Drivers of Family Planning Services Utilization in Pakistan: A Literature Survey and Recent Trends in Contraceptive Use

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ABSTRACT

Population planning is inevitable for a sustainable and secure future of a lower middle-income economy, like, Pakistan which stands fifth populous economy across the globe and has high population growth rate. Based on Pakistan Demographic and Health Survey 2017-18 data and by covering a sample of 12339 ever-married females, the study intends to investigate the correlates of family planning services use in Pakistan as well as the use of contraceptives across the regions and districts of Pakistan. An exploration of 34 studies (spanning over a time from 1989 to 2021), specifically on Pakistan, with respect to family planning services utilization, have found that the use of family planning services was an outcome of a woman's education, awareness status, wealth or economic status, religion, husband's approval, area of residence, number of living children, prevalence of the desired family planning method, desire for more children, subsidized healthcare services and other social or individual factors. In Pakistan, the average contraceptive use rate was recorded as between 19-49 percent across the regions and between 0-71 percent across the districts. The region Islamabad Capital Territory (ICT) had the highest contraceptive usage rate, i.e., 49%, followed by: Punjab (42%), Khyber Pakhtunkhwa (KPK) and Gilgit Baltistan (39% each), Sindh and Azad Jammu and Kashmir (AJK) (34% each), Federally Administered Tribal Areas (FATA) (24%), and Balochistan (19%). Amongst the districts, top three districts with highest contraceptive usage were Jafarabad, Sheikhupura and Jhang whereas the districts of Rajanpur, Tor Ghar and Kohlu were lying at the bottom. Region-wise disaggregation found that in the province of Punjab and Sindh, the range of contraceptive use across the districts was respectively ranged between 0-70 percent and 8-60 percent. Likewise, in KPK and Balochistan provinces, the range of contraceptive use had been recorded between 0-59 percent and between 2-71 percent. While the range of contraceptive use in Gilgit-Baltistan, FATA region, and in AJK had been respectively recorded between 9-48 percent, 11-39 percent, and 17-47 percent.

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1.   Introduction

Contraception is a way of family planning by controlling the number of children one has and the space between child births. Pakistan is the first country in the world, where the wide-ranging family planning program was started during 1960s. In South Asia, Pakistan is the country with highest population growth rate. Pakistan is the world's 5th most populated country and the 2nd largest South Asian country having 207 million people where population growth rate is 2.4% (WDI, 2018). Where, men are more than women; men are 51% and women are approximately 49% of total population. Because of high population size, Pakistan is facing a demographic youth bulge where two third of its population is <25 years in age (UNW, 2018). Failure to efficiently control the fertility rate and fast population growth had opposing effects on education, poverty, and life expectation etc. Table 1 gives some essential indicators regarding the demographic transition of the country.

Table-1
Trends in Demographic and Health indicators: 1969-2019

	1969	1980	1990	2001	2012	2019
Population growth rate	2.69	3.30	2.86	2.41	2.10	1.97
Total fertility rate (birth per women)	111.58	105.03	86.08	53.75	41.50	37.61
Contraceptive prevalence rate (% of females 15-49)	5.5	3.3	14.5	27.6	29	34

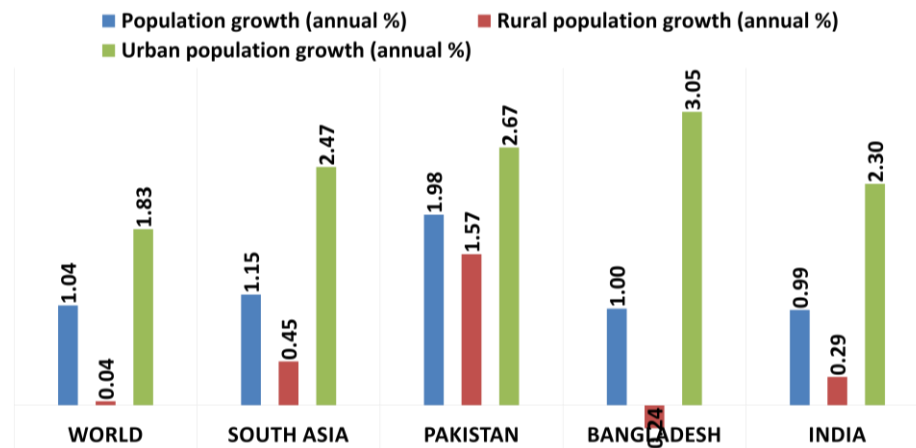*Source: World Development Indicators (WDI) (Author's own calculations)*

Figure 1: Population Growth Rates: Global, Regional, and National
Source: [World Development Indicators (WDI); (Author's own calculations)]

According to Pakistan Demographic and Health Survey (PDHS) 2017–18, on average woman tolerates 3.6 children in her lifespan. The rate of fertility is also very high (3.9 in rural areas, in urban areas is 2.9). In Pakistan only 34% women used contraceptives (in urban area is 43%, in rural area is 29%). Over the past 5 years, the use of contraceptives has remained stationary (35% in PDHS, 2012–13, and 34% in PDHS 2017–18). Although in Pakistan the contraceptive prevalence rate (CPR) is 34%, but still the situation is alarming. In the last one-and-half year, due to the low contraceptive usage, there were still 3.1 million unplanned

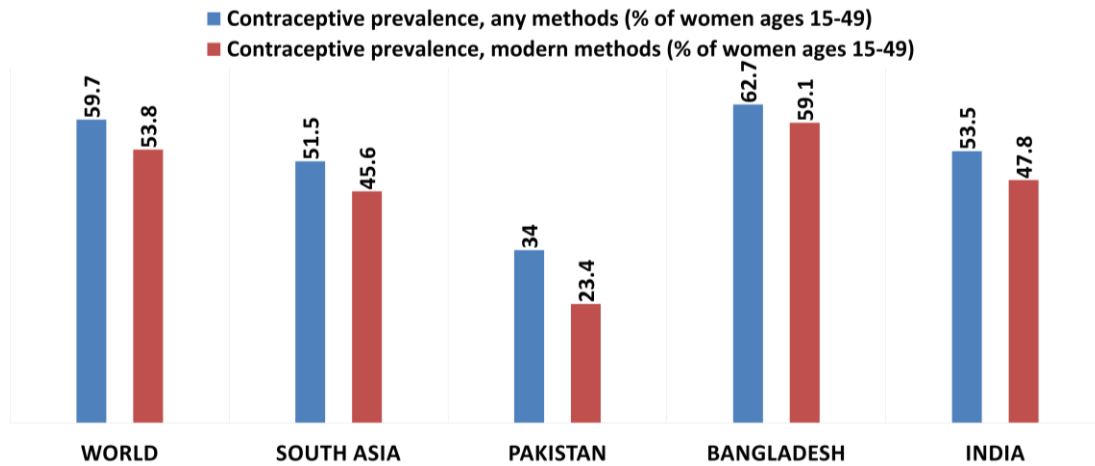pregnancies. To control the population, contraceptive use must be increased (*Source: WDI,2018; FP,2020; WHO; UNW,2018*).

