

Factors Affecting Contraceptive Use in Pakistan

*Sheza Shahzad^{*1}*

Abstract

The word contraception can be defined as Birth control, which is a method or techniques used to prevent pregnancy after intercourse. We can also define contraception as the intentional prevention of fertilization during sexual activity, via man made things such as different devices medicines and sexual practices. The objective of this study is to evaluate the type of contraception used by men in Pakistan. In this study we use some socio-economic variables to find the use of contraception in Pakistan. The data used in this study has been published in “Pakistan Demographic and Health Survey (PDHS)” in 2018. The data comprises of information regarding demographic and socio-economic variables in Pakistan only for the year 2017-18. In this study we use only ever married men data and the age of men between 15-49. We use nine variables each comprising of 3625 observations in this study. The method of logistics regression is used to evaluate the findings. To determine the relevance of various factors, we employed the univariate, bivariate, and logistic analysis methods. The overall proportion of ever married males who use contraception is 25.7 percent, which is quite low. The findings indicate that the optimal age for contraceptive usage in Pakistani males is between 40 and 44. It is possible that as people age, their usage of contraception rises as well. Additionally, it is crucial because as one's educational level grows, so does the usage of contraception. We discovered a need to advocate for family planning policies and contraceptive usage in Pakistan.

Keywords: Contraception, Pakistan Demographic and Health Survey (PDHS), Logistics Regression.

1. Introduction

Mostly the Family planning programs are based on women and most of the studies about family planning are conducted regarding women as compared to the men. And very short numbers of studies have been conducted related to the men. In developing countries and in urban areas as well where the women are dependent on their male partners to decide about their health matters, the involvement of male partners is very important in family planning. So, we can say that in developing countries mostly the male partner is considered the household head (Khowaja, Pervaiz, and Khatoon, 2019).

* Corresponding author

¹ Trainee Operation Officer, Account Opening Department,
Faysal Bank Upper Mall Lahore.
Email: sheza7559@gmail.com

The recent research in India shows the results that the 71.8% of women use the modern method of contraception in the form of female fertilizer. The use of condom and contraceptive pills were secondary and third most frequent methods (Fernanda Ewerling et al, 2021).

Some societies and cultures forbid to use the methods of contraception since they consider it ethically, religiously undesirable (Hanson et al, 2010). There is a strong relationship between religion and gender dynamics about the matter of family planning (Sundararajan et al, 2019). Contraception has been utilized since old times, but the security strategies of birth control got to be accessible within the 20th century (Hanson et al, 2010). Most of the countries of the united nation member and especially the developed countries are using the strong methods of contraception and nine out of every ten users of contraception around the world are dependent on present-day strategies of contraception (Hossain et al, 2018). In 2014 there was 64% use of contraceptive methods by the married women and the women in the union of the age 15 to 49 years while in the least developed or developing countries the use of contraceptive methods was only 49% (Hossain et al, 2018). The rate of richness has decreased in India and Bangladesh with Sri Lanka which is already at a very low rate of fertility. But Pakistan and Nepal are not following the slant of fertility decrease in South Asia (Bakht et al, 2013).

From the last three decades, the modern methods of contraception have been increased in Pakistan. And according to the data collected from the Pakistan Demographic Health survey from 1990-91 to 2006-07 the use of IUD, pills, and injections has been increased only by 1%, the use of condom was increased from 3% to 7% and sterilization method by women was increased by from 3% to 8% (Carton and Agha, 2012). In 2014 the prevalence of the use of contraception was about 35% in Pakistan (Hossain et al, 2014). Even after the introductory program by the government of Pakistan, the fertility rate in Pakistan continues to stay tall (Bakht et al, 2013). The education is playing a very important role in the use of contraception in Pakistan. According to the previous research which is conducted in 1996 the education of women is playing a very significant role in Pakistan and in our research the education of men is also playing a very significant role in the use of contraception in Pakistan. And education promoting the use of contraception among married couples. According to the 1996's the use of contraception in the urban areas are significant as compared to the rural areas and in our research the results are same. Because the availability and accessibility of contraception is more in the urban areas. (Mahmood and Ringheim, 1996).

2. Data and methodology

The source of data for this study is from 2017-18 Pakistan Demographic and Health Survey (PDHS), which was implemented by the National Institute of Population Studies (NIPS) under the aegis of the Ministry of National Health Services, Regulations, and Coordination, Islamabad, Pakistan.

