

# USE OF CONTRACEPTIVE METHODS AMONG YOUNG MARRIED WOMEN IN NEPAL

*Kamala Devi Lamichhane\**

## ABSTRACT

Nepal has a fairly high adolescent fertility rate and low use of contraception. Lack of contraceptive use is a major contributor to the high rates of unintended pregnancies amongst youth. There is also lack of specific studies dealing with contraceptive behavior among young married women. This study examines the use and determinants of contraceptive methods over the time period of 15 years (2001-2016) among young women in Nepal. Trend and bi-variate analysis of this study is based on the Nepal Demographic and Health Survey (NDHS), 2001, 2006, 2011 and 2016 data. The multivariate analysis is based on NDHS 2016 data of 2059 currently married non-pregnant young women aged 15-24 years. Logistic regression is used to assess the net effect of independent variables on dependent variable. The study shows that the contraceptive prevalence rate of young women is only 34 percent. Number of living children, spousal separation, husband education, women, occupation, wealth status, caste/ethnic affiliation, fertility preference, decision making status, ideal number of children they prefer and media exposure, are statistically associated to the use of contraception among young women in Nepal. There is a need to strengthen income generating activities so as to improve young women's socio-economic status which will translate into female economic and social empowerment hence ability to discuss sexuality related issues. Family planning programmes should be designed so as to address the contraceptive need of young women especially the low parity and Muslim adolescents.

**Keywords:** Reproductive health, contraception, determinants, regression analysis, NDHS data.

## INTRODUCTION

Current use of a contraceptive method is the aspect of contraceptive practice that is of greatest interest both to demographers (as a proximate determinant of fertility) and to family planning policymakers (as a measure of the coverage of their programs). However, several other aspects of

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\* Ms. Lamichhane is a Lecturer, Central Department of Population Studies, Kirtipur, TU.

contraceptive practice are of interest: ever use of a method, knowledge of contraceptive methods, and knowledge of sources of contraception and fertility preferences. Family planning researchers often use these variables as indicators of constraints on contraceptive use in a population. Low levels of knowledge of contraception may indicate that the population is unaware of fertility-limiting options. Low levels of knowledge of sources of contraception may suggest that access to family planning is limited and programme extension is warranted.

Today's generation of young people is the largest in history: globally, 1.8 billion people are aged between 10-24 years, accounting for a quarter of the world's population (UN, 2017). The overwhelming majority of young people live in low and middle-income countries and over 60 percent live in Asia and the Pacific (UN, 2017). And in Nepal young people constitute almost one-third (33%) of its total population (Subedi and Thapa, 2014).

Lack of contraceptive use is a major contributor to the high rates of unintended pregnancies amongst youth (Puri, Ingham & Matthews., 2007). Evidence shows that Nepal has a fairly high adolescent fertility rate and low use of contraception (Puri, 2002, MoHP, New ERA, and ICF International Inc., 2012). According to the Nepal Demographic and Health Survey (NDHS) 2016, the current use of a modern contraceptive method for young women aged 15 to 19 years was 14.5 percent and 24 percent among women aged 20 to 24. This rate has been almost same or even declining among women aged 20 to 24 since 2006 (14% and 28% respectively). On the other hand, the unmet need for contraception has increased by about four per cent from 2006 to 2011 (Khatiwada, Silwal, Bhadra & Tamans., 2013) and in 2016 the total unmet need was 35 percent of currently married Nepalese women aged 15-19 years and 33 percent among women aged 20-24 years (MoHP, New Era and ICF, 2017).

Adolescents and youth have unique Sexual and Reproductive Health (SRH) needs. Many adolescents face sexual health risks of early sexual debut, sexually transmitted infections including HIV/AIDS, unplanned pregnancies and illegal abortions. Prevalence of STIs, HIV, violence and high maternal mortality may be considered as the proxy to inadequate SRH services and accesses to these groups of people globally and also apply in Nepal. Such problems hinder prosperity of the individual, family, society, and the nation. National and international communities have considered

adolescent SRH as a serious issue and as a barrier for development outcomes (Regmi et al., 2008).

