low relative to other countries in South Asia at 34 percent in 2017-18 and has remained static over the last decade. Only 25 percent of women have access to modern contraceptive method and declined slightly between 2012 and 2017. The modern CPR in Pakistan is low compared to India at 48 percent (2015) and Bangladesh at 54 percent in in 2014. Around 17% of women expressed to have an unmet need for contraception, which is the highest in the South Asian region. The latest demographic and health survey 2017-18 revealed contraceptive method mix which is dominated by female sterilization (36 percent), followed by male condom (27 percent), Injections (7%) and intrauterine devices (IUDs) (6 percent), and oral contraceptive pills (5 percent). Whereas the contraceptive discontinuation rate for IUD has also been very high in 2017, about 23 percent women discontinued during last year, reflecting a need to improve quality of service and counselling for the IUD. Limited availability and access to LARCs (IUDs and Implant) directly impacts the objective of increasing contraceptive prevalence.

The modern method mix has largely remained the same since 1990-91. Condoms and female sterilization still dominate the method mix. Injectable, IUDs, and pills still lag these two methods. There are prominent differentials in contraceptive use by region, residence, education, and household wealth. Provincial and Regional differentials have become more pronounced over time. Regional differentials are particularly sizable for female sterilization, but also evident in IUD and condom use.

The dominance of just two methods—condoms and female sterilization—in the method mix suggests that expanding the availability of numerous methods, including injectables, IUDs, and pills, is warranted to expand method choice in Pakistan. This is particularly the case because expanding the method mix has been shown to increase overall use of modern contraception and reduce unmet need. However, we find that a large proportion of women who want to limit and are using contraception nonetheless rely on a short-acting method. This suggests that there is scope for increasing the availability of long-acting methods like IUDs and Implants for these women.

Figure 1. Percentage of married women who currently use modern contraceptive methods by selected background characteristics



Source: PDHS: 2012-13 and 2017-18

Modern contraceptive use is higher among urban women, more educated women, and women in wealthier households. The mCPR among women with no education lags that of all other educational subgroups, despite the increase in prevalence being concentrated among women with no education or primary education. Similarly, women in the poorer and poorest wealth quintile lag the three higher wealth quintiles.

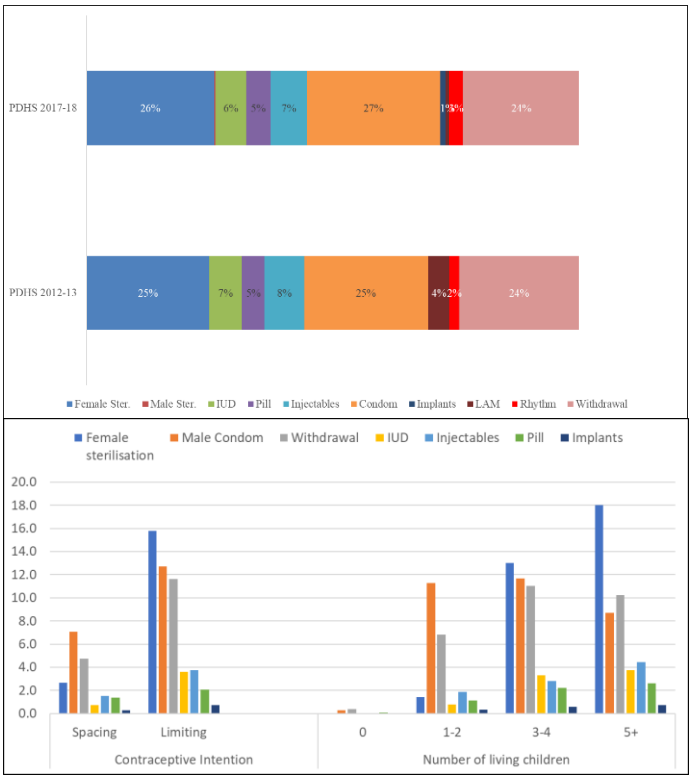
Our study finds that women's use of contraception increases with increasing intensity of desire to delay or avoid a birth. Figure 1 shows that modern CPR by selected background characteristics in Pakistan using last two rounds of PDHS. As expected, the modern CPR among women who want to limit the is about 39 percent and remains at the same level since 2012. While, about 14 percent of women who want the spacing between the last child using modern methods.

The number of living children that women have is another important correlate whose magnitude rivals that of attaining higher education or being in the richest quintile. This finding is consistent across all methods, with the risk of contraceptive use increasing between 2-3 times with each additional child. Moreover, the prevalence of modern contraceptive methods is high among the women who have at least 3 or more children.