Figure 2: Contraceptive Prevalence Rates: Global, Regional, and National
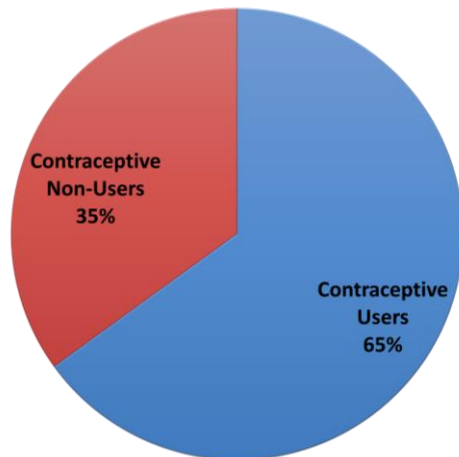*Source: [World Development Indicators (WDI); (Author's own calculations)]*

Figure 3: Scenario of Family Planning Services Utilization in Pakistan
Source: [Pakistan Demographic and Health Survey 2017-18; (Author's own calculations)]

Continuously increasing population is causing many social, political, environmental, and economic issues. To tackle these problems and to meet "Sustainable Development Goals (SDGs)" there is a need to control population.

Contraceptive use is a vital zone to be considered if somebody wants to control the population burst. It is time to investigate the prevalence of contraceptive use which could be helpful in family planning perspective if adopted by the masses. It is important to look at the political-economic dynamic forces of the family planning programs, which could help us to know our failure in controlling our population growth.

Total fertility rate (TFR), which has fallen over the last few decades, depends upon different social, economic, demographic indicators as well as the use of contraception. There is a noticeable fall in TFR in large cities as compared with rural areas. Like a basic human right, the ability to choose family size is also important for economic authorization. Family planning can endorse economies and contribute to the maintainable development. Not only it protects

lives, but it also saves money. Investment in reproductive health services for one dollar, can save healthcare cost of $2.20 related to pregnancy.

To attain Sustainable Development Goal (SDG) 1, "to eradicate poverty" contraceptive use is significant. It helps to achieve other goals, such as eradicating hunger, reducing infant and maternal deaths, promoting good health, gender equality and empowering women. This is very thoughtful and disturbing situation if we do not take serious steps to control population on emergency basis otherwise this might be impossible to control upcoming population blast. Future population crisis could be awful. This may lead to food crisis, which could disturb law and order situations resulting violence. Many people attempt suicide due to hunger therefore it will be a big disaster if we are not able to make strategies at the accurate time by giving awareness to the people about this calamity in future (Kenim, 2018).

A lot of studies have investigated the prevalence of contraceptive use. In this area, a lot of work has been done in Pakistan but still regional and district wise inequalities in terms of contraceptive use are underexplored. Hence, the study has two objectives: (a) to explore the literature pertinent to the use of family planning services in Pakistan (b) to gauge the situation regarding contraceptive use across the regions as well as across the districts of Pakistan. In this way, the findings of the study may help in geographical targeting to allocate resources related to family planning services across Pakistan. That could finally contribute to population planning and control in order to reduce the various socioeconomic problems.

2. Drivers of Family Planning Services Utilization in Pakistan: A Literature Survey

Many studies have been conducted to explore the socioeconomic determinants of family planning in past years. There have been some similarities and also some differences in their results. In terms of socioeconomic factors, the most commonly found determinant of the use of reproductive health service specifically family planning is a woman's education level (Abdulghani, Karim, & Irfan, 2009; Agha, 2010; S. Ali & White, 2005; Asif, Pervaiz, Afridi, Abid, & Lassi, 2021; Douthwaite & Ward, 2005; Fikree, Razzak, & Durocher, 2005; Kiani, 2003; Mahmood & Ringheim, 1996; Mubarik, Jameel, & Khalil, 2016; R. Mustafa, Afreen, & Hashmi, 2008; Naqvi, Hashim, Zareen, & Fatima, 2011; Nasir, Tahir, & Zaidi, 2010; Raheel, Karim, Saleem, & Bharwani, 2012; Sajid & Malik, 2010; Saleem et al., 2020; Siddiqui et al., 2020; Stephenson & Hennink, 2004a). According to all of these studies, education plays a vital role in making family planning decisions. As female's education level increases, her utilization of family planning methods increases.

It is considered that with the increase in women's education level her decision-making power increases which also have has a great impact on opting family planning methods. Studies showed the positive relationship among female's decision-making power and the usage of family planning methods (Douthwaite & Ward, 2005; Fikree et al., 2005; Mahmood & Ringheim, 1996; G. Mustafa et al., 2015; Naqvi et al., 2011; Nasir et al., 2010; Saleem et al., 2020; Stephenson & Hennink, 2004b).

Awareness status of a female regarding family planning techniques is also a key determinant in the utilization of family planning methods (S. Ali & White, 2005; Bibi, Memon, Memon, & Bibi, 2008; Douthwaite & Ward, 2005; Fikree et al., 2005; Finlay, 2021; Gul, Hameed, Hussain, Sheikh, & Siddiqui, 2019; Irfan, Karim, Hashmi, Ali, & Ali, 2009; Jabeen, Gul, Wazir, & Javed, 2011; Mubarik et al., 2016; G. Mustafa et al., 2015; Naqvi et al., 2011; Nasir et al., 2010; Olenick, 2000; Sajid & Malik, 2010). As the awareness of family planning methods among women increases, tend towards family planning increases.

Wealth or economic status plays a key role in the demand or purchase of any commodity. Studies showed its positive association with the use of family planning services (Abdulghani et al., 2009; S. Ali & White, 2005; Asif et al., 2021; Bibi et al., 2008; Douthwaite & Ward, 2005; Fikree, Khan, Kadir, Sajan, & Rahbar, 2001; Fikree et al., 2005; Mubarik et al., 2016; Raheel et al., 2012; Siddiqui et al., 2020; Stephenson & Hennink, 2004b). As economic status improves probability of using family planning methods increases. Religion has a great influence on the decision making of human beings. In Pakistan, where majority of the population is of Muslims, due to some improper or lack of knowledge about the Islamic commands on family planning, considered it against to the Islam which is a major obstacle in its use (Abdulghani et al., 2009; Asif et al., 2021; Jabeen et al., 2011; Kiani, 2003; Mahmood & Ringheim, 1996; Raheel et al., 2012).

