

## DEMOGRAPHIC SOCIO-ECONOMIC CHARACTERISTICS OF WOMEN AND CONTRACEPTIVE USE IN PAKISTAN

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### ABSTRACT:

#### OBJECTIVE:

To explore the trend of different contraceptive methods at different reproductive age groups for ever married women as well as highlighting the demographic and socio-economic characteristics that significantly influence in the selection of contraception.

#### METHODS:

Three consecutive Pakistan demographic health survey (PDHS) surveys 1990-91, 2006-07 and 2012-03 data sets have been used for descriptive and PDHS 2012-03 for multinomial logistic regression analysis.

#### RESULTS:

Under descriptive analysis, a decline in non-user, traditional and folkloric contraceptive methods while 26.58% increment in modern contraception in PDHS 2012-13 as compared to PDHS 2006-07. The factors significantly affecting in contraception choice by incorporating the multinomial logistic regression are as the level of female education increased the traditional and modern contraceptive use also increased, being the urban 37% more likely to use modern contraceptive methods, while Sindh and Baluchistan have less likely to use modern contraceptive as compared to Punjab, the family with no child not use any method. A positive association between wealth index and contraception, having no access to radio, television and newspaper made the respondent about 39% less likely to select the modern contraceptive methods and not visited by family planning worker in last 12 months minimized the likelihood to use contraceptive methods.

#### CONCLUSION:

Women education, location and geographical area of residence, wealth index, media access, visited by family planning worker, number of living children, desire for more children are the factors that significantly influence the contraceptive use. While the level of modern contraception has raised in 2012-13 as compared to 1990-91 and 2006-07 in Pakistan.

#### Key Words:

contraceptive use;  
demographic and socio-economic  
characteristics; multinomial logistic regression  
analysis; reproductive age

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## INTRODUCTION:

The family planning association of Pakistan (FPAP) and other voluntary organizations had taken initiative introduced family planning activities and policies in the mid of 1950s. The government's started first five year plan 1955-1960 regarding to family planning services thought FPAP and other voluntary organizations, and after that several other plan were launched. In 1990s the Pakistan fertility rate started to decline the reason was population welfare program highly supported by politically and at the same time the end of the Zia regime. For effective implementation of the family planning programs in rural area family planning worker program was introduced and also trained lady health worker recruited under the prime minister's program for family planning and primary health care in 1993. In 2010 the ministry of population welfare was devolved under the 18<sup>th</sup> Amendment of the Constitution, and all activities and responsibility of population program shifted to provinces.<sup>1</sup>

Pakistan ranked as 6<sup>th</sup> most populous country in the globe. Economic condition tends to complex as the population growth rate grown. In Pakistan Population growth is negatively correlated to economic development.<sup>2</sup> The studies has shown the negative relation exists between contraceptive use and total fertility rate.<sup>3</sup> The recent demographics health survey in Pakistan showed that the total fertility rate has been dropped down from 4.1 to 3.6 in 2012-13 as compared to 2006-07.<sup>4</sup> The modern contraceptive methods have increased significantly in Pakistan.<sup>4</sup> Contraceptive use among married women of reproductive age increased, while the traditional methods replaced by modern methods in all regions of the developing world<sup>5</sup>. Having access to modern family planning not only stop the unintentional pregnancy but also prevent the maternal deaths.<sup>6</sup> The frequency of contraceptive users expected to raise from 2000 to 2015 in developing countries by 40%.<sup>7</sup> The use

of modern contraceptive has become more common as compared to traditional and folk methods.<sup>8</sup> Modern contraceptive methods are more effective as compared to traditional methods in preventing the pregnancy while effectiveness varies with the quality of practice.<sup>9</sup> It is always a noteworthy point to highlight linkage between the level of contraceptive use and the women reproductive age groups. As age tends to increase the use of modern contraceptive also increased.<sup>4,10</sup> The demographic and the socio-economic characteristics that are associated to the modern contraceptive use are women with more access to media, more education and wealthier households.<sup>10</sup> There is a positive association between contraceptive use and education.<sup>8,10,11</sup> Approval of family planning and discussion of family planning with partners were shown to be the factors most strongly associated with modern contraceptive use.<sup>12</sup>

## RELATED WORKS:

Rajaretnam (2000)<sup>13</sup> used the multinomial logistic regression to explore the sociocultural determinants of contraceptive method choice in two major states of India Goa and Kerala, found that the women education and religion play an important role in the use of contraceptive methods. Chintsanya (2013)<sup>10</sup> used the Malawi demographic health survey data 2000, 2004 and 2010 by incorporating the multinomial logistic regression analysis to uncover the trend and correlates of contraceptive use among married women by using the background variables including the characteristics of women like education, residence by urban and rural, age, marital status, wealth index and access to media while the fertility indicators also included such as ideal family size desire for more children and ideal family size, considerably rise in modern contraceptive use observed in the study and the use of modern contraceptive remain high in the married women having education, wealthier household and having access to media.