To analyse further, modern CPR among married women with contraceptive intention and number of living children is computed according to the methods. Surprisingly, the prevalence of condom and withdrawal among women who want to limit their family size or have already 3+ children currently were high among all methods, except female sterilization. For instance, prevalence of male condom and withdrawal is 13 percent and 12 percent respectively, among women who want to limit their family size. Whereas the prevalence is 12 percent and 11 percent

respectively for male condom and withdrawal among women who have 3-4 children. This progressive high level of less effective can contribute to the unintended pregnancies and achievement of fertility and development goals in Pakistan.

Figure 2. Percentage of married women who currently use modern contraceptive methods (disaggregated by methods) by selected background characteristics



Source: Author's computation from contraceptive calendar from PDHS: 2017-18

Contraceptive discontinuation by methods and reasons

Figure 3 illustrate the 12-month contraceptive discontinuation rate disaggregated by methods at national and selected provincial levels from two rounds survey. Even though overall discontinuation rate in Pakistan has declined from 2012-13 to 2017-18, however 30 percent (95% CI: 26.5 – 34.3) contraceptive episodes are discontinued within 12 months in 2017 compared to the 37 percent (95% CI: 33.6 – 40.9) discontinued episodes in 2012-13. Similarly, the overall discontinuation rate in Punjab dropped from 39 percent (95% CI: 34.7 – 43.8) in 2012-13 to 34 percent (95% CI: 28.9 – 39.5) in 2017-13; and declined from 33.3 percent 3 (95% CI: 26 – 42.5) to 19.5 percent (95% CI: 33.6 – 40.9) in Sindh over the same period.

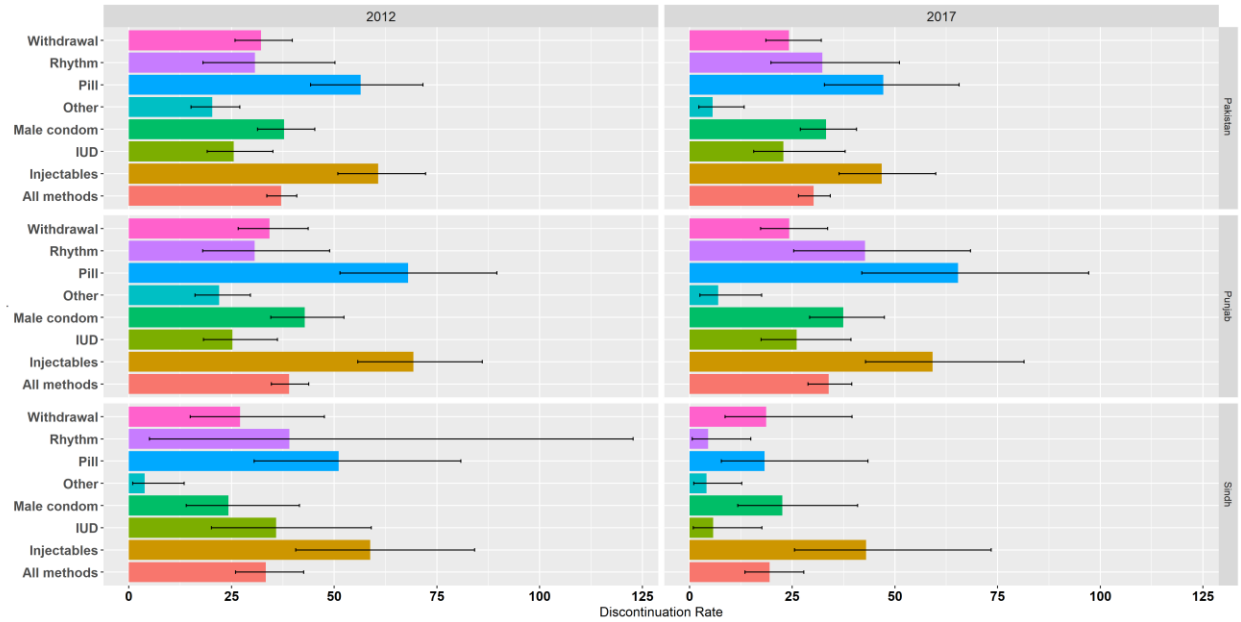
The discontinuation rate of Injectables has declined significantly from 60.7 percent (95% CI: 50.9 – 72.3) in 2012-13 to 46.8 percent (95% CI: 36.4 – 59.9) in 2017-18. Further, Pills and Condoms were the most discontinued methods during the same period at the national level: about 47.2 percent (95% CI: 32.9 – 65.7) of pills users discontinued in 2017-18 and considerably declined from 56.4 percent (95% CI: 44.2 – 71.6). Male condom discontinuation rate is about 33.2 percent (95% CI: 27 – 40.7) in 2017-18 and slightly declined from 37.2 percent (95% CI: 31.3 – 45.3) in 2012-13. Moreover, about 22.9 percent (95% CI: 15.6– 37.9) of IUD user were discontinued in Pakistan in 2017-18, which has slightly declined from 25.5 (95% CI: 19.1 – 35.1). It is important to note that the discontinuation of IUD in Pakistan is

unexpectedly high compared to the other regional countries: Indonesia 9 percent in 2017, Turkey 10.8 percent in 2013, and Afghanistan 10.3 percent in 2015. As expected, the discontinuation of withdrawal and Rhythm remains highs and stagnated since 2012-13 (Figure 3).