In Pakistan, being a male dominant society, man's approval in any matter is considered to be very important. Like in all other matters, husband's approval is also important in deciding family size or number of children. Higher the approval of husband leads the higher use of family planning services (Agha, 2010; S. Ali & White, 2005; Asif et al., 2021; Casterline, Sathar, & ul Haque, 2001; Kiani, 2003; Raheel et al., 2012; Siddiqui et al., 2020; Stephenson & Hennink, 2004a). Still there is a huge gap between urban and rural areas regarding the provision of even some basic facilities. In rural areas of Pakistan, number of health centers is very low, and the facilities provided there are also insufficient. Due to which people of rural areas have minimum access to family planning services while as compared to rural areas, people living in urban areas have higher access to health centers and family planning services (Ahn & Mira, 2002; R. Mustafa et al., 2008; Nasir et al., 2010).

Number of living children has been considered as a primary determinant of using family planning services. Families with higher number of living children are more likely to opt family planning methods as compared to the families with smaller family size (S. Ali & White, 2005; S. M. Ali, 1989; Amin, Johar, Mashhadi, & Shams, 2020; Asif & Pervaiz, 2019; Bibi et al., 2008; Feyisetan, 2000; S. U. Khan & Awan, 2011; Mahmood & Ringheim, 1996; Nasir et al., 2010; Raheel et al., 2012; Saleem et al., 2020; Sharan & Valente, 2002; Siddiqui et al., 2020).

Fear of side effects associated to family planning services are one of the major obstacles of its usage (Agha, 2010; Azmat et al., 2015; Baig, Nusrat, & Bano, 2020; Bibi et al., 2008; Irfan et al., 2009; Kiani, 2003; G. Mustafa et al., 2015; Naqvi et al., 2011; Sajid & Malik, 2010). Prevalence of the desired method also plays a key role in the utilization of family planning services (S. Ali & White, 2005; Azmat et al., 2015).

Many studies have showed that the couples who want more children are less likely to use any family planning method (Douthwaite & Ward, 2005; Jabeen et al., 2011; Kiani, 2003; Nasir et al., 2010; Raheel et al., 2012; Sajid & Malik, 2010; Siddiqui et al., 2020). Subsidized healthcare services particularly family planning services can increase its usage (Raheel et al., 2012). Social or individual gatherings increases the awareness and knowledge. Mobility of a woman can also increase the chances to use family planning services (A. Khan, 1999).

Table 2:
Correlates of Contractive Use in Pakistan (1996-2021): Evidence from Previous Studies

Authors	Year	Economy understudy	Data Type	Data Source	Dependent Variable	Methodology	Results
Ali	1989	Pakistan	Cross sectional	Pakistan Labor Force and Migration Survey	Desired Family size	Multiple Classification analysis technique	Education (-), work status of women (-), no. of living children (-), desire of at least one son (+), age at marriage (+/-)

Mahmood and Ringheim	1996	Pakistan	Cross sectional	PDHS (1990-91)	Contraceptive use	Logistic regression analysis	Age (+), education (+), no. of living children (+), religious beliefs (-/+), female autonomy (+), son preferences (+), support of religious leaders for FP (+)
Ayesha Khan	1999	Pakistan	Cross sectional	3 rural areas with same economic and agricultural forms in Northern Punjab were selected	FP services	Logistic regression	Women's mobility (+), access to health centers (+)
Olenick	2000	Pakistan, India, Bangladesh	Cross sectional	Pakistan: PDHS (1990- 1991), Pakistan Contraceptive Prevalence Survey (1994-1995), India: National Family Health Survey (1992-1993), Bangladesh: BDHS (1993-94, 1996-97)	Contraceptive use	Multivariate analyses, logistic regression analyses	Access to media (+) among all of the considered countries in this study
Fikree et al.	2001	Pakistan	Cross sectional	Interviews of Muslim women (<-30 years), their husbands and mothers-in-law were conducted in Karachi	Contraceptive use	Univariate and multivariate analysis	Education (+), area (+/-), no. of living children (-), religious barrios (-), communication about FP (+), female's mobility (+), decision making capability (+), exposure to family planning messages (+)
Casterline et al.	2001	Pakistan	Cluster sampling	Pakistan population council	Contraceptives use	Linear regression and Gaussian multivariate normality	Knowledge about contraceptives (+), social and cultural acceptability (+), husband's opposition (-), access to contraceptives services (+)
Kiani	2003	Pakistan	Cross sectional	Pakistan Demographic and Health Survey (PDHS)	Use of FP services	Bivariate and Multivariate analysis	Education (+), social marketing (+), men's willingness (+), side effects (-), partner's support (+), desire for another child (-), religion (-), age (-)
Stephenson and Hennink	2004	Pakistan	Cross sectional	Household survey of 5338 married women (15-45 years) from slum areas of 6 cities	Family planning services	Multinomial model	husband's opposition (-), religious opposition (-), economic barrier (-), Physical distance (-), female autonomy (+)
Stephenson and Hennink	2004	Pakistan	Cross sectional	Household survey of 2835 married women of reproductive age (15 to 45 years) from backward areas of 6 cities.	Use of FP services	Binary logistic model, multinomial model	Husband's approval (+), education (+), employment (+), media exposure (+), female autonomy (+), socioeconomic status (+)
Douthwaite and Ward	2005	Pakistan	Cross sectional	Survey of 4277 women served by the lady health workers.	Contraceptive use	Logistic regression analysis	Education (+), employment status (+), mobility (+), role in decision making (+), media exposure (+), desire for more children (-)