While a number of studies have been conducted to examine contraceptive use practices and the determinants of contraceptive use among married women (Shoveller, Chabot, Soon & Levine 2007; Darroch, Sedeh, & Ball, 2011), only few empirical studies have been undertaken to understand why contraceptive prevalence is low and unmet need is high among young women ( Tamang, Greenow, McGeechan & Black., 2017).

There are rare studies that have examined contraceptives use among young women in Nepal. The NDHS has provided some profile of the young girls according to their fertility, age at marriage and their sexual and reproductive behavior. But one of the lacking aspects of the NDHS is that it does not provide the disaggregated data according to different cultural groups. There is also lacking of specific studies dealing with SRH knowledge, attitudes and behavior in general and contraceptive behaviour in specific among adolescent girls. This knowledge gap could potentially hinder effective planning and delivery of family planning support services as well as SRH care services to young women. This suggests the need for more research to understand contraceptive use among young women and the factors affecting contraceptive use. For this reason, the present study aims to contribute to filling this gap by examining contraceptives use among young women in Nepal.

This study deals with the following aspects: contraceptive use and choice of methods, intention to future use, source of modern contraceptive methods and determinants of contraceptive use over the time period of 15 years (2001-2016) among young women in Nepal. The analysis excludes pregnant women. Current use includes use of any contraceptive method: this can either be a modern or traditional method. Non-users on the other hand, refer to women who are not using any methods to delay or prevent pregnancy.

## **OBJECTIVES**

The overall objective of this study is to examine the contraceptive use of Nepalese young married women over the period of 2001 to 2016. The specific objectives are as follows:

- To analyze the trend of contraceptive use among young married women in Nepal, and

- to identify the determinants of contraceptive use among young married women in Nepal.

## **METHODOLOGY**

The data for this study are accessed from the DHS program official database, after permission is granted through an online request explaining the objective of the study. The DHS collects data through nationally representative cross-sectional surveys in over 40 developing countries. The survey is usually conducted at five-year intervals in a country. The Nepal Demographic and Health Survey (NDHS) 2001, 2006, 2011 and 2016 are the major sources of data used in this study. In this study, data are restricted to currently married and non-pregnant young women age 15-24. Based on these criteria, the sample sizes from the four Nepal Demographic and Health Surveys (NDHS) were 2144 in 2001, 2006 women in 2006, 2,159 in 2011, and 2059 in 2016.

### **Dependent and Independent Variables**

The dependent variable is current contraceptive use, categorized dichotomously as “Yes/No” variables. Respondents who are currently using any contraceptive methods either modern or traditional are categorized as “Yes,” otherwise as “No”. Eight modern family planning methods female sterilization, male sterilization, Pill, IUD, injectable, implants, male condoms, emergency contraception, and as well as two traditional methods categorized as rhythm and withdrawal are described.

The independent variables have been selected for the analysis based on their significance in the previous studies of contraceptive behavior or on their hypothesized association with contraceptive choice as well as empirical findings of previous research and theoretical explanations. Information obtained from responses to the questionnaire provides data on demographic, socioeconomic characteristics of users of a variety of contraceptive methods. Moreover, the NDHS data provide information for fertility preference and decision making, media exposure factors for constructing contextual community factors that are also included in the analysis. Independent variables are broadly grouped into demographic factors (age, number of living children, presence of son, and spousal separation); socio-economic factors (education, occupation, caste/ethnicity, wealth status, rural urban residence), fertility preference and decision making factors (fertility preference, ideal no. of children they preferred, husband desire for children, household decision making power of women),

media exposure factors (exposure to family planning messages on radio, TV) and service factors (visited health facility in last 12 months, told family planning in health facility and visited by family planning workers in last 12 months).