The total number of 15,671 households were selected for the survey, of which 15,051 were occupied. From the total number of households, 11,869 were successfully interviewed. The response rate of ever-married women age 15-49 in Pakistan is 94%, 97% in Azad Jammu and Kashmir, and 94% in Gilgit Baltistan. The response rate of ever-married men aged 15-49 in Pakistan is 87%, 94% in Azad Jammu and Kashmir, and 84% in Gilgit Baltistan.

In the 2017-18 (PDHS) survey six questionnaires were used: Household Questionnaire, Woman's Questionnaire, Man's Questionnaire, Biomarker Questionnaire, Fieldworker Questionnaire, and the Community Questionnaire. The Man's Questionnaire was used to collect the data about the ever-married men aged between 15-49. The men answered different questions like education, age, media exposure, source of family planning methods, marriage, and sexual activity, fertility preferences, domestic violence, etc.

The design of the 2017-18 Pakistan Demographic and Health Survey (PDHS) is a list of enumeration blocks (EBs) created for the Pakistan Population and Housing Census 2017. The survey is conducted from March to May 2017. In the 2017-18 PDHS including Azad Jammu and Kashmir (AJK) and the former Federally Administrated Tribal Areas (FATA), which were not included in the 2012-13 PDHS report. The survey results of 2017-18 PDHS provide us information about the National, Urban, and rural and domain levels. The survey also provides us information about the four provinces of Punjab, Sindh, Khyber Pakhtunkhwa, and Baluchistan and for two regions AJK and Gilgit Baltistan (GB), Islamabad Capital Territory (ICT) and for FATA.

1. Punjab
2. Sindh
3. Khyber Pakhtunkhwa
4. Baluchistan
5. Azad Jammu and Kashmir (AJK)
6. Gilgit Baltistan (GB)
7. ICT
8. FATA

The survey utilized a stratified two-stage sample design. The urban areas divided into eight regions and the rural areas also divided into eight regions so a total of 16 strata created. Through the two-stage sample technique, the samples were selected independently.

3. Results

3.1. Univariate analysis

The univariate analysis summarizes the data and finds patterns in the data. We have a total number of 3625 men's information in the data. We have nine independent variables in our analysis. The dependent variable current use of the contraceptive

method has two categories using and not using. The percentage of using contraception is 25.7 and the percentage of not using contraception is 74.3.

Independent variables show the percentages of respondents. The age of 30-34 shows the highest percentage of respondents. In the variable region, Punjab shows the highest percentage of respondents which is 22.9%. The percentage of the urban respondent is 51.1% and the rural respondent is 48.9%. The percentage of respondents who have a higher educational level is 23.7% and the respondent who has no educational level is 23.4%. But the variable sex of household head shows the highest percentage of male household head, and the percentage is 96.5. The respondent who has 0-2 living children their percentage is 47.4% and the respondent who have 3 or more children their percentage is 52.6%. The 45.5% of respondents know the contraceptive method. Also, only 12.6% of respondents discuss family planning with health workers in the last few months. And the variable media exposure shows that 43.1% of respondents know about contraception through TV, text messages, newspaper, and radio (Table 1).

3.2. Bivariate Analysis

The dependent variable use of the contraceptive method has two categories using and not using. The number of respondents who use contraception is 933 from the overall sample size 3625 and its percentage is 25.7. But the number of not using contraception is 2693 and its percentage is 74.3.

The current age variable divided into some categories which are shown in Table 2. The highest use of the contraceptive method in men is in the age of 35-39 and the percentage is 5.5. And the p-value is 0.00 that is less than 0.05 so we reject our null hypothesis and concludes that current age of men is statistically associated with use of contraception.

In the region category, the proportion of using the contraceptive method is higher in Punjab and very much low in FATA. The p-value of 0.000 indicates that region is statistically significant associated with use of contraception. There is little difference between the two residences. In urban areas, the use of the contraceptive method is higher than the rural areas and both variables are statistically associated. The educational level of men divided into categories like no education, primary, secondary, and higher. The using percentage of men who have no education is very low and at the secondary level is high. There is no huge difference in all categories. In the variable sex of household head, the wide variation is observed among males and females. The proportion of males using contraception is (25%) and the female percentage is 1 which shows that the houses where the household head is men the use of the contraceptive method is high. The p-value 0.309 indicates that if we take our level of significance to be as high as 30.9% then we will reject our null hypothesis. Since our desire alpha is 0.05 which is smaller than p-value it means, we are not going to reject our null hypothesis and we conclude that our variable is not significantly associated with the dependent variable.