Fikree et al.	2005	Pakistan	Cross sectional	Interviews of Muslim women 30 years old or younger, their spouse and mothers-in-law	Contraceptive use	Univariate and multivariate regression	Education (+), economic status (+), women's mobility (+), decision-making capability (+), acceptance of information about FP in the mass media (+), exposure to FP messages (+)
S. Ali and White	2005	Pakistan	Cross sectional	Stratified cluster sampling: interviews of 300 married women	Contraceptive use	Descriptive analysis, Binary logistic regression, Multiple logistic regression by using SPSS	Woman education (+), husband education (+), women employment status (+), husband employment status (+), no. of living children (+), exposure to FP messages (+), prevalence of desired FP methods (+), husband's approval (+), woman's approval (+)
R. Mustafa et al.	2008	Pakistan	Cross sectional	Interview of 100 married women of rural area	Contraceptives use	Bivariate and Multivariate analysis	Area (+/-), awareness status (+), education status (+)
Bibi et al.	2008	Pakistan	Cross sectional	Interviews with 400 attendees of Gynecology and Obstetrics clinics of 2 districts hospitals in Tando Allahyar and Jamshoro.	Contraceptive use	Chi-square test by using SPSS 11	Employment status (+), no. of living children (-), awareness status (+), fear of side effects (-)
Abdulghani et al.	2009	Pakistan	Cross sectional	Questionnaire-based survey of 400 married women, attending the family practice clinics of Karachi	Emergency contraceptives (EC)	Epi data for data entry, SPSS for analysis	Education (+), employment (+), religious prohibition (-), availability of EC (+)
Irfan et al.	2009	Pakistan	Cross sectional	A pre-coded 21- item questionnaire. For data entry, Epi Info software (version 6.04) was used	Emergency contraception	Descriptive statistics SPSS 12	Awareness (+), perceived side effects (-), provision of emergency contraception (+), knowledge about contraceptives (+)
Nasir et al.	2010	Bahawalpur, Pakistan	Cross sectional	probability sampling of 150 male employees of IUB under the age of 60.	Family planning method	Logistic regression (Backward Stepwise Wald (BSW), Backward Stepwise Likelihood Ratio (LRS), and Backward Stepwise conditional procedures)	education (+), basic pay scale (+), Decision making empowerment status (+), Awareness about family planning (+), Total number of alive children (+), Desire for more children (-)
Sajid and Malik	2010	Lahore, Pakistan	Cross sectional	Survey of 600 women (25-45 years)	Contraceptive's use	Descriptive statistics by using SPSS 12.	Education (+), awareness status (+), fear of side effects (-), desire for more children (-), supply of contraceptives (+)
Agha	2010	Pakistan	Cross sectional	Pakistan Social Marketing Survey (PSMS)	Contraceptive use	Principal components analysis, Multinomial logistic regression analysis	Age (+), education (+), no. of children (+), Belief on God's will (-), perceived side effects (-), man's intention towards FP (+), women's belief on spacing (+),

Naqvi et al.	2011	Pakistan	Cross sectional	Interview of 100 parous women at Karachi	Contraceptive use	Frequencies and percentages	husband's lack of self-efficacy (-/+) Area (+/-), education (+), misconceptions (-), decision making power (+), religion (-), awareness status (+)
Ambareen Khan, Hashmi, and Naqvi	2011	Pakistan	Cross sectional	200 women of childbearing age were interviewed. Convenient sampling was used to distribute questionnaire.	Contraceptive use	Descriptive analysis (%) through SPSS 11	Age (+), education (+), awareness status (+), media access (+)
Jabeen et al.	2011	Pakistan	Cross sectional (2011)	A sample of 900 females of 15-49 years, attending the outdoor	Contraceptive use	Likert 3 point and 5-point scale by using SPSS 16 and Statistic 9	Age (+), awareness status (+), religious prohibition (-), desire for larger family (-)
Raheel et al.	2012	Pakistan	Cross sectional	Interview of 650 married Afghan refuge women	Contraceptive use	Bivariate and multivariate analyses	Education (+), employment (+), husband occupation (+), no. of living children (+), husband approval (+), consider FP against Islam (-), wants more children later (+), wants no children (+), awareness of FP (+)
Azmat et al.	2012	Pakistan	Cross sectional	Focus Group Discussion (FGD) technique	FP decision	Descriptive study and thematic analysis by using "constant comparison analysis" described by Strauss and Corbin	Service charges (-), spousal communication (+), wealth (+), access to FP services (+), perceived side effects (-)
Raheel et al.	2012	Pakistan	Cross sectional	A randomly selected group of 650 married Afghan women	Contraceptive use	logistic regression analysis using SPSS version 18	Education (+), employment (+), husband employment (+), no. of living children (+), Subsidized healthcare (+)
G. Mustafa et al.	2015	Pakistan	Cross sectional	24 FGDs conducted, 8 with males and 16 with females in 2 districts of Sindh, 3 of Punjab, and 3 districts of KPK	Contraceptive use	Data coding and analysis by using QSR NVIVO 8.	Fear of side effects (-), awareness on FP (+), religious barriers (-), social pressure (-), health service seeking behavior regarding FP (+), decision making regarding FP (+)
Azmat et al.	2015	Pakistan	Cross sectional	newly married men and women with child less than 2 years age.	Family planning/modern contraceptive use	The data coding and analysis was done by using QSR NVIVO 8 software for Windows.	Incomplete family size (-), misconceptions (-), opposition from in-laws (-), religious prohibition (-), fear of side-effects (-), access to quality FP services (+)
Mubarik et al.	2016	Sindh, Pakistan	Cross sectional	Sample of 120 married women of age 18-45 years, who attended rural health service center through a questionnaire	Contraceptive use	Descriptive statistics were calculated for numerical variables, frequency, and percentages for categorical variables. (SPSS 22 and MS Excel)	Age (-), education (+), wealth status (+), awareness status (+), side effects (+)

Asif and Pervaiz	2019	Pakistan	Cross sectional	PDHS	Unmet need of FP	Binary logistics and Multinomial Logistic regressions	Age (-), education (-), wealth status (-), no. of living children (-), husband's education (-), perceived side effects (+), media exposure (+), not employed (+)
Gul et al.	2019	Pakistan	Cross sectional	Pregnant women (15–44 years), in their 1st or 2nd trimester having mobile for personal use	FP use	Generalized binary regression analysis	Awareness by mobiles (+)
Siddiqui et al.	2020	Pakistan	Cross sectional	Pre-tested questionnaire with females (16 to 45 years) and males (16 to 45) Sample size was calculated by OpenEpi.com	Contraceptive usage	SPSS 23	Education (+), occupation (+), income level (+), No. of children (+), awareness about contraceptives (+), spousal support for FP (+), desire for more children (-), counseling regarding family planning (+)
Saleem et al.	2020	Pakistan	Cross sectional	FGDs conducted with married men and women receiving FP services through the Sukh initiative.	Contraceptive use	thematic analyses	Education (+), no. of living children (+), women decision making autonomy (+)
Amin et al.	2020	Pakistan	Cross sectional (2019)	Descriptive survey at Pak Emirates Military Hospital, Rawalpindi	Contraceptives use	ANOVA test to check the significance of variables b using software SPSS 25	No. of living children (-), desire for more children (-), women's household decision-making power (+)
Asif et al.	2021	Pakistan	Cross sectional	PDHS (2017-18)	Unmet need for FP	Binary logistic regression	Age (+), education (+), wealth (+), husband's opposition (-), religious prohibition (-)

3.   Data and Methodology

In order to explore the determinants of family planning services utilization in Pakistan, we made a literature survey of 36 studies conducted specifically in the context of Pakistan with respect to family planning services utilization. The studies covered a time period from 1996 to 2021.