This study utilizes descriptive, bi-variate and trend analysis of contraceptive use, and examination of the determinants of current contraceptive use. The trend in contraceptive use is analyzed using descriptive analyses, stratified by selected demographic, socio-demographic and fertility preference characteristics. The trend is examined separately for the periods 2001-2006, 2006-2011, 2011-2016 and 2001-2016. Bi-variate analysis is used to analyze the relationship between two selected variables. Selected independent variables are cross tabulated with the dependent variables to analyse one to one association between these variables. Chi-square test is used to test the significance of association between two variables. Variables are then included in the multi-variate analysis based on the association at the bivariate level. Multivariate logistic regression analysis is done to identify the independent effects of explanatory variables on the outcomes of interest, using data from the 2016 NDHS. Two models are shown at the multivariate level. Model I explains the gross effects and Model II explains the net effect. Odds ratios and 95% confidence intervals are reported in the study. Data are analyzed using SPSS software (version 16)

## **RESULTS AND DISCUSSION**

### **Use of Contraceptive Methods**

The level of current use is the most widely used and valuable measure to assess the success of family planning programs. Use of contraception is defined as the proportion of currently married non-pregnant young women who reported they were using a family planning method at the time of interview in the respective surveys.

Percentage distribution of currently married women who are currently using specific family planning methods. In 2016, little more than one-third (34.1 percent) of currently married young women were using contraceptives (Table 1). The percent of young women currently using any method increased from 23 percent in 2001 to 34 percent in 2016, indicating that the increment of contraceptive use by 47 percent in the past 15 years.

**Table 1:** Percent Distribution of Currently Married Young Women Age 15-24 by Current Use of Contraceptive Methods, Nepal, 2001-2016

Contraceptive Methods	Current Used				Percent Change			
	2001	2006	2011	2016	2001-2006	2006-2011	2011-2016	2001-2016
<b>Any Method</b>	<b>23.2</b>	<b>30.7</b>	<b>30.5</b>	<b>34.1</b>	<b>32.3</b>	<b>-0.7</b>	<b>11.8</b>	<b>47.0</b>
<b>Any Modern Methods</b>	<b>19.9</b>	<b>27.6</b>	<b>24.6</b>	<b>24.5</b>	<b>38.7</b>	<b>-10.9</b>	<b>-0.4</b>	<b>23.1</b>
Female Sterilization	3.1	3.5	2.9	1.7	12.9	-17.1	-41.4	-45.2
Male sterilization	1.3	1.1	0.7	0.4	-15.4	-36.4	-42.9	-69.2
Pill 85.6	1.6	3.4	4.1	3.4	112.5	20.6	-17.1	112.5
IUD	0.3	0.3	1.0	1.0	0.0	233.3	0.0	233.3
Injectables 94.1	7.7	11.8	8.7	9.4	53.2	-26.3	8.0	22.1
Implants	0.5	0.5	0.6	2.6	0.0	20.0	333.3	420.0
Condom	5.0	7.1	6.6	6.0	42.0	-7.0	-9.1	20.0
<b>Any Traditional Methods</b>	<b>3.3</b>	<b>3.1</b>	<b>5.9</b>	<b>9.6</b>	<b>-6.1</b>	<b>90.3</b>	<b>62.7</b>	<b>190.9</b>
Rhythm	1.0	0.5	1.1	0.9	-37.5	120.0	-18.2	12.5
Withdrawal	2.4	2.6	4.8	8.7	8.3	84.6	81.3	262.5
<b>Permanent Method</b>	<b>4.4</b>	<b>4.6</b>	<b>3.6</b>	<b>2.2</b>	<b>4.5</b>	<b>-21.7</b>	<b>-38.9</b>	<b>-50.0</b>
<b>Female Methods</b>	<b>14.5</b>	<b>19.9</b>	<b>18.4</b>	<b>18.9</b>	<b>37.2</b>	<b>-7.5</b>	<b>2.7</b>	<b>30.3</b>
<b>Male Methods</b>	<b>8.7</b>	<b>10.8</b>	<b>12.1</b>	<b>15.2</b>	<b>24.1</b>	<b>12.0</b>	<b>25.6</b>	<b>74.7</b>
<b>Not Using</b>	<b>76.8</b>	<b>69.3</b>	<b>69.5</b>	<b>65.9</b>	<b>-9.8</b>	<b>0.3</b>	<b>-5.2</b>	<b>-14.2</b>
<b>Number of Young Women</b>	<b>2144</b>	<b>2006</b>	<b>2159</b>	<b>2059</b>				