The number of living child divided into two categories. In the first category, the range of living children is 0-2 and in another category the number of living children is 3-more. According to table 2, the person who has 0-2 living children their percentage of using the contraceptive method is (7.7%). The percentage of respondents who never Discussed Family Planning with health workers but using contraceptive methods is (21.5%) and the respondent who Discussed Family Planning with health workers and using contraceptive methods is only (4.2%) which is very low. The relationship between media exposure and the use of the contraceptive method is statistically significant. In media exposure, we merged four sources of media e.g., radio, TV, newspaper, and mobile phone. Through the media, the using percentage of contraceptives is 13.7 which is not so high. The variable knows the contraceptive method is also statistically significant. Now the 14.1% of respondent who knows the contraceptive method and they use the contraceptive method. But 31.4% of respondents have knowledge about the contraceptive method but they don't use any method (Table 2).

Table 1: Univariate analysis of study variables

Variables	Category	Total n 3625(100%)	
Dependent variable	Use of contraceptive		
	Not using	2697 (74.3)	
	using	933 (25.7)	
Independent variables	Current age	15-19	49(1.4)
		20-24	290(8)
		25-29	655(18.1)
		30-34	759(20.9)
		35-39	725(20)
		40-44	562(15.5)
		45-49	585(16.1)
	Region	Punjab	829(22.9)
		Sindh	771(21.3)
		KPK	501(13.8)
		Baluchistan	512(14.1)
		GB	209(5.8)
		ICT	254(7)
		AJK	327(9)
	FATA	222(6.1)	
Type of place of residence	Urban	1851(51.1)	
	Rural	1774(48.9)	
Education Level	No education	850(23.4)	
	Primary	615(17)	
	Secondary	1301(35.9)	
	Higher	859(23.7)	
Sex of Household Head	Male	3497(96.5)	
	Female	128(3.5)	
No. of living children	0-2	1720(47.4)	
	3-more	1905(52.6)	
Knowledge of contraceptive methods	No	1976(54.5)	
	Yes	1649(45.5)	
Discussed Family Planning with health worker in last few months	No	3169(87.4)	
	Yes	456(12.6)	
Media exposure	No	2062(56.9)	
	Yes	1563(43.1)	

Table 2: Bivariate variable analysis of study characteristics

Variable	Category	Total	Contraception use		Significance of association at $\alpha=0.05$
			n	Not using	
		3625 (100%)	2692 (74.3%)	933 (25.7%)	
Current Age	15-19	49	48(1.3)	1(0)	$\chi^2 = 96.578$ P-value = 0.000 df = 6
	20-24	290	252(6.9)	38(1)	
	25-29	655	528(14.5)	127(3.5)	
	30-34	759	582(16)	177(4.9)	
	35-39	725	524(14.4)	201(5.5)	
	40-44	562	368(10.2)	194(5.4)	
	45-49	585	390(10.7)	195(5.4)	
Region	Punjab	829	529(16.3)	237(6.5)	$\chi^2 = 146.859$ P-value = 0.000 df = 7
	Sindh	771	597(16.5)	174(4.8)	
	KPK	501	338(9.3)	163(4.5)	
	Baluchistan	512	462(12.8)	50(1.4)	
	GB	209	126(3.5)	83(2.3)	
	ICT	254	164(4.5)	90(2.5)	
	AJK	327	221(6.1)	106(2.9)	
	FATA	222	192(5.3)	30(0.8)	
Type of place of residence	Urban	1851	1297(35.8)	554(15.3)	$\chi^2 = 34.772$ P-value = 0.000 df = 1
	Rural	1774	1395(38.5)	379(10.5)	
Education Level	No education	850	707(19.5)	143(3.9)	$\chi^2 = 50.112$ P-value = 0.000 df = 3
	Primary	615	457(12.6)	158(4.3)	
	Secondary	1301	929(25.6)	372(10.3)	
	Higher	859	599(16.5)	260(7.2)	
Sex of Household head	Male	3497	2592(71.5)	905(25)	$\chi^2 = 1.036$ P-value = 0.309 df = 1
	Female	128	100(2.8)	28(1)	
No of living Children	0-2	1720	1442(39.8)	278(7.7)	$\chi^2 = 156.997$ P-value = 0.000 df = 1
	3-more	1905	1250(34.5)	655(18)	
Knowledge of Contraceptive methods	No	1976	1555(42.9)	421(11.6)	$\chi^2 = 44.646$ P-value = 0.000 df = 1
	Yes	1649	1137(31.4)	512(14.1)	
Discussed Family planning with health worker	No	3169	2389(65.9)	780(21.5)	$\chi^2 = 16.666$ P-value = 0.000 df = 1
	Yes	456	303(8.4)	153(4.2)	
Media exposure	No	2062	1625(44.8)	437(12.1)	$\chi^2 = 51.683$ P-value = 0.000 df = 1
	Yes	1563	1067(29.4)	496(13.7)	