Likewise, the discontinuation rate in Punjab for Pills remains highest at 65.4 percent (95% CI: 41.9 – 97.2) in 2017-18, this rate was slightly declined from 68 percent (95% CI: 51.4 – 89.6) in 2012-13. Followed by Pills, Injectables has the highest discontinuation rate of 59 percent (95% CI: 42.8 – 81.4) in 2017-18, declined from 69.3 percent (95% CI: 55.7 – 86.1) in 2012-13. Male condom ranked third with 37.4 percent (95% CI: 29.2 – 47.4) in 2017-18 decline from 42.8 percent (95% CI: 34.6 – 52.4) in 2012-13. The discontinuation rate for IUDs in Punjab remained stagnated during the two surveys at 26.1 percent (95% CI: 17.4 – 39.3) in 2017-18. It is important to note that the wider confidence interval for some of the methods in Punjab primarily because of the small sample size in both rounds of the survey.

Whereas, Injectable remained the highest discontinued methods in Sindh, 43 percent (95% CI: 25.6 – 73.5) in 2017-18, declined from 58.8 percent (95% CI: 40.6 – 84.1) in 2012-13. Discontinuation rate for male condom stood at 22.6 percent (95% CI: 11.7 – 41) in 2017-18 and remained stagnating since 2012-13. Even though Pills was the third highest discontinued method, the rate has dropped very significantly to 18 percent (95% CI: 7.7 – 43.5) in 2017-18 from 51.1 percent (95% CI: 30.5 – 80.8) in 2017-18. Since the number of implants users was very low, separate analysis was not performed for them.

Figure 3. 12-months contraceptive discontinuation rates by contraceptive methods at national and for two provinces with 95% CI: Pakistan DHS 2012-13 and 2017-18



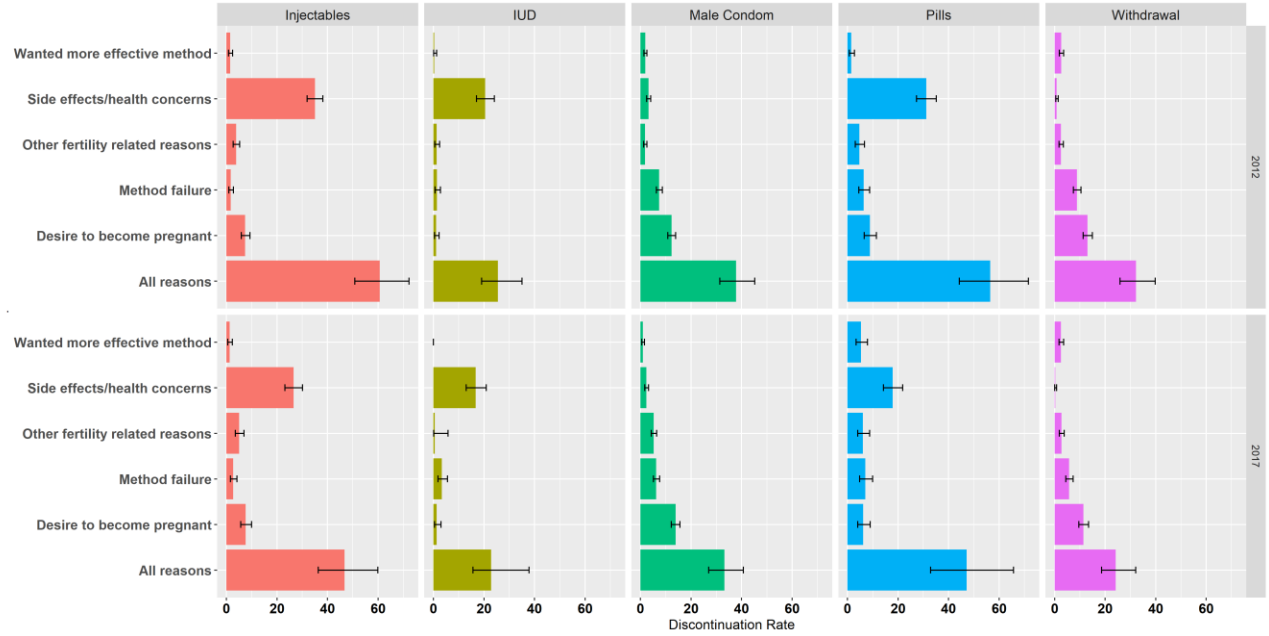
Source: Author's computation from contraceptive calendar from PDHS: 2017-18 and 2012-13