**Source:** Nepal Demographic and Health Survey, 2001, 2006, 2011 and 2016.

Relatively high prevalence of modern contraceptive methods (24.5%) than traditional method (9.6 %). In 2016, among the modern methods, injectable had the highest prevalence (9.4 %) rate followed by the condom (6%) and then the pill (3.4%), IUD (1%) and other methods (less than one percent). Less than 10 percent (9.6) of currently married young women were using traditional methods. Overall, the prevalence of use of

any contraceptive methods among currently married young women in Nepal is still far below the national prevalence level of 53 percent (Table 1)

### Intention to Future Use of Contraception

An important indicator of the changing demand for family planning is the extent to which nonusers of contraception plan to use family planning in the future. Currently married women who were not using contraception at the time of the survey were asked about their intention to use family planning in the future. Although there has been a steady increase in overall contraceptive use since 2001, there has been no change in the contraceptive prevalence rate for modern methods since 2011. Among currently married young women, 24.5 percent were using modern methods, 9.6 percent were using traditional methods, 62 percent reported that they intend to adopt a family planning method in the future, and only 3.6 percent said that they did not intend to use a method.

**Table 2:** Percent Distribution of Currently Married Non-Pregnant Young Women Age 15-24 by Contraceptive Use and Future Use Intention, Nepal, 2001-2016

Contraceptive Use and Future Use Intention	Current Used				Percent Change			
	2001	2006	2011	2016	2001-2006	2006-2011	2011-2016	2001-2016
Using Modern Method	19.9	27.6	24.7	24.5	38.7	-10.5	-0.8	23.1
Using Traditional Method	3.3	3.1	5.9	9.6	-6.1	90.3	62.7	190.9
Non User-intend to Use	71.2	64.8	66.9	62.3	-9.0	3.2	-6.9	-12.5
Does Not Intend to Use	5.6	4.5	2.6	3.6	-19.6	-42.2	38.5	-35.7
<b>Number of Young Women</b>	<b>2144</b>	<b>2006</b>	<b>2159</b>	<b>2059</b>				

**Source:** Nepal Demographic and Health Survey, 2001, 2006, 2011 and 2016.

These data suggest that there is substantial scope for family planning programs to increase contraceptive use by providing advocacy and high-quality services to non users since they are intended to use.

### Source of Modern Contraceptive Methods

All current users of modern contraceptive methods were asked the most recent source of their methods in all the Demographic and Health Surveys conducted in Nepal. This information on where women obtain

their contraceptive method is important for family planning program managers and implementers. The government sector remains the major source of contraceptive methods among young women in Nepal, providing methods to three in five current users. The share of the government sector has remained constantly higher over the last fifteen years.

**Table 3:** Percent Distribution of Users of Modern Contraceptive Methods by Most Recent Source of Methods According to Survey Years

Source of Methods	Survey Years				Percent Change
	2001	2006	2011	2016	2001-2016
Government Sectors	67.2	61.8	55.8	60.7	-9.7
NGOs	8.4	7.5	4.7	4.0	-52.4
Private Medical Sectors	22.6	30.5	39.2	32.9	45.6
Other Source (Friend/Relative)	1.8	0.2	0.2	2.4	33.3
Total	100.0	100.0	100.0	100.0	
<b>Number of Young Women</b>	<b>427</b>	<b>548</b>	<b>533</b>	<b>505</b>	

**Source:** Nepal Demographic and Health Survey, 2001, 2006, 2011 and 2016.

In 2016, only four percent of users obtained their methods from the non-government sector, decreased by 52 percent from 2001. One-third of modern contraceptive users obtained their methods from the private sector in 2016. It is worth-noting that the percent of users obtaining their methods from the private sector has increased by 46 percent in the past fifteen years (from 22.6 percent in 2001).

