



## ORIGINAL RESEARCH ARTICLE

### DETERMINANTS OF MODERN CONTRACEPTIVE METHODS USE IN PIPEL, CHITWAN OF NEPAL

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#### ABSTRACT

**Background:** Family planning contributes in preventing maternal and child mortality and empowers women. For the past ten years contraceptive prevalence rate has remained stagnant in Nepal. This study aimed at identifying the use and factors associated with modern contraceptive methods in Pipel, Chitwan, Nepal.

**Methods:** It was a cross-sectional study. Pipel village development committee was selected purposively, in which two wards were randomly selected. Married women of reproductive age (n=332) of each household were interviewed. Descriptive, bivariate and multivariate analysis were performed.

**Results:** About half (49%) of the respondents had used a modern contraceptive method. Women in the age groups 25-39 years [aOR: 2.39; 95% CI: 1.16 - 4.92] and 40-49 years [aOR: 4.67; 95% CI: 1.71 - 12.70] were more likely to use modern contraceptives compared to the women in the age group 15-24 years. Similarly, women having 3 or more living children [aOR: 2.98; 95% CI: 1.19 - 7.50] were more likely to use the modern contraceptives than women with upto two children. Women whose husbands would approve of using the contraceptives [aOR: 11.33; 95% CI: 3.93-32.62] were more likely to use the methods than those who got or perceived no approval from husband.

**Conclusions:** Information and service on modern contraceptive methods should be focused to younger women. Involvement of husbands in family planning program would contribute to use of modern contraceptives by women.

#### INTRODUCTION

Family Planning (FP) contributes, particularly in countries with high birth rates, to reduction in poverty and hunger and avert a significant proportion of maternal and childhood deaths. It would also help in women's empowerment, achievement of universal primary schooling, and long-term environmental sustainability.<sup>1</sup> Additionally, FP also helps in preventing transmission of HIV and other sexually transmitted infections, reduces abortion and supports the health and development of communities.<sup>2</sup>

FP programme in Nepal has the objective of improving health status of all people through informed choice on accessing and using voluntary FP. In the government health system, modern contraceptives are provided through hospitals, Primary Health Care Centres (PHCCs), health posts and primary health care outreach. Female Community Health Volunteers (FCHVs) provide information and education to community people, and distribute condoms and oral contraceptive pills. In remote areas Long Acting Reversible Contraceptives - Intrauterine Contraceptive Devices (IUCDs) and implants- and permanent

FP services are provided through satellite clinics and mobile camps.<sup>3</sup>

The contraceptive prevalence rate among currently married women age 15-49 years is 53%, with 43% using modern methods. Although there was a large increase in the use of modern contraceptive methods from 26% in 1996 to 43 % in 2016, it has remained stagnant in the past ten years, with even a decrease from 44 % in 2006 to 43 % in 2016.<sup>4</sup> It underlies the need for greater attention to ensure access to modern contraceptives to achieve the target of 52% by 2020 set in National Health Sector Strategy 2016-2021<sup>5</sup>, and target of sustainable development goal of ensuring universal access to FP services, information and education by 2030.<sup>6</sup>

This study aimed to identify the factors associated with the use of modern contraceptive methods. The information will be useful for prioritizing target population and information and education programmes for promoting FP.

## METHODS

A cross-sectional study was designed to find out the use and factors associated with modern contraceptive methods in Piple Village Development Committee (VDC), Chitwan. The sample size of the study was 332, calculated using Epi Info 7, who were currently married women in the age group 15-49 years. Lottery method was used to select study wards. One eligible woman was selected from each house for interview. If there were two or more such women in a house, one of them was randomly selected (Figure 1).

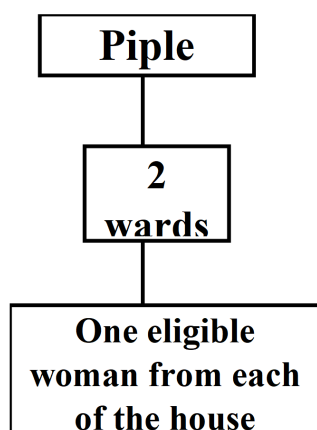


Figure 1: Sampling process

A structured questionnaire was developed from the data collection tools used in Nepal Demographic and Health Surveys as well as literature review.<sup>7-15</sup> The questionnaire was translated into Nepali language and pre-tested. The report about socio-demographic status of all the wards of the VDC, prepared by the VDC office, was reviewed. Data was collected during January 1-15, 2013. With the help of VDC staff, two local females who had schooling of 12<sup>th</sup> grade and had previous experience of data collection were selected as enumerators. The enumerators were provided intensive training for three days on objectives of the study, data collection procedure and tool of data collection. Data was collected by structured interview with the women making house-to-house visit.