Our analysis revealed the quality-of-care is one of the major issues for contraceptive discontinuation in Pakistan. Figure 4 shows 12-months contraceptive discontinuation rates in Pakistan, and two provinces (Punjab, Sindh) disaggregated by reasons at national and for two provinces with 95% CI from Pakistan DHS 2012-13 and 2017-18. By far, side effect and health concerns are the largest contributors to the overall discontinuation in Pakistan among all methods in both round of the surveys (Figure 5). Injectable has the highest discontinuation rates of 26.6 percent (95% CI: 23.1 – 30) due to side effect, though declined from 35.1 percent (95% CI: 32 – 38.2) from 2012-13. Followed by Injectables, pills discontinuation rate was 17.8 percent - 95% CI: 14.2 – 21.8) which has declined from 31.2 percent (95% CI: 27.3 – 35.2). Moreover,

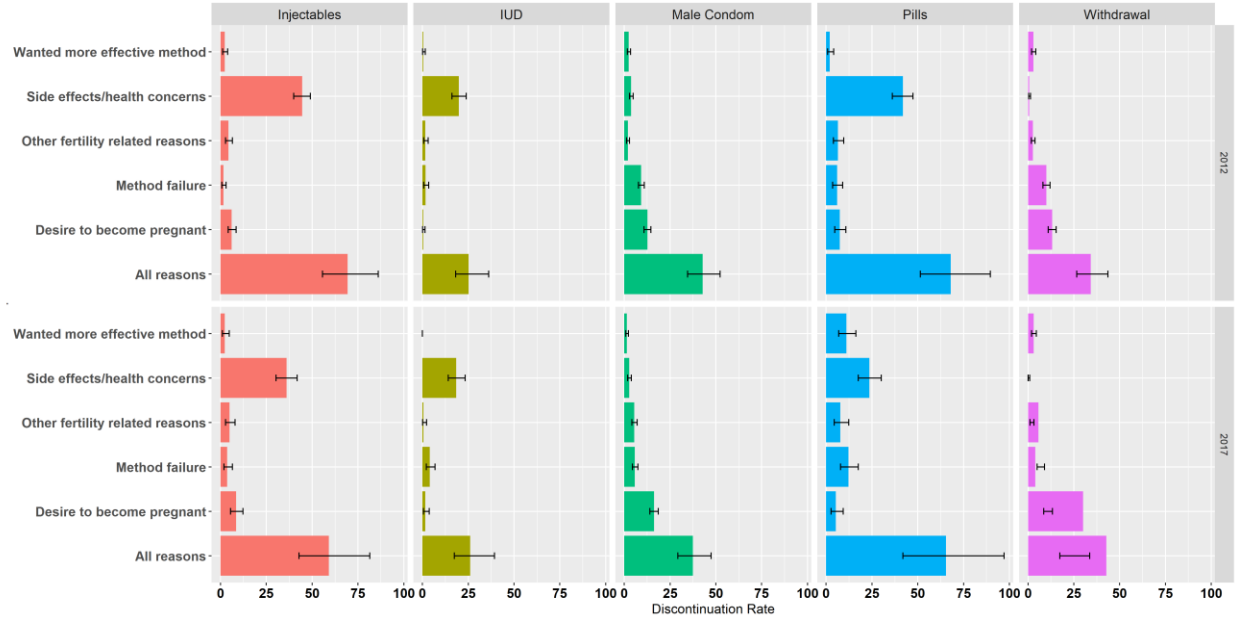
about 16.7 percent (95% CI: 13 – 20.9) user of IUD were discontinued due to the side effect and marginally declined from 20.5 percent (95% CI: 17.1 – 24.1) in 2012-13. As expected, the discontinuation due to method failure for IUD is lower 3.3 percent (95% CI: 1.8 – 5.5). The most striking finding is that the injectables, pills and IUD have lower discontinuation attributable to method failure in both surveys. The users of traditional family planning methods (periodic abstinence and withdrawal) have higher rates of discontinuing because of desire for pregnancy and other fertility reasons.