3.3. Logistic regression analysis

Table 3 display the results of logistic regression model. In the first model, community characteristics are included. The two variables Region and Residence are included in community characteristics. In the second model, individual

characteristics such as Age and Educational level are added to determine what variables are affecting the use of the contraceptive method. Then in the third model, the two more variables are added such as the number of living children and know the contraceptive method. These variables are important for finding the effect of explanatory variables on the use of the contraceptive method. Then to study the effect of media exposure and discuss family planning with health workers are added. The sex of household head is added in the last model to identify which variable is affecting on use of the contraceptive method.

In model 1 we find that in the urban areas use more contraceptive methods as compared to the rural areas and this is statistically significant in all models. In all models, the use of the contraceptive method is increasing. In model 2 when we added two more variables the value of the coefficient of urban residence is reduced. But in model 3 the coefficient value increasing and in the last 2 models, the coefficient of urban residence is substantially reduced, but remain significant. So, the urban areas use more contraceptive methods as compared to rural areas. And there is a little difference of using a contraceptive method in the rural and urban areas.

In model 3 the variable knows the contraceptive method means the knowledge about the contraceptive method. We take 'No' as a reference category. The 'Yes' category has statistically significant and shows the positive reasons, which indicates that using contraception increase in the yes category.

Now the situation changes when we add two more variables in model 4 these variables are media exposure and discuss family planning with health workers. Now in the variable current age, the only 40-44 age category have statistically significant. In model 4 variable the number of living children shows the increase in using contraception when the number of living children is 3-more. This result shows that when the number of living children increases the use of contraception also increases. In the knows contraceptive method the respondent who have knowledge about the contraceptive method they use more contraceptive method as compared to the respondent who didn't have knowledge about the method of contraception.

Now the media exposure shows a positive response. The respondent who heard about contraception from the media sources like TV, Radio, newspaper, and text messages they use more contraception than the respondent who did not hear about contraception. So, the awareness of contraception through media is playing a very important role. And the use of contraception increases with awareness. The situation, however, becomes the same when the sex of the household head is controlled in model 5. Male household heads use more contraceptive methods as compared to the Female household head. And the difference is not significant in model 5. Comparatively in the Female household head, the use of contraception is decreased.

In our analysis, we use Nagelkerke R square values. Nagelkerke R square is an adjusted form of the cox and Snell R square. The Nagelkerke R square range lies

from 0 to 1. In our first model, the value of R square is 7.8% which indicates that the variability of the response data around its mean is very low. In model 2 the value of R square increases 11.8%, in model 3 the R square value is 16.7% and in the last two models, the value of R square is the same which is 17.3. So, the final model R square shows that the variability of the response data around its mean is very low.

Table 3: Logistic regression analysis of study characteristics

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Constant	-1.133***	-3.611***	-3.609***	-3.834***	-3.825***
Residence					
Rural	RC				
Urban	0.484***	0.355***	0.415***	0.394***	0.396***
Region					
Punjab	RC				
Sindh	-0.408***	-0.334**	-0.269*	-0.251*	-0.255*
KPK	0.130	0.187	0.169	0.248	0.249
Baluchistan	-1.365***	-1.296***	-1.371***	-1.259***	-1.266***
GB	0.546**	0.510**	0.508**	0.599***	0.597***
ICT	0.173	0.147	0.179	0.303	0.299
AJK	0.141	0.019	0.059	0.141	0.144
FATA	-0.895***	-0.793***	-0.957***	-0.822***	-0.827***
Current Age					
15-19	RC				
20-24		1.944	1.804	1.809	1.812
25-29		2.318*	1.964	1.933	1.938
30-34		2.521*	1.918	1.886	1.892
35-39		2.775**	1.957	1.928	1.931
40-44		3.067**	2.105*	2.071*	2.069*
45-49		3.042**	2.020*	1.993	1.993
Education					
No		-0.526***	-0.648***	-0.517***	-0.519***
Primary		-0.130	-0.250	-0.162	-0.163
Secondary		-0.054	-0.136	-0.084	-0.084
Higher	RC				
No of Living Child					
0-2	RC				
3-more			1.082***	1.083***	1.079***
Knows Contraceptive Method					
No	RC				
Yes			0.237**	0.204*	0.201*
Media Exposure					
No	RC				
Yes				0.290**	0.289**
Discuss family planning with health worker					
No	RC				
Yes				0.183	0.183
Sex of household head					
No	RC				
Yes					-0.169
R squared	0.078	0.118	0.167	0.173	0.173
Number of cases	3625	3625	3625	3625	3625

Note; *** p<0.001, ** p<0.01, * p<0.05

Reference category (RC)

RC shows the Reference category in our table.