As it has already been mentioned in the objectives of the study that the current study explores the relevant literature regarding contraceptive use in the context of Pakistan. So, in order to explore and find the relevant studies conducted in Pakistan we used and searched for the key phrase "contraceptive use in Pakistan" in Google Scholar search engine for any time. As an output to that phrase the search engine exhibited 31,900 results. Again, we used and searched for the key phrase "contraceptive use in Pakistan" in Google Scholar search engine for a customized time period, 1996 to 2021 this time the search engine exhibited 16,900 results. Most of the exhibited studies were not pertinent to the context, hence were irrelevant. Finally, out of the relevant studies only those studies were considered and further read that were conducted on the required theme in Pakistan during the time span 1996 to 2021. So, in total 36 studies are included in the current research paper.

For the purpose of gauging contraceptive usage trend across the regions as well as across the districts of Pakistan, data of Pakistan Demographic and Health Survey (PDHS) 2017-18 was used. The Pakistan Demographic and Health Survey of 2017-18 is fourth survey conducted as a

part of Demographic and Health Survey (DHS) international series. Data of 12339 ever-married females was used for this purpose. Descriptive statistics was applied by using SPSS and MS Excel. For mapping the contraceptive usage trend across the regions and districts of Pakistan, Philcarto—an open access mapping software was used.

4. Results and Discussion
4.1 Contraceptive Use Landscape of Pakistan: National Level Scenario

As it is evident from the figure (4), the graph clearly depicts the contraceptives usage percentage across the regions of Pakistan. The range of average contraceptive use rate across the regions is 19-49%. Islamabad Capital Territory (ICT) has the highest contraceptive usage rate, i.e., 49%, while Balochistan secures minimum contraceptive usage rate that is 19%. The regions of Punjab (42%), KPK and Gilgit Baltistan (39% each), Sindh and AJK (34% each), and FATA (24%) had the intermediate status with respect to contraceptive usage rate over Pakistan. The data of Contraceptive's users is arranged in ascending order. In Pakistan, the range of contraceptive's users is between 0% to 71%.
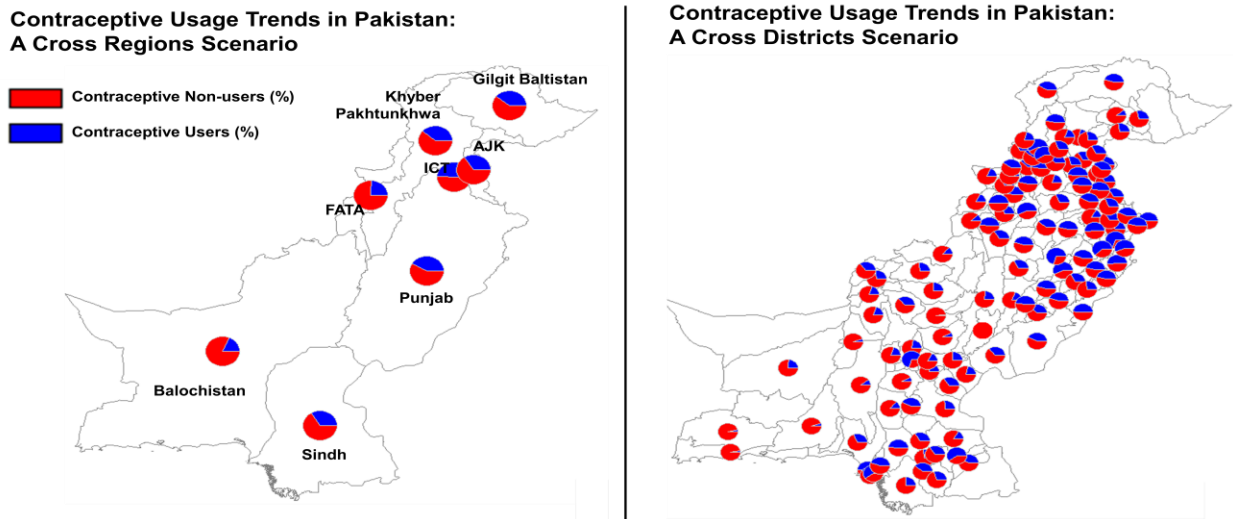

Figure 4: Mapping of the regions and districts of Pakistan with respect to Contraceptive use (%)

There are many regional disparities regarding education, health and wealth status in Pakistan. Literature shows that these are the main factors that are positively associated with the use of contraceptives (Abdulghani et al., 2009; Agha, 2010; S. M. Ali, 1989; Bibi et al., 2008; Douthwaite & Ward, 2005; Fikree et al., 2001; Mahmood & Ringheim, 1997; R. Mustafa et al., 2008; Nasir et al., 2010; Sajid & Malik, 2010; Stephenson & Hennink, 2004b). Islamabad Capital Territory and Punjab are considered as developed regions where socioeconomic status is high as compared to the other regions. In these regions, literacy rate is high, wealth status is much better, people are more aware about contraceptive use, better health services as compared to other regions. While the socioeconomic status of the residence of Sindh, Balochistan, AJK and FATA are low due to which the contraceptive usage rate is low in these regions. Due to these inequalities, they are not at the same or equal status. As compared to Punjab, Sindh, Balochistan, AJK and FATA are at low level in using contraceptives. Hence, geographical targeting could be a feasible mode to allocate resources for family planning services. Efficiency can be increased by targeting needy areas.
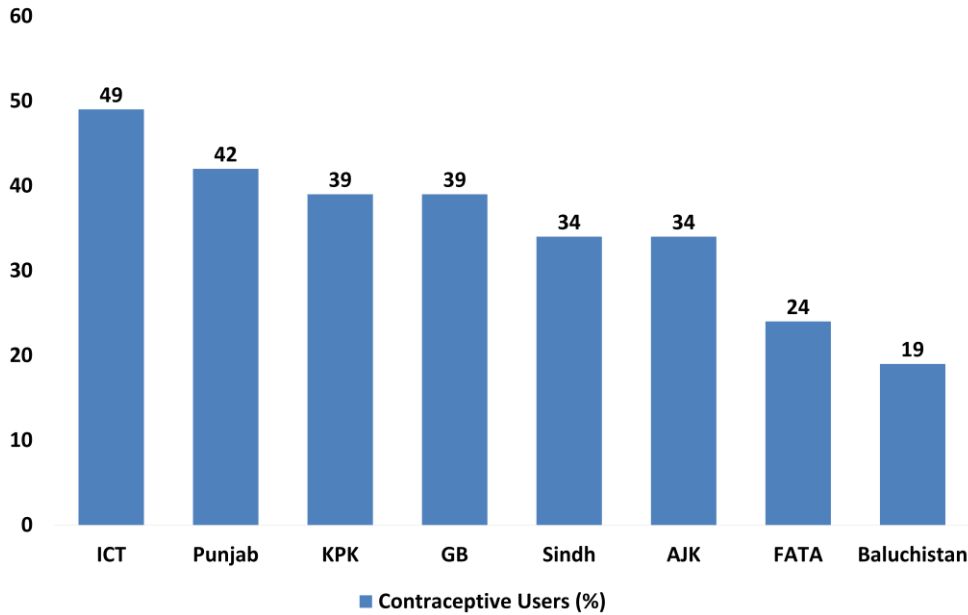
Figure 5: Ranking of the regions of Pakistan with respect to Contraceptive use (%)