Figure 4. 12-months contraceptive discontinuation rates disaggregated by reasons at national and for two provinces with 95% CI: Pakistan DHS 2012-13 and 2017-18

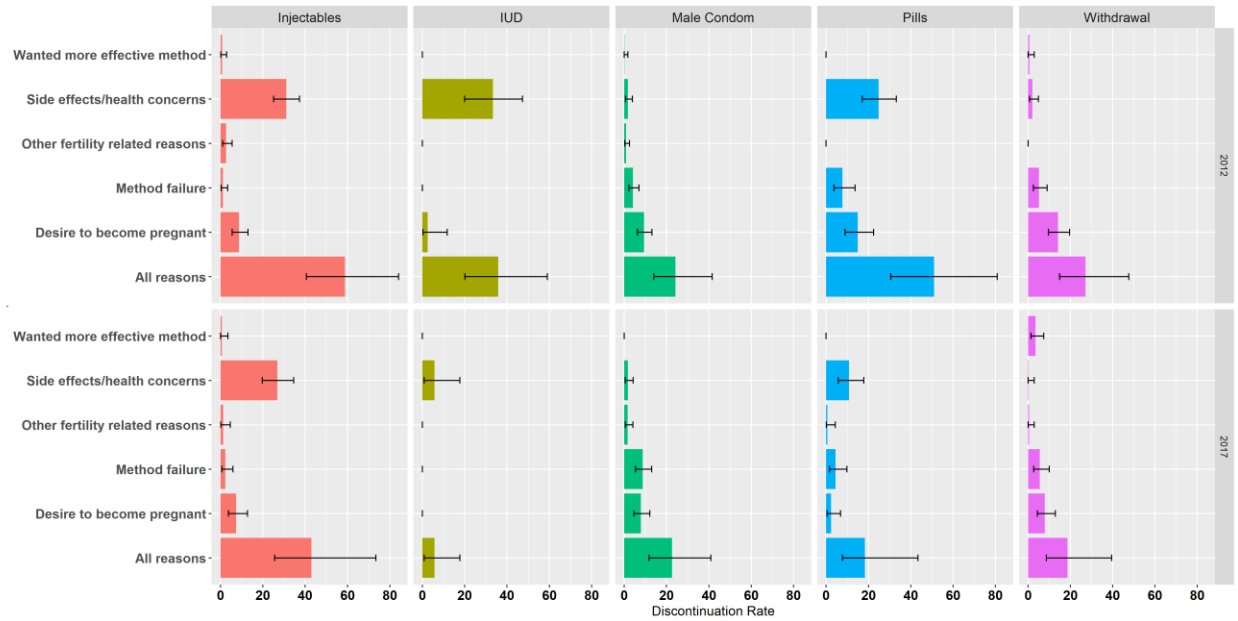
a) Pakistan



b) Punjab



c) Sindh



Source: Author's computation from contraceptive calendar from PDHS: 2017-18 and 2012-13

Similarly, Injectables discontinuation rates in Punjab is highest at 36 percent (95% CI: 30.2 – 41.8) due to side effect, though it has declined from 44.6 percent (95% CI: 40 – 49.1) from 2012-13. Followed by Injectables, pills discontinuation rate in Punjab was 26.5 percent (95% CI: 17.5 – 30) which has declined from 41.8 percent (95% CI: 36.2 – 47.4). Moreover, about 18.5 percent (95% CI: 14.2 – 23.3) user of IUD were discontinued in Punjab due to the side effect and marginally declined from 19.9 percent (95% CI: 16.1 – 23.9) in 2012-13 (see Figure 4).

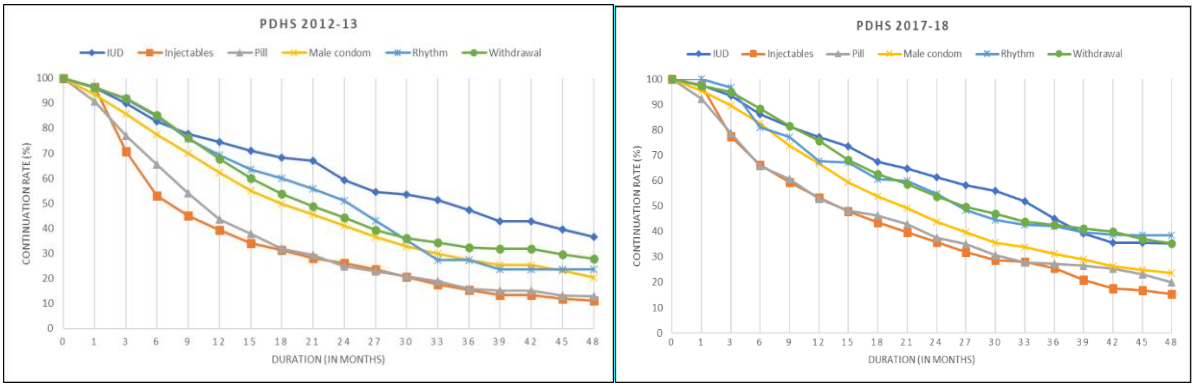
The injectables discontinuation rate in Sindh has also highest at 26.9 percent (95% CI: 19.7 – 34.6), which declined a little bit from 31.1 percent (95% CI: 25.2 – 37.3) in 2012-13. Interestingly, the discontinuation of pills due to side effect in Sindh is very low compared to Punjab and national level, it has declined substantially from 24.8 percent (95% CI: 17.1 – 33.2) in 2012-13 to 10.8 percent (95% CI: 5.7 – 17.8) in 2017-18. The findings reinforced at the provinces level that the injectables, pills and IUD have lower discontinuation attributable to method failure in both surveys (see Figure 4).