Cindoglu et al. (2008)<sup>14</sup> used multinomial logistic regression model to explore the determinants of choosing withdrawal over modern contraceptive methods in Turkey, found that empowerment of women in terms of better socioeconomic status, better education, modern and liberal attitudes towards women and family planning seem to reduce withdrawal use as the main method of contraception. Edward et al. (2012)<sup>15</sup> used multinomial logistic regression analysis to explore the determinants of contraceptive use among Ghanaian women, aged (15-49) by using the GDHS 2008, found that wealth index, level of education, ownership of health insurance, number of surviving children, marital status, location and geographical area of residence, religion and women autonomy are the significant correlates of contraceptive use in Ghana, further the use of modern contraceptive become more likely when the women take health decision jointly with their partners. Under the bivariate and multivariate logistic regression analysis, Palamuleni (2013)<sup>16</sup> highlight the relationship between socioeconomic variable and current use of contraception, found the significant factors namely age, respondents' and partners' approval of family planning, family planning discussion with partner, number of living children, work status, education and visit of center. Mahmood and Ringheim (1996)<sup>17</sup> explored the factors affecting the contraceptive use in Pakistan by using the data from the Pakistan Demographic and Health Survey of 1990-91, found that the positive correlation among women age, number of living children, education and place of residence, while the five factors strongly affecting the fertility regulation extend of communication between husbands and wives, religious beliefs, female autonomy, son preference, and the family planning service and supply, under the logistic regression analysis.

#### **DATA AND METHODS:**

Pakistan Demographic Health Surveys (PDHS), nationally representative surveys

that took place in 1990-91, 2006-07 and 2012-13 has been used for the present study.

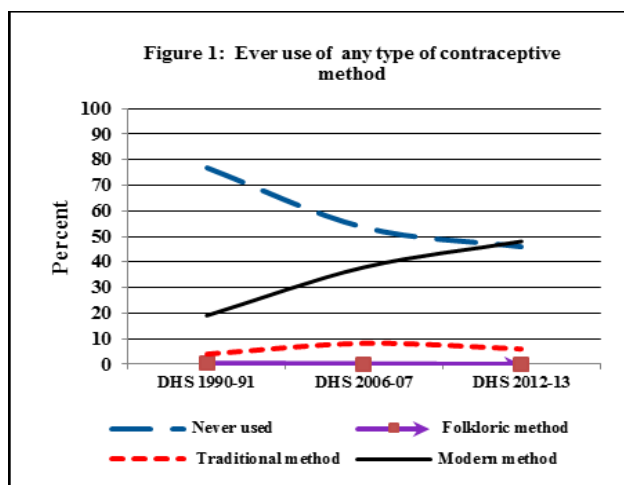
Three Demographic Health Surveys are used for descriptive comparison to understanding the trend for choosing the various contraceptive methods. While the most recent DHS-survey data set 2012-2013 in Pakistan with total sample size for ever married women 13558 is used to evaluate the demographic socioeconomic characteristics of women and contraceptive use in Pakistan under the multinomial logistic regression analysis. A set of demographic socioeconomic and proximate variables are included in the analysis based on their hypothesized association with contraceptive use, and also used in some of the previous studies.<sup>10,13</sup> age, number of live child, total number of children ever born, desire for more children's, ideal number of boys, residence by urban rural and residence by provinces, husband/partner's education level, educational attainment for wife, wealth index, assess to media, visited by family planning worker. A statistical package for social sciences (SPSS) 17.0 was utilized for analysis.

#### **STATISTICAL MODEL OF CONTRACEPTIVE USE:**

Logistic regression model has many versions for an application particularly depending upon the response variable used for analysis. Multinomial Logistic Regression is simply the extension of binary logistic regression<sup>18</sup>, when dependent variable has more than two categories. In the present study the response variable has three choices of the contraceptive methods namely (i) Not use any method (ii) Use traditional methods (iii) use Modern methods. Not use any method is considered as a baseline category. Multinomial logistic regression approach is recently used by in various studies to highlight the demographic socioeconomic characteristics of women and contraceptive use.<sup>10,13,14,15</sup>

## RESULTS AND DISCUSSION:

In some developing countries the concept and level in the choice of contraceptive use has been changed over time. The use of modern contraception level has been increased in Uganda, Malawi and Pakistan.<sup>4,10,19</sup> The comparison of three demographics health surveys with respect to the choice of different contraceptive use has been made, shown in Figure 1.