4.2   Contraceptive Use Landscape of Pakistan: Sub-national Level Scenario

In case of Pakistan the districts with highest contraceptive's usage (%) are Jafarabad (71%), Sheikupura (70%) and Jhang (68%). In Rajanpur, contraceptive usage rate is minimum.

In Punjab, contraceptive usage rate lies between 0-70%. In case of Punjab regarding contraceptive usage, Sheikhupura, Jhang and Nankana Sahib are the districts where highest contraceptive usage is prevailed (70%, 68% and 63%), while Rajanpur (0%) district stands at the bottom. In Sindh, the range of contraceptive usage (users) is between 8% to 60.4%. The top three districts with highest contraceptive usage are Mirpurkhas (60%), Karachi East (60%) and Korangi (58%), while Larkana (8%) district stands at the bottom. The topmost three districts of KPK (contraceptive use range 0-59 percent) in terms of highest contraceptive usage are Mardan (59%), Malakand (57%) and Bannu (50%), while Tor Ghar (0%) district carries the lowest rank with respect to contraceptive usage. In Balochistan, the range of contraceptive use has been recorded between 2-71 percent. Where the topmost three districts with highest contraceptive usage are Jafarabad (71%), Sibi (36%) and Killa Abdullah (35%), whereas Kohlu (2%) district is at the lowest.

The range of contraceptive usage (users) in Gilgit-Baltistan is between 28.2% to 46.6%. Kharmang (9%) district stands at the bottom with respect to contraceptive usage, while the top three districts with highest usage are Hunza (48%), Shigar (48%), and Ghizer (47%). Overall, in AJK, the range of contraceptive users lies between 17% to 48%. The districts with highest contraceptive's usage (%) are Mirpur (47%), Poonch (38%), and Kotli (36%) while Haveli (17%) district stands at the lowest rank. In FATA, the range of contraceptive usage (users) is between 11% to 40%. Regarding contraceptive usage, Khyber Agency (39%), Mohmand Agency (32%), and Bajaur Agency (21%) are the top three districts with highest contraceptive usage while Orakzai Agency (11%) district is at the bottom in FATA.
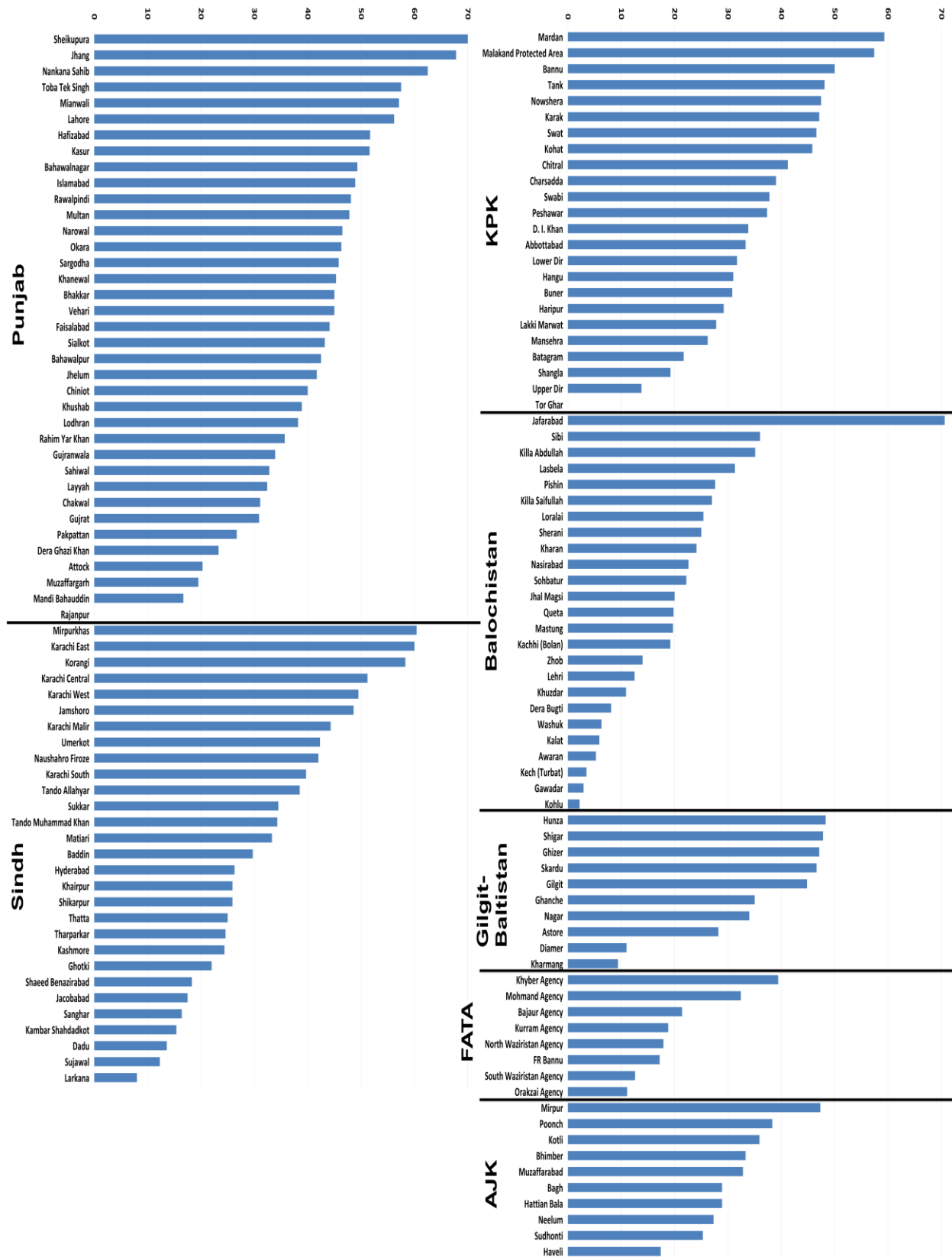
Figure 6: Ranking of the districts of Pakistan with respect to Contraceptive use (%)