4.2. Retrospective analysis of contraceptive discontinuation rate: Life table approach

Life tables approach for continuation rates represents the probability that a woman accepting a method at specific month 'x' and will stop using that method at time '$x + n$'. Figure 5 shows that Table 3.2 life-table continuation rates by selected contraceptive methods at selected months (duration) of use.

The results also confirmed that discontinuation rates are highest for the two hormonal methods: pill and injectable along the duration. Approximately, one-third of both injectable and pill and users discontinued within the first six month, only 18 percent of male condom and 12 percent of withdrawal were discontinued. The analysis revealed that the continuation rate for injectables has increased from 53 percent to 66 percent within the first six months between two surveys. Whereas the continuation rate for pills remains stagnated during the same period. The discontinuation rates were lowest among IUD users; 77 percent of users continued use after one year in 2017-18 which is slightly increased from 75 percent in 2012-13, and only 14 percent removed the IUD within 6 months of use in the latest survey. Male condom and withdrawal had higher continuation rates for the whole period of use (Figure 4). First six months of using these methods, 82 and 88 percent of women continued them, and at 24 months, 44 and 54 percent continued their use.

Figure 5: 48-month life-table continuation rates, by method in Pakistan, PDHS: 2012-13 and 2017-18

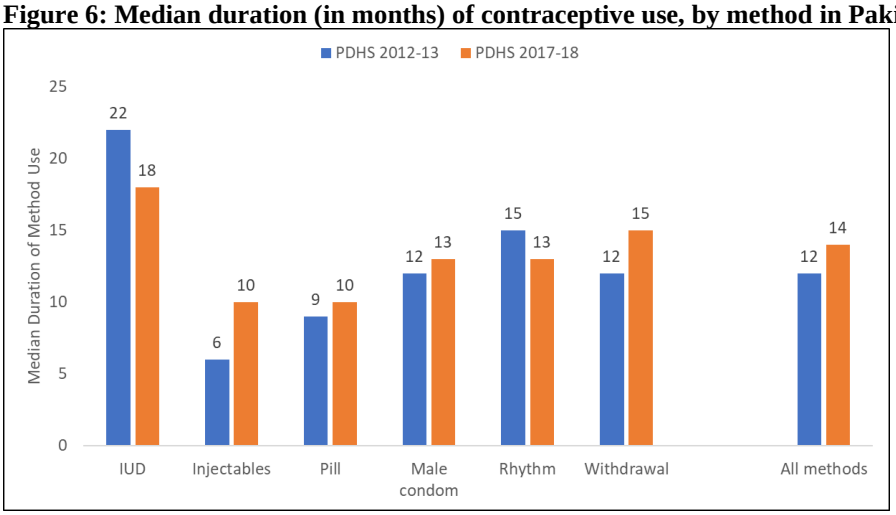


Source: Author's computation from contraceptive calendar from PDHS: 2017-18 and 2012-13

4.3. Median duration of contraceptive use

Figure 6 illustrate the median duration of contraceptive use in the two surveys. The life tables Median computed as the duration by which half the users have discontinued use. Overall, the median duration of contraceptive use increased by 2 months, with a 4 month increase for Injectables and one month increases for both pills and male condom. The median duration for IUDs has declined 4 months during 2012-13 - 2017-18. The use of withdrawal is unexpectedly increase by 3 months during the same period.

Figure 6: Median duration (in months) of contraceptive use, by method in Pakistan



Source: Author's computation from contraceptive calendar from PDHS: 2017-18 and 2012-13

Table 2: 12-month discontinuation rates by women's background characteristics, PDHS 2017-18