The study was approved by the Central Department of Population Studies, Tribhuvan University. Permission to carry out the study was obtained from the district public health office, Chitwan and VDC office of Piple. Written informed consent was obtained from the respondents. Voluntary participation of the respondents and confidentiality were maintained.

Data editing was done by the enumerators in the field and later by the researcher. A data analysis software program, SPSS version 16, was used for data entry and analysis. Descriptive statistics, Pearson chi-square test and binary logistic regression analysis were performed.

## RESULTS

### Distribution of respondents by socio-demographic characteristics

Table 1 showed more than half (52%) of the respondents were from Janajati caste/ethnicity, followed by Brahman/Chhetri (40%), and Dalits (8%). About 58% of the respondents were in the age group 25-39 years and 42% of the respondents had no schooling.

### Practice of modern contraceptive methods

Table 2 showed practice of modern contraceptives. Among the methods used, male sterilization was most common method (43.3%), followed by injectable (23.8%), female sterilization (23.2%), pills (6.7%) and implant (3%). Nearly half (49%) of the respondents had used a modern method of FP. About 90% of the respondents were confident that their husbands give approval for using modern contraceptives.

**Table 1: Distribution of respondents by socio-demographic characteristics**

Characteristics	Frequency (n=332)(Percentage)
<b>Caste/ethnicity</b>	
Brahman/Chhetri	133 (40.1%)
Janajati	172 (51.8 %)
Dalits	27 (8.1 %)
<b>Religion</b>	
Hindu	214 (64.5 %)
Bouddha	104 (31.3 %)
Christian	14 (4.2 %)
<b>Sufficiency of income</b>	
Sufficient for less than 6 months	135 (40.7 %)
Sufficient for 6 to12 months	193 (58.1 %)
Sufficient for more than 12 months	4 (1.2 %)
<b>Age group of women</b>	
15-24 years	77 (23.2 %)
25-39 years	192 (57.8 %)
40-49 years	63 (19 %)
<b>Education of women</b>	
No schooling	140 (42.2 %)
Primary	60 (18.1 %)
Secondary or higher	132 (39.7 %)
<b>Number of living children</b>	
Upto two children	196 (53 %)
3 or more children	156 (46.9 %)

**Table 2: Use of modern contraceptive methods**

Characteristics	Frequency(n=332) (Percentage)
<b>Use of modern contraceptive</b>	
Yes	164 (49.4 %)
No	168 (50.6 %)
<b>Types of the methods used (n=164)</b>	
Male sterilization	71 (43.3 %)
Injectables	39 (23.8 %)
Female sterilization	38 (23.2 %)
Pills	11 (6.7 %)
Implant	5 (3 %)
<b>Place of service taken (n=164)</b>	
Government health institution	123 (75 %)
Mobile camp	22 (13.4 %)
Medical shop	18 (11 %)

Characteristics	Frequency(n=332) (Percentage)
FCHV	1 (0.6 %)
<b>Approval of husband</b>	
Yes	295 (88.9 %)
No	37 (11.1 %)

**Table 3: Association between use of modern contraceptive and independent variables**

Risk factors	Use of FP		p-value
	Yes	No	
	n= 164	n= 168	
<b>Caste/ethnicity</b>			
Brahman/Chhetri	65 (49%)	68 (51%)	0.332
Janajati	82 (48%)	90 (52%)	
Dalits	17 (63%)	10 (37%)	
<b>Religion</b>			
Hindu	113 (53%)	101 (47%)	0.134
Bouddha	43 (41%)	61 (59%)	
Christian	8 (57%)	6 (43%)	
<b>Age of women (in years)</b>			
15-24	17(22%)	60(78%)	<b>&lt;0.001</b>
25-39	102(53%)	90(47%)	
40-49	45(71%)	18(29%)	
<b>Educational status of women</b>			
No schooling	88 (63%)	52 (37%)	<b>&lt;0.001</b>
Primary	31 (50%)	29 (50%)	
Secondary or higher	46 (35%)	86 (65%)	
<b>Number of living children</b>			
Upto 2 children	60 (34%)	116 (66%)	<b>&lt;0.001</b>
3 or more children	104 (67%)	52 (33%)	
<b>Perceived need of son</b>			
Yes	43 (42%)	60 (58%)	0.062
No	121 (53%)	108 (47%)	
<b>Fear of side-effects</b>			
Yes	72 (46%)	86 (54%)	0.184
No	92 (53%)	82 (47%)	
<b>Approval of husband</b>			
Yes	159 (54%)	136 (46%)	<b>&lt;0.001</b>
No	5 (13%)	32 (87%)	

#### Association between use of modern contraceptive and predictor variables

Table 3 shows the association of use of modern contraceptive with predictor variables. Age, educational status, number of living children and approval of husband were associated. Caste/ethnicity, religion, perceived need of son and fear of side-effects had no statistically significant association. The use was

highest (71%) in the age group 40-49 years and least among 15-24 years (22%) (p-value<0.001). Use of the methods was highest among illiterates (67%) and declined with the increase in schooling level (p-value<0.001). The use of the methods was highest (69%) among women having 3 or more children

(p-value<0.001) and higher among women whose husbands would approve of this (p-value<0.001).