### **Determinants of Contraceptive Use: Bi-variate Analysis**

This section presents the bivariate analysis of the relationship between selected independent variables and contraceptive use among currently married young women from the 2001 survey to 2016 survey periods in Nepal.

### **Demographic Characteristics and Contraceptive Use**

In this study, demographic determinants (age, number of living children, presence of son and spousal separation) of contraceptive use are analyzed by generating cross classification table. Chi-square test has been used to test the significance of association between two variables.



**Table 4:** Percent Distribution of Currently Married Non-Pregnant Young Women Age 15-24 by Contraceptive Method Currently Used According to Demographic Characteristics

Demographic Characteristics	Contraceptive Use				Percent Change
	2001	2006	2011	2016	2001-2016
<b>Age of Women</b>					
15-19	14.7	19.7	21.9	28.0	90.5
20-24	27.8	35.9	34.1	36.5	31.3
$\chi^2$	47.026***	53.065***	31.943***	13.380***	
<b>No. of Living Children</b>					
0	9.5	11.7	16.2	21.4	125.3
1	23.6	32.9	33.5	37.0	56.8
2 and more	34.8	42.8	40.6	42.9	23.3
$\chi^2$	123.210***	135.847***	92.000***	61.229***	
<b>Presence of Son</b>					
No son	14.7	23.4	23.7	27.7	88.4
Having at least one son	33.4	38.9	38.7	41.9	25.4
$\chi^2$	104.510***		56.733***	46.024***	
<b>Spousal Separation</b>					
Living with her	29.5	42.9	46.8	53.9	82.7
Living elsewhere	8.9	10.1	9.6	10.4	16.9
$\chi^2$	109.087***	237.053***	346.017***	430.110***	
<b>Total</b>	<b>23.2</b>	<b>30.7</b>	<b>30.5</b>	<b>34.1</b>	47.0
<b>N</b>	<b>2143</b>	<b>2006</b>	<b>2158</b>	<b>2059</b>	

\*\*\* Significant at 1 percent level, \*\* Significant at 5 percent level and \* Significant at 10 percent level

**Source:** Nepal Demographic and Health Survey, 2001, 2006, 2011 and 2016.

The proportion of currently married non-pregnant women currently using contraceptive methods by demographic characteristics, for all four survey years 2001, 2006, 2011 and 2016 Large disparities can be seen among the demographic variables on current use of contraception. Age of

respondents and number of living children have shown almost similar pattern in the use of contraception. Younger adolescent women are less likely to using contraception than older young women aged 20-24 and women who have no one living children are less likely to using contraceptive methods than women who have one and more than two children in all the survey years (Table 4).

Pearson chi-square test is applied to test the independence of demographic variables with contraceptive use and the test shows statistically significant relationship between all variables and contraceptive use with  $P < 0.001$  in almost all variables in all the survey years (except age at first cohabitation and age at first birth in year of 2001 and 2006) indicates that there is highly significant relationship between demographic characteristics and contraceptive use among young women.

### **Socio Economic Characteristics and Contraceptive Use**

The current use of any contraceptive methods by socioeconomic characteristics of young women. Contraceptive use has shown significant variation according to socio-economic characteristics of Nepalese young women. As expected study shows that there is significant positive relationship between women and their husband education and use of contraceptive methods in all the survey years. As the level of education increased contraceptive use also increased. Among those who have no education, only 25 percent reported that they were using contraceptives and 39 percent of the higher educated women were using contraceptives in 2016 (Table 5).