Characteristics	IUD	Injectables	Pill	Male condom	Rhythm	Withdrawal	Other	Any Method
Contraceptive Intention								
Spacing	15.0	47.3	38.9	32.6	39.4	33.5	9.4	32.6
Limiting	27.2	45.2	52.8	34.3	28.8	19.6	4.4	29.7
Non-numeric response	15.9	57.8	35.8	24.3	10.7	11.4	7.0	23.6
Place of residence								
Urban	24.5	42.4	35.8	30.0	34.9	20.2	7.6	26.0
Rural	22.0	48.1	52.2	36.1	29.9	28.2	4.4	33.1
Number of living children								
1-2	27.4	52.7	57.2	31.6	38.9	32.9	24.0	35.9
3-4	23.5	47.4	46.2	36.9	28.7	22.3	4.4	30.3
5+	19.7	42.8	39.9	27.0	24.5	15.9	3.1	23.9
Age group								
<25	35.2	53.2	54.6	39.9	59.7	38.3	8.3	42.1
25-34	23.1	45.6	49.1	35.5	34.3	27.9	8.4	32.4
35+	18.5	46.3	39.0	24.3	17.7	10.6	2.0	21.1
Education								
No Education	18.1	40.4	40.3	35.3	20.2	23.3	1.5	27.7
Primary	29.4	62.9	57.9	26.7	29.7	28.8	9.7	33.2
Middle	14.3	54.8	50.7	44.4	47.6	16.9	8.7	34.6
Secondary	25.0	51.1	62.1	30.9	41.0	21.2	12.0	30.1
Higher	26.2	38.6	40.7	30.1	34.7	28.6	8.5	29.3
Wealth quintile								
Lowest	24.0	43.4	37.7	21.6	21.9	30.1	4.7	28.1
Middle	21.0	50.8	54.8	40.0	32.8	26.1	6.1	33.7
Highest	25.1	45.4	47.3	30.5	36.2	20.6	5.9	27.8
Sex of last child								
Boys	25.9	46.1	48.8	31.9	28.2	24.8	5.6	30.1
Girls	19.7	47.5	45.4	33.8	37.0	23.7	5.7	30.0
Total	22.9	46.8	47.2	33.2	32.4	24.2	5.6	30.2

Source: Author's computation from contraceptive calendar from PDHS: 2017-18

Table 2 illustrate the 12-month contraceptive discontinuation rate by demographic and socioeconomic characteristics of women in Pakistan from PDHS 2017-18. The discontinuation rate is lower for women aged 35+ compared to the younger women (aged < 25) for all methods. The injectables and Pills discontinuation in younger women is much higher among other methods, even it remains higher for women aged 35+ (46.3 percent and 39 percent respectively). The higher the number of living children, the lower the discontinuation rate. More than one-third (35.9 percent) of contraceptive use episodes among women who have 1-2 children discontinued use within 12 months of starting, compared with more one-fourth (23.6%) among women with five children or more at the end of the episode. The contraceptive discontinuation rate is slightly higher among women who space births than among women who limit births (32.6% versus 29.7%). Unexpectedly, the discontinuation of IUDs among women who limit childbearing (27.2 percent) remains high. While discontinuation of Injectables and pills for women who want spacing and limit were remarkably high (47.3 percent and 45.2 percent respectively).

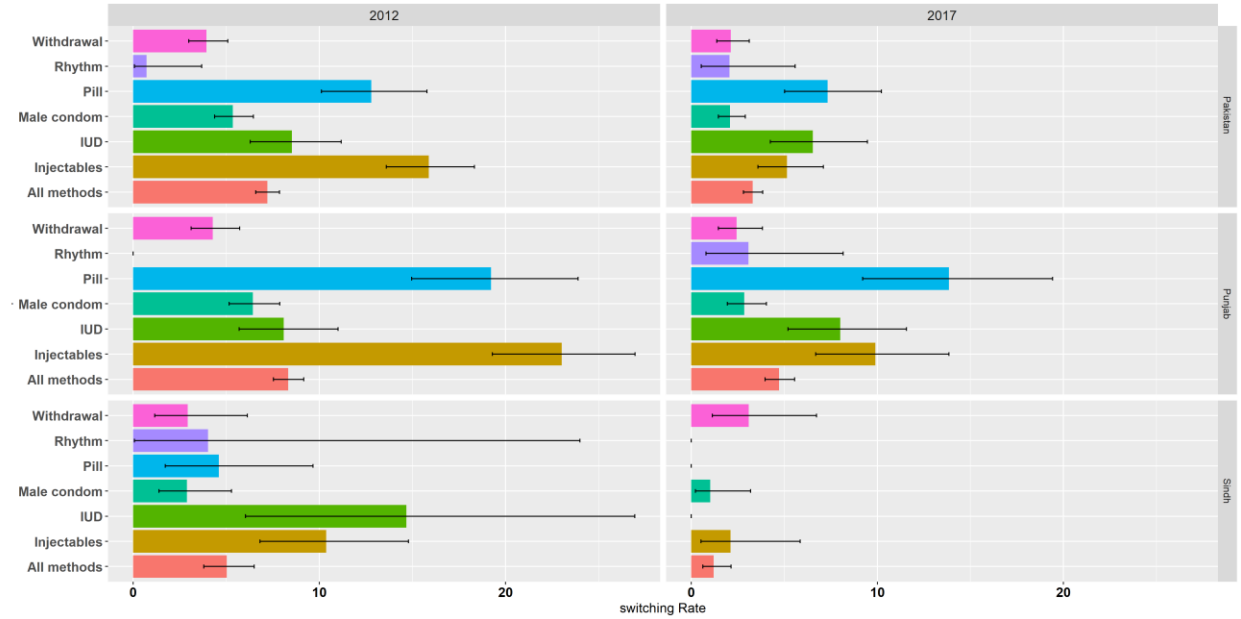
In Pakistan rural women have a higher discontinuation rate than urban women (31.1 percent versus 26 percent) for all methods except IUDs. The rate for urban areas is higher than the rural areas (24.5 percent and 22 percent respectively). By educational attainment, the rate is highest among women with secondary education (30.1%) and lowest among women with no education (27.7 percent). Particularly, the rate is highest for Injectables and Pills among women with secondary education (51.1 percent and 61.1 percent, respectively) and lowest among women with no education (40 percent each). Among the wealth quintiles, discontinuation rates are not significantly among women in the highest wealth quintile (27.8 percent) compared with the lowest quintile (28.1%). Furthermore, the son preferences are insignificantly, the discontinuation rate among women with boys and girls are approximately 30 percent each.