## Results of Logistic regression

Table 4 shows the results of multivariate logistic re-

gression analysis in which all the independent variables significant in chi-square test were regressed simultaneously to estimate the Adjusted Odds Ratio (aOR) between each individual independent variable and outcome variable.

**Table 4: Results of logistic regression analysis**

Risk factors	aOR*(95% CI)	p-value adjusted <sup>§</sup>
<b>Age of women (in years)</b>		
15-24	Reference	
25-39	<b>2.46</b> (1.26-4.82)	0.008
40-49	<b>4.93</b> (1.91-12.7)	0.001
<b>Number of living children</b>		
Upto 2 children	Reference	
3 or more children	<b>2.17</b> (1.25 – 3.77)	0.006
<b>Educational status of women</b>		
No schooling	1.84 (0.99-3.42)	0.053
Primary	1.63 (0.82-3.23)	0.155
Secondary or higher	Reference	
<b>Approval of husband</b>		
Yes	<b>11.33</b> (3.93-32.62)	<0.001
No	Reference	

\*OR= Odds ratio; aOR= Adjusted odds ratio; CI= Confidence Interval

<sup>§</sup>Taking 5% level of significance into account

Multicollinearity check done between the four independent variables significant in chi-square test did not show the multicollinearity problem. Women in the age groups 25-39 years and 40-49 years were 2.46(95% CI 1.26 - 4.82) and 4.93(95% CI 1.91 - 12.7) times more likely to use modern contraceptive respectively compared to the women in the age group 15-24 years. Similarly, women having three or more living children were 2.17 (1.25–3.77) times more likely to use the contraceptives than women with upto two children. Women who said their husbands give approval of using contraceptives were 11.33 (95% CI 3.93-32.62) times more likely to use the methods compared to women who said their husbands do not approve of this.

## DISCUSSION

The purpose of this study was to find out the magnitude of modern contraceptive method use and factors associated in the former Piple VDC of Chitwan district. The study found 49% of the couples using modern contraceptive which is little higher than the national figure(43%).<sup>4</sup>The highest percentage (43%) of the couples had male sterilization. It could be be-

cause of vasectomy mobile camps that had been conducted in the local health post in the past years. The current study found no use of condom and IUCD compared with 4% and 1% respectively in NDHS 2016.<sup>4</sup> More Dalits (63%) were using contraceptives compared to Brahman/Chhetri (49%) and Janajati (48%). Similar findings were observed in a study carried out in Gardi VDC of Chitwan district with 76%, 72%, and 58% among Dalits, Brahman/Chhetri and Janajatis respectively.<sup>9</sup>

In multivariate analysis, age group of women, number of living children and approval of husband were found associated with the use of modern contraceptives. The women in the age group 15-24 years were less likely to use the methods than older women. In most of the previous studies age has insignificant role. The finding of a study in Pakistan<sup>16</sup> is contrast to the finding of the current study that contraceptive use was more common among younger women. The difference could be explained that the most common methods that the respondents in the study of Pakistan used were temporary ones such as condom, pills, injectables and hormonal, while the ma-

jority of the respondents in the current study had used permanent methods, mostly after 25 years when they had their family size completed.

The women with more than two children had more than 2 times higher likelihood of using modern contraceptives than those with up to two children. Similar findings were observed in Ethiopia.<sup>17</sup>

In the current study, the women who perceived getting approval of husband were around 11 times more likely to use the contraceptives than the women who perceived disapproval of husband. Husband's approval was found as the most important determinant for contraceptive use, followed by number of living children in metropolitan Indonesia.<sup>10</sup> In Ethiopia, married women who had support of their partners in using contraceptive methods were about three times more likely to use contraception than women with no support.<sup>14</sup> Similarly, in Bangladesh, husband's approval had a major role in contraceptive use.<sup>12</sup> Perception of women of their husbands' approval for contraceptive use was significantly associated with higher odds of using contraception in Kenya.<sup>13</sup> A study in the Central Terai Region in Nepal concluded that spousal communication and husband's approval facilitate women in using modern contraceptives.<sup>14</sup> Couples who are exposed to information on FP are more likely to have discussion about FP, which in turn results to use of FP methods.<sup>15</sup>

## CONCLUSION

The findings of this study have important implications. The study suggests for promoting condom and IUCD use, and discouraging son preference. Further, it suggests for information and services on modern contraceptive to be focused to younger women, as well as involvement of husbands in FP programs and promotion of discussion between spouses through their exposure to information about modern FP methods are needed to increase use of the methods.

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