Education influences women's reproduction by increasing knowledge of fertility, increasing socio-economic status and changing attitudes about fertility management. Education also affects the distribution of authority within households, whereby women increase their authority with their partners and affect fertility and use of contraceptives. In all surveys, modern contraceptive use is positively associated with level of household wealth. Use of modern methods is highest among women from the richest households. Wealth-related disparities in contraceptive use were greater among younger women in 2001. As expected, women in urban areas were also more likely to use contraception than women in rural areas. Urban-rural differentials were relatively larger among younger women in 2001 but gap is narrowing down in successive years.

**Table 5:** Percent Distribution of Currently Married Non-Pregnant Young Women Age 15-24 by Contraceptive Method Currently Used According to Socio Economic Characteristics

Socio-economic Characteristics	Contraceptive Use				Percent Change
	2001	2006	2011	2016	2001-2016
<b>Education of Women</b>					
No education	16.5	25.1	26.7	25.1	52.1
Primary	23.7	29.9	28.1	29.0	64.6
Secondary	39.2	38.1	32.1	37.7	-3.8
Higher	48.6	34.5	44.2	39.3	-19.1
$\chi^2$	106.618***	28.161***	19.363***	26.223***	
<b>Education of Husband</b>					
No education	15.4	29.8	28.5	22.8	48.1
Primary	20.2	27.8	27.1	33.8	67.3
Secondary	25.8	29.8	30.0	33.1	28.3
Higher	48.3	46.2	41.4	41.6	-13.9
$\chi^2$	73.247***	22.039***	18.943***	21.680***	
<b>Occupation of Women</b>					
Not working	22.5	31.7	27.0	29.5	31.1
Agriculture	20.8	27.0	27.2	35.3	69.7
Non agriculture	54.4	58.8	51.5	44.6	-18.0
$\chi^2$	73.156***	67.955***	71.346***	23.031***	
<b>Occupation of Husband</b>					
Not working	-	38.9	-	29.6	
Agriculture	21.1	31.4	37.6	53.7	154.5
Non agriculture	26.2	31.3	30.1	30.9	17.9
$\chi^2$	7.058***	0.476	8.688***	60.802***	
<b>Wealth Status</b>					
Poorest	-	18.7	24.4	31.8	70.1
Poorer	-	25.7	28.3	34.6	34.6
Middle	-	26.3	27.4	27.6	4.9
Richer	-	34.4	33.8	34.3	-0.3
Richest	-	49.7	41.5	49.2	-1.0
$\chi^2$		98.783***	56.733***	46.024***	
<b>Caste/Ethnicity</b>					
Brahmin/chhetri	28.4	31.3	31.6	35.9	26.4
Other tarai caste	14.8	15.5	29.2	25.4	71.6
Dalits	14.6	23.8	22.6	26.7	82.9
Janajati	26.3	40.0	34.8	44.3	68.4
Muslim	6.6	10.2	20.3	13.3	101.5
$\chi^2$	77.331***	89.533***	30.912***	81.034***	
<b>Living Residence</b>					
Rural	20.7	27.2	28.7	30.0	44.9
Urban	51.2	52.7	47.2	37.5	-26.8
$\chi^2$	82.527***	73.665***	30.718***	12.655***	
<b>Total</b>	<b>23.2</b>	<b>30.7</b>	<b>30.5</b>	<b>34.1</b>	47.0
<b>N</b>	<b>2143</b>	<b>2006</b>	<b>2158</b>	<b>2059</b>	

\*\*\* Significant at 1 percent level, \*\* Significant at 5 percent level and \* Significant at 10 percent level

**Source:** Nepal Demographic and Health Survey, 2001, 2006, 2011 and 2016.

Social, cultural and gender related obstacles can prevent a woman from realizing her childbearing preferences. Women who cannot read or have limited education may know little about their own bodies and much less about family planning. Misconceptions and myths about pregnancy and contraceptive methods also abound. Furthermore, social norms surrounding fertility and virility, and the overall low status of women, keep many women from seeking family planning.

### Fertility Preference, Decision Making and Contraceptive Use

Beyond the demographic and socio-economic variables, couple's family size desire, women's fertility preference and women's decision making status are significantly correlated with contraceptive use among young women. Men tend to want more children and to want them earlier than women do, and in many cases have greater decision-making power to determine family size.