4.4.Contraceptive Switching Rate

Figure 7 shows the 12-month contraceptive switching rates with 95% confidence intervals (overall and by specific methods) in Pakistan and two provinces (Punjab and Sindh) for two rounds of PDHS 2017-18 and 2012-13. For all methods combined at the national level, 3.3 percent (95% CI: 2.8 – 3.9) of users switched their method within 12 months of use in 2017-18, the rate has declined from 7.2 percent (95% CI: 6.6 – 7.9) in 2012-13. The highest switching rates were found among users of Pills, and injectables, whereas the lowest rates were for male condom. The switching rate of Injectables and pills has declined between the two rounds of surveys from 2017-18 to 2012-13: Injectables declined from 15.9 percent (95% CI: 13.6 – 18.3) to 5.1 percent (95% CI: 3.6 – 7.1), and Pills declined from 12.8 percent (95% CI: 10.1 – 15.8) to 7.3 percent (95% CI: 5 – 10.2).

Switching rate in Punjab, for all methods combined, remained lowest at 4.7 percent (95% CI: 4 – 5.6) in 2017-18, this rate was slightly declined from 8.3 percent (95% CI: 7.5 – 9.2) in 2012-13. Again, the highest switching rates were found among users of Pills, and injectables, whereas the lowest rates were for male condom. The switching rate of Injectables declined from 23 percent (95% CI: 19.3 – 27) to 9.9 percent (95% CI: 6.7 – 13.8), and Pills declined from to 13.8 percent (95% CI: 9.2 – 19.4) from 2012-13 to 2017-18. Comparably, the overall switching rate in Sindh has also declined from 5 percent (95% CI: 3.8 – 6.5) in 2012-13 to 1.2 percent (95% CI: 0.6 – 2.1) in 2017-18. The switching rates for Injectables in Sindh has declined from 10.4 percent (95% CI: 6.8 – 14.8) in 2012-13 to 2.1 percent (95% CI: 0.5 – 5.9) in 2017-18.

Figure 7. 12-month contraceptive switching rates by method in Pakistan and two provinces with 95% confidence interval, PDHS: 2017-18 and 2012-13



Source: Author's computation from contraceptive calendar from PDHS: 2017-18 and 2012-13

5. Limitations of the study

The study had some limitations. Health system factors (service availability, accessibility/affordability, and quality of services) and spouse/family/community factors were not analyzed in the study due to unavailability of the information. Because of the cross-sectional data, understanding of some association factors were limited, which decreased our understanding of the experience of women that contributes to the discontinuation and switching of contraception.

6. Conclusions

The first-year discontinuation rate for all methods was high, primarily because of discontinuation of short-term methods (Injectables and Pills). The contraceptive discontinuation rate while in need was also considerably high, with health concerns/fear of side effects cited as the most common reason for discontinuation. This study's findings highly recommends that the inclusion of Pakistan FP Program's goal to reduce contraceptive discontinuation while women are in need. Women who have discontinued contraception need timely and accurate information on method switching. The country must improve the availability and accessibility of long-term contraceptive methods and encourage counselling that promotes informed choice and voluntary FP services. In addition, qualitative research could explore the other potential family/community and health service factors that might influence contraceptive discontinuation.

References

Bongaarts, J., and R. G. Potter. 1983. Fertility, Biology and Behavior: An Analysis of the Proximate Determinants. New York: Academic Press.

Farley, T. M. M. 1986. Life-Table Methods for Contraceptive Research. Statistics in Medicine 5:475–489.

National Institute of Population Studies (NIPS) [Pakistan] and ICF International. 2013. Pakistan Demographic and Health Survey 2012-13. Islamabad, Pakistan, and Calverton, Maryland, USA: NIPS and ICF International.

National Institute of Population Studies (NIPS) [Pakistan] and ICF. 2019. Pakistan Demographic and Health Survey 2017-18. Islamabad, Pakistan, and Rockville, Maryland, USA: NIPS and ICF.