4. Discussion and Conclusion

The results of the bivariate and logistic regression analysis indicate that all independent variables have significant relationships with the use of contraception in Pakistan except one variable which is the sex of household head. The results of bivariate and logistic regression analysis indicate that the socio-culture and demographic factors affect the contraceptive use in Pakistan. But in the overall use of contraception in ever-married men aged between 15-49 is only 25.7% which is very low. In the urban areas, the use of contraceptives is slightly more as compared to the rural areas. The reason for more use of contraception in urban areas is maybe because of facilities and awareness. The less use of some specific methods in the rural areas possibly was a function of less accessibility and availability of methods.

As expected, the region influences the use of contraception. The use of contraception is low in Sindh, Baluchistan, and FATA as compared to Punjab. The literacy rate is very low FATA. The low literacy rate and the poor socio-economic status are the main reason for the lowest use of contraception in Pakistan. The barrier in the modern contraceptive method was low income. But the use of contraception is high in KPK, Gilgit Baltistan, ICT Islamabad Capital Territory, and Azad Jammu Kashmir as compared to Punjab. Easy access to a service outlet is strongly affected by the use of contraception. When the availability and access to the service are easy in the region then the use of contraception raising. In our analysis when the age increases the use of contraception also increases. The highest use of contraception in our analysis is between the age of 40-44. At a younger age, the use of contraception is very low but when the age increases the use also increases. According to the different articles when the age of a men increases was 35 or above then they started using more contraceptive methods.

The literacy rate in Pakistan is low. The current literacy rate in Pakistan is 65%. The educational level influences the use of contraception in Pakistan. Education increases our knowledge about the modern contraceptive methods which help us to select the more effective method. The person who has a higher level of education use more contraceptive as compared to the person who has primary, secondary, and no education. The education increases comprehension of risks and increases the benefits of contraceptive choices. Education increased participation in the decision-making process. The education increased the level of comfort with the decision-making process and also increased positive attitudes about contraception. So, education is playing a very important role in the use of contraception in Pakistan. The couples who have 0-2 children use fewer contraceptive methods but when the number of living children increases then the use of the contraceptive method also raising. It's a positive result in our analysis that when the number of living children increases the use of contraception also increases. So, it shows a positive attitude in our society.

The percentage of person who knows about contraception is high as compared to the person who doesn't know about contraception. But the use of contraception is not so high in the ever-married men aged between 15-49. Media exposure playing

an important role in the use of contraception through different mediums like TV, newspaper, mobile, and radio. And in our analysis, these sources show a positive impact on the use of contraception, and media exposure increases the use of contraception. The purpose of awareness through media is to teach a person about the benefits of small families. The media providing information about modern contraceptive methods. The media exposure is statistically significant. And the media exposure has a strong positive effect on the use of contraception.

The health worker playing a very important role in our society. It shows a positive and significant impact on the use of contraception. The information through the discussion of health workers is very effective. The health workers promote the use of contraception and provide the liberty of having the number of children and give education about spacing among children. And it's an effective way to reduce poverty. Through family planning, the fertility rate is decreased, and family planning reduces the maternal mortality rate.

The bivariate analysis shows the general review of the independent variables. But the logistic regression analysis reveals the relationship between the independent and dependent variables. And the results of the logistic regression analysis indicate the influence of each variable in the dependent variable.

The analysis seems to indicate that use of contraception increases when the education of a man increases and when the age of a man increases. So, in our research we discuss how education and age have an indirect effect on the use of contraception through other variables such as residence and region. In our country when we provide accessible and high-quality services through campaigning and motivating the couples.

According to the previous research in Malawi the age, education is very significant variables (Palamalai, 2013). In our research the age is also a very important and significant variable. Because the young mothers use less contraception as compared to the older mothers. So, it is significant that when the ages of men and women increases the use of contraception also increases. And our findings indicate that the raising the educational level is the one way of promoting contraception in Pakistan. We need to improve the men involvement in family planning because the use of contraception in ever married men aged between 15-49 is very low in Pakistan which is only 25.7%. So, the involvement of men in family planning is very important. The establishment should organize the seminars in the workplaces for the men and thereby promote more use of contraception and the health-related issues.

5. References

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