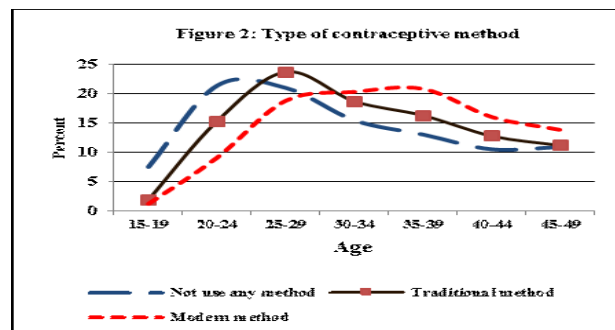


In PDHS 1990-91 the level of non-user was higher as compared to any other methods. While in PDHS 2006-07 and PDHS 2012-13 the level of choice have been turned and the difference minimized between modern and non-user contraceptive methods. In recent survey 2012-13 the modern contraceptive users shifted over rather than any other method of contraception as shown in figure 1. While the percent change is given in Table 1 for various methods. A decline of non-user, Folkloric and traditional contraceptive method are 14.23%, 50% and 28.57% respectively, While 26.57% increment in modern contraception in 2012-13 as compared to 2006-07.

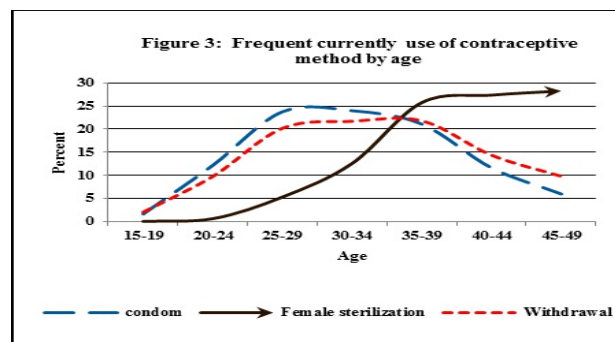
**Table 1:**  
Percent change in the types of contraceptive methods in various demographic health surveys

Contraceptive method	1990-91 to 2006-07	2006-07 to 2012-13
Never used	-30.47	-14.23
Folkloric method	-33.33	-50.00
Traditional method	121.05	-28.57
Modern method	98.95	26.57

Use of contraceptive methods in DHS 2012-2013 in Pakistan by ever married women is shown graphically in Figure 2



The number of non-user of contraception in young married women (15-24)<sup>19</sup> is higher. In 25-29 age groups the traditional contraceptive methods are used frequently. While the modern contraceptive methods, are used by the age group of 30-34 and onward.<sup>4</sup> Among the various modern contraceptive methods namely, The method associated with modern methods are pill, male condom, intrauterine devices (IUDs), injectable implants, the lactational amenorrhea methods (LAM), the standard day's methods (SDM), emergency contraceptive and female and male sterilization. While the traditional methods, are rhythm and withdrawal.<sup>4</sup> Condom and female sterilization are frequently used while the traditional methods are rhythm and withdrawal the use of withdrawal is higher. The use of condom and withdrawal methods is higher in the early age groups and dropped down from 35-39 age groups. Female sterilization in early age groups is much lower and continuously rising after 20-24 age groups as shown in figure 3.



Percentage distribution of socio demographic characteristics of ever married women is given in Table 2.

**Table 2: Percentage distribution of the respondents by background characteristics**

Age	
15-19	4.2
20-24	15.1
25-29	20.1
30-34	18.0
35-39	17.0
40-44	13.3
45-49	12.3
Residence	
Urban	46.8
Rural	53.2
Education	
No-Education	56.2
Education	43.8
Wife Educational attachment	
No education	
Incomplete primary	56.2
Complete primary	5.0
Incomplete secondary	8.5
Complete secondary	8.0
Higher	9.8
Wealth index	
Low	37.4
Middle	19.1
High	43.5
Number of living children	
No child	12.5
1-2 child	28.9
3-5 child	40.2
over 5 child	18.4
Husband/partner's education level	
no education	31.1
Primary + secondary	45.1
Higher	23.4
don't know	.3
Desire for more children	
Both want same	54.6
Husband wants more	29.4
Husband wants fewer	4.7
Don't know	11.3
Visited by family planning worker last 12 months	
No	56.3
Yes	43.7
Ideal number of children	
0-2	14.8
3-5	61.2
6 over	19.9
don't know	4.1
Ideal number of boys	
0-2 child	66.0
3-4 child	23.8
5+ child	6.1
up to God	2.1
other	2.0

**Multinomial Logistic Regression Analysis:**

To evaluate statistically significant demographic, socioeconomic characteristics of women in the choice of different contraceptive methods, the direction and contribution to dependent variable. The detail output of significant multinomial logistic regression coefficients for the use of traditional and modern contraceptive methods with reference category "Y=0" are shown in Table 3. The place of residence has significant affect in the choice of contraceptive methods. Urban has higher

use of family planning methods as compared to rural.<sup>20</sup> Being the resident of urban increases the likelihood that to choose the modern contraceptive method by almost 37%. Location and the geographical area of residence are significantly correlating the contraceptive use.<sup>17</sup> Being the resident of Sindh and Baluchistan decreases the likelihood that the respondent would choose the traditional contraceptive methods over non-user by approximately 81% and 65% respectively.