Same as regions, social disparities also exist at districts level. A huge gap exists among urban and rural areas of Pakistan. Rural areas are far behind in having all the facilities than the urban areas. Education, awareness and health facilities provided in the rural areas of Pakistan are very low and insufficient as comparison to urban areas. People of rural areas are more conservatives. In rural areas, household decision maker is mostly a male family member, hence his approval or support regarding contraceptive is required. Number of healthcare centers is also very minimum in rural areas (S. M. Ali, 1989; Douthwaite & Ward, 2005; Fikree et al., 2001; Mahmood & Ringheim, 1997; R. Mustafa et al., 2008; Stephenson & Hennink, 2004b). These are the possible reasons concluded from the literature survey as previously mentioned due to which people of rural areas have minimum access to family planning services as compared to people living in urban areas. In Pakistan, more than 60% population is living in rural areas. The contraceptive usage is high in the districts where most of the population is living in urban areas due to higher socioeconomic status.

5.   Conclusion and Policy Recommendations

Access to family planning services is a basic human right. In the absence of which, the efforts to control population could not be carried out in more organized way. In Pakistan, a huge gap exists between urban and rural areas regarding the provision of even some basic facilities. The health facilities provided in the rural areas of Pakistan are insufficient. Due to which people of rural areas have minimum access to family planning services as compared to people living in urban areas. In Pakistan, the geographical targeting could be a feasible mode to allocate resources for family planning services. Efficiency can be increased by targeting needy areas. Hence, based on the data of PDHS, this study helps to point out areas of need, taking steps on regional and sectoral priorities and enabling targeted public interferences through special family planning programs, which further leads to help governments in the proper allocation of funds on territorial basis. Governments should take serious steps to raise education and awareness among the residents of the areas where the use of family planning services is low.

Authors Contribution
Komal Urooj: Data collection, literature search, drafting the article
Tusawar Iftikhar Ahmad: Conception or design of the work, incorporation of intellectual content
Muhammad Azhar Bhatti: Data analysis and interpretation, drafting the article
Altaf Hussain: Critical revision of the article

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Appendix
Contraceptive Use Landscape of Pakistan

Table 1
Regions of Pakistan with Respect to Contraceptive Use

Region	Contraceptive Use (%)
Punjab	42
Sindh	34
KPK	39
Baluchistan	19
GB	39
ICT	49
AJK	34

FATA	24
Total	35

Table 2:
Districts of Pakistan with Respect to Contraceptive Use

Districts of Pakistan	Contraceptive Users (%)
1. Rajanpur	0
2. Tor Ghar	0
3. Kohlu	2.2
4. Gawadar	2.9
5. Kech (Turbat)	3.5
6. Awaran	5.3
7. Kalat	5.9
8. Washuk	6.3
9. Larkana	8
10. Dera Bugti	8.1
11. Kharmang	9.4
12. Khuzdar	10.9
13. Diamer	11.0
14. Orakzai Agency	11.1
15. Sujawal	12.3
16. Lehri	12.5
17. South Waziristan Agency	12.6
18. Dadu	13.6
19. Upper Dir	13.8
20. Zhob	14.0
21. Kambar Shahdadkot	15.4
22. Sanghar	16.4
23. Mandi Bahauddin	16.7
24. FR Bannu	17.2
25. Haveli	17.4
26. Jacobabad	17.5
27. North Waziristan Agency	17.9
28. Shaeed Benazirabad	18.3
29. Kurram Agency	18.8
30. Kachhi (Bolan)	19.2
31. Shangla	19.2
32. Muzaffargarh	19.5
33. Mastung	19.7
34. Queta	19.8
35. Jhal Magsi	20.0
36. Attock	20.3
37. Bajaur Agency	21.4
38. Batagram	21.7
39. Ghotki	22
40. Sohbatur	22.2
41. Nasirabad	22.6
42. Dera Ghazi Khan	23.3
43. Kharan	24.1
44. Kashmore	24.4
45. Tharparkar	24.6
46. Thatta	25
47. Sherani	25.0
48. Sudhonti	25.3
49. Loralai	25.4
50. Khairpur	25.9
51. Shikarpur	25.9
52. Mansehra	26.2

53.	Hyderabad	26.3
54.	Pakpattan	26.7
55.	Killa Saifullah	27.0
56.	Neelum	27.3
57.	Pishin	27.6
58.	Lakki Marwat	27.8
59.	Astore	28.2
60.	Bagh	28.9
61.	Hattian Bala	28.9
62.	Haripur	29.2
63.	Baddin	29.7
64.	Buner	30.8
65.	Gujrat	30.9
66.	Hangu	31
67.	Chakwal	31.1
68.	Lasbela	31.3
69.	Lower Dir	31.7
70.	Layyah	32.4
71.	Mohmand Agency	32.4
72.	Sahiwal	32.8
73.	Muzaffarabad	32.8
74.	Matiari	33.3
75.	Abbottabad	33.3
76.	Bhimber	33.3
77.	D. I. Khan	33.8
78.	Gujranwala	33.9
79.	Nagar	34.0
80.	Tando Muhammad Khan	34.3
81.	Sukkar	34.5
82.	Ghanche	35.0
83.	Killa Abdullah	35.1
84.	Rahim Yar Khan	35.7
85.	Kotli	35.9
86.	Sibi	36.0
87.	Peshawar	37.3
88.	Swabi	37.8
89.	Lodhran	38.2
90.	Poonch	38.3
91.	Tando Allahyar	38.5
92.	Khushab	38.9
93.	Charsadda	39
94.	Khyber Agency	39.4
95.	Karachi South	39.7
96.	Chiniot	40
97.	Chitral	41.2
98.	Jhelum	41.7
99.	Naushahro Firoze	42
100.	Umerkot	42.3
101.	Bahawalpur	42.5
102.	Sialkot	43.2
103.	Faisalabad	44.1
104.	Karachi Malir	44.3
105.	Gilgit	44.8
106.	Bhakkar	45
107.	Vehari	45
108.	Khanewal	45.3
109.	Sargodha	45.8
110.	Kohat	45.8
111.	Okara	46.3