**Table 3: Significant Multinomial logistic regression coefficients for contraceptive method choice in Pakistan, DHS 2012-13**

	Coefficients	Std Error	Odds Ratio
<b>TRADITIONAL CONTRACEPTIVE USE</b>			
Place of residence/region/province			
Sindh	-1.637***	0.267	0.195
Baluchistan	-1.052**	0.315	0.349
Educational attachment			
No education	-0.813***	0.196	0.443
Incomplete primary	-0.637*	0.263	0.529
Complete primary	-0.571**	0.221	0.565
Incomplete secondary	-0.533*	0.220	0.587
Wealth index			
Low	-1.023***	0.164	0.360
Middle	-0.373**	0.138	0.689
Number of living children			
0 child	-3.114***	0.458	0.044
Visited by family planning worker last 12 months			
Not at all	-0.323**	0.101	0.724
Desire for more child			
Both want same	0.398*	0.169	1.488
<b>MODERN CONTRACEPTIVE USE</b>			
Intercept	1.774*	0.867	
Total number of children ever born	0.119***	0.026	1.127
Age	-0.098***	0.023	0.907
Type for residence			
Urban	0.314***	0.068	1.369
Place of residence/region/province			
Punjab	-0.603***	0.157	0.547
Sindh	-1.426***	0.163	0.240
Baluchistan	-0.957***	0.182	0.384
Educational attachment			
No education	-0.635***	0.127	0.530
Incomplete primary	-0.326*	0.165	0.722
Wealth index			
Middle	-0.245**	0.084	0.783
Number of living children			
No child	-4.203***	0.265	0.015
1-2 child	-1.089***	0.167	0.337
Media access			
No access to Radio/TV/Newspaper	-0.489**	0.141	0.613
Visited by family planning worker last 12 months			
Not at all	-0.427***	0.059	0.652
Ideal number of children			
3-5 child	-0.631*	0.270	0.532
6 & over	-0.943***	0.258	0.390
Desire for more child			
Both want same	-0.78**	0.105	0.458
Husband wants more	-0.398***	0.098	0.671
Ideal number of boys			
0 to 2	0.811***	0.168	2.250
3 to 4	0.698***	0.153	2.010
Up to God	-0.652*	0.278	0.520

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



women education is one of the strong predictor that positively correlated with the contraception.<sup>13,15,16</sup> The traditional and modern contraceptive method varies by education attainment. As the level of wife education is raised the use of modern and traditional contraceptive method also increased. Being the illiterate made the respondent about 56% and 47% less likely to choose the traditional and modern contraceptive methods. The number of living children has a positive relationship with contraceptive use, a family having no child not use any contraceptive method. By not visiting the family planning worker last 12 months made the respondent about 28% and 35% less likely to choose the traditional and modern contraceptive method respectively. Desire for more children by both husband and wife made about 1.488 times more likely to choose the traditional contraceptive methods over not use any contraceptive method. Wealth index yet another significant factor<sup>11,14,21</sup>, the use of contraceptive methods increased as wealth index increased. Increases in age made a respondent about 0.90% more likely to choose the modern contraceptive methods over non-user. The relative risk ratio for one unit increase in total number of children ever born for modern contraceptive use relative to no contraceptive use would be expected to increase by a factor of 1.127 given the other variable in the model are held constant. The modern contraceptive use varying by region/province. Sindh and Baluchistan have less likely to use modern contraceptive relative to no contraceptive as compared to Punjab. Modern contraceptive methods are higher among the married women with more access to media, wealth index and education. No access to radio, television and newspaper made the respondent 39% less likely to select the modern contraceptive method relative to not use any contraceptive method. Family with ideal number of children up to God is 48% less likely to use modern contraceptive method relative to non-user.

When both husband and wife desire for more children 54% less likely to use modern contraception use, while 33% less likely to use modern contraception when only husband desire for more children.

### CONCLUSION:

These statistical outcomes about contraception trend in Pakistan and exploration of significant demographic, socioeconomic characteristics of ever married women can be an emerging for population management. Modern contraception has increased in Pakistan particularly condom and female sterilization. Women education, age, location and geographical area of residence, wealth index, media access, visited by family planning worker last 12 months, number of living children and desire for more children are significant socio-demographic factors associated with contraceptive use.

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Bear sorrows and calamities patiently, otherwise you will  
never be happy.

**Hazrat Ali (Karmulha Wajhay)**