112.	Narowal	46.5
113.	Swat	46.6
114.	Skardu	46.6
115.	Karak	47.1
116.	Ghizer	47.1
117.	Mirpur	47.3
118.	Nowshera	47.4
119.	Multan	47.8
120.	Shigar	47.8
121.	Rawalpindi	48.1
122.	Tank	48.1
123.	Hunza	48.3
124.	Jamshoro	48.6
125.	Islamabad	48.9
126.	Bahawalnagar	49.3
127.	Karachi West	49.5
128.	Bannu	50
129.	Karachi Central	51.2
130.	Kasur	51.6
131.	Hafizabad	51.7
132.	Lahore	56.2
133.	Mianwali	57.1
134.	Malakand Protected Area	57.4
135.	Toba Tek Singh	57.5
136.	Korangi	58.3
137.	Mardan	59.3
138.	Karachi East	60
139.	Mirpurkhas	60.4
140.	Nankana Sahib	62.5
141.	Jhang	67.8
142.	Sheikupura	70
143.	Jafarabad	70.6

Table 3:
Regions of Pakistan with Respect to Contraceptive Use

Districts of Punjab	Contraceptive Users (%)
1. Rajanpur	0
2. Mandi Bahauddin	16.7
3. Muzaffargarh	19.5
4. Attock	20.3
5. Dera Ghazi Khan	23.3
6. Pakpattan	26.7
7. Gujrat	30.9
8. Chakwal	31.1
9. Layyah	32.4
10. Sahiwal	32.8
11. Gujranwala	33.9
12. Rahim Yar Khan	35.7
13. Lodhran	38.2
14. Khushab	38.9
15. Chiniot	40
16. Jhelum	41.7
17. Bahawalpur	42.5
18. Sialkot	43.2
19. Faisalabad	44.1
20. Bhakkar	45
21. Vehari	45
22. Khanewal	45.3

23. Sargodha	45.8
24. Okara	46.3
25. Narowal	46.5
26. Multan	47.8
27. Rawalpindi	48.1
28. Islamabad	48.9
29. Bahawalnagar	49.3
30. Kasur	51.6
31. Hafizabad	51.7
32. Lahore	56.2
33. Mianwali	57.1
34. Toba Tek Singh	57.5
35. Nankana Sahib	62.5
36. Jhang	67.8
37. Sheikupura	70

Table 4:
Districts of Sindh with Respect to Contraceptive Use

Districts of Sindh	Contraceptive Users (%)
1. Larkana	8
2. Sujawal	12.3
3. Dadu	13.6
4. Kambar Shahdadkot	15.4
5. Sanghar	16.4
6. Jacobabad	17.5
7. Shaeed Benazirabad	18.3
8. Ghotki	22
9. Kashmore	24.4
10. Tharparkar	24.6
11. Thatta	25
12. Khairpur	25.9
13. Shikarpur	25.9
14. Hyderabad	26.3
15. Baddin	29.7
16. Matiari	33.3
17. Tando Muhammad Khan	34.3
18. Sukkar	34.5
19. Tando Allahyar	38.5
20. Karachi South	39.7
21. Naushahro Firoze	42
22. Umerkot	42.3
23. Karachi Malir	44.3
24. Jamshoro	48.6
25. Karachi West	49.5
26. Karachi Central	51.2
27. Korangi	58.3
28. Karachi East	60
29. Mirpurkhas	60.4

Table 5:
Districts of KPK with Respect to Contraceptive Use

Districts of KPK	Contraceptive Use (%)
1. Tor Ghar	0
2. Upper Dir	13.8
3. Shangla	19.2
4. Batagram	21.7
5. Mansehra	26.2
6. Lakki Marwat	27.8

7. Haripur	29.2
8. Buner	30.8
9. Hangu	31
10. Lower Dir	31.7
11. Abbottabad	33.3
12. D. I. Khan	33.8
13. Peshawar	37.3
14. Swabi	37.8
15. Charsadda	39
16. Chitral	41.2
17. Kohat	45.8
18. Swat	46.6
19. Karak	47.1
20. Nowshera	47.4
21. Tank	48.1
22. Bannu	50
23. Malakand Protected Area	57.4
24. Mardan	59.3

Table 6:
Districts of Baluchistan with Respect to Contraceptive Use

Districts of Baluchistan	Contraceptive Use (%)
1. Kohlu	2.2
2. Gawadar	2.9
3. Kech (Turbat)	3.5
4. Awaran	5.3
5. Kalat	5.9
6. Washuk	6.2
7. Dera Bugti	8.1
8. Khuzdar	10.9
9. Lehri	12.5
10. Zhob	14
11. Kachhi (Bolan)	19.2
12. Mastung	19.7
13. Queta	19.8
14. Jhal Magsi	20
15. Sohbatur	22.2
16. Nasirabad	22.6
17. Kharan	24.1
18. Sherani	25
19. Loralai	25.4
20. Killa Saifullah	27
21. Pishin	27.6
22. Lasbela	31.3
23. Killa Abdullah	35.1
24. Sibi	36
25. Jafarabad	70.6

Table 7:
Districts of Gilgit-Baltistan with Respect to Contraceptive Use

Districts of Gilgit-Baltistan	Contraceptive Use (%)
1. Kharmang	9.4
2. Diamer	11
3. Astore	28.2
4. Nagar	34
5. Ghanche	35

6. Gilgit	44.8
7. Skardu	46.6
8. Ghizer	47.1
9. Shigar	47.8
10. Hunza	48.3

Table 8:
Districts of AJK with Respect to Contraceptive Use

Districts of AJK	Contraceptive – Users
1. Haveli	17.4
2. Sudhonti	25.3
3. Neelum	27.3
4. Bagh	28.9
5. Hattian Bala	28.9
6. Muzaffarabad	32.8
7. Bhimber	33.3
8. Kotli	35.9
9. Poonch	38.3
10. Mirpur	47.3

Table 9:
Districts of FATA with Respect to Contraceptive Use

Districts of FATA	Contraceptive Users
1. Orakzai Agency	11.1
2. South Waziristan Agency	12.6
3. FR Bannu	17.2
4. North Waziristan Agency	17.9
5. Kurram Agency	18.8
6. Bajaur Agency	21.4
7. Mohmand Agency	32.4
8. Khyber Agency	39.4