**Table 6:** Percent Distribution of Currently Married Non-Pregnant Young Women Age 15-24 by Contraceptive Method Currently Used According to Fertility Preference and Decision Making Characteristics

Fertility Preference and Decision Making Characteristics	Contraceptive Use				Percent Change
	2001	2006	2011	2016	2001-2016
<b>Fertility Preference</b>					
Wants no more	43.0	48.9	42.3	49.6	15.3
Wants another	15.5	20.9	23.6	26.4	70.3
$\chi^2$	183.400***	168.030***	18.943***	109.340***	
<b>Ideal no. of Children</b>					
No child	-	-	-	61.1	
One	38.5	36.8	38.2	51.3	33.2
Two	27.8	34.3	31.2	33.6	20.9
Three and more	13.0	16.5	19.4	17.8	36.9
$\chi^2$	77.120***	52.878***	28.720***	85.414***	
<b>Husband Desire for Children</b>					
Both wants same	22.5	30.2	28.3	33.9	50.7
Husband wants more	19.5	24.0	34.1	28.3	45.1
Husband wants fewer	53.5	30.8	34.0	35.4	-33.8
$\chi^2$	103.519***	3.281*	5.600**	3.372***	
<b>Decision Making Power</b>					
No decision	18.0	21.2	21.7	28.9	60.6
Some decision	36.4	42.5	37.8	39.2	7.7
$\chi^2$	82.422	98.783***	56.733***	46.024***	
<b>Total</b>	<b>23.2</b>	<b>30.7</b>	<b>30.5</b>	<b>34.1</b>	
<b>N</b>	<b>2143</b>	<b>2006</b>	<b>2158</b>	<b>2059</b>	

\*\*\* Significant at 1 percent level, \*\* Significant at 5 percent level and \* Significant at 10 percent level

**Source:** Nepal Demographic and Health Survey, 2001, 2006, 2011 and 2016.

Women whose husband wants to have more children are less likely to use contraceptive as compared with women whose husbands want a similar and fewer number of children. This might be due to husbands’ demand for more children having a negative influence on women’s contraceptive use, which in turn might affect decisions on the number of children desired. As expected, it is found that contraceptive use are higher when women want a child later or want no more child, compared with women who want another child soon.

Contraceptive use is positively associated with women’s empowerment as indicated by decision making power for all the survey years. Use of any contraceptive method is higher among women who participate in one or more decisions. For example, in 2016, the percentage of women using any method increased from about 30 percent among those who did not participate in any decisions (no decision) to 39.2 percent among women who participated in one or more decisions (some decision).

**Media/Family Planning Programme Exposure and Contraceptive Use**

Media can generate demand for family planning service. It is known that having previous exposure to family planning services and being knowledgeable about family planning increase contraceptive use. Women who had no exposure to mass media were less likely to use modern methods than those who did have exposure to media.

**Table 7:** Percent Distribution of Currently Married Non-Pregnant Young Women Age 15-24 by Contraceptive Method Currently Used According to Media and Family Planning Programme Exposure

Media and Family Planning Programme Exposure	Contraceptive Use				Percent Change
	2001	2006	2011	2016	
<b>Media Exposure (Radio, TV, News Paper)</b>					
No exposure	14.7	22.0	27.9	27.8	89.1
Exposure in at least one media	31.0	34.3	32.0	38.3	23.5
$\chi^2$	80.115***	29.426***	3.952**	24.524***	
<b>Heard Family Planning in the Media (Radio, TV, News Paper)</b>					
No	12.5	17.6	24.7	28.2	125.6
Yes, at least one media	29.8	34.8	33.9	40.6	36.2
$\chi^2$	84.510***	20.033***	20.336***	35.323***	
<b>Total</b>	<b>23.2</b>	<b>30.7</b>	<b>30.5</b>	<b>34.1</b>	<b>47.0</b>
<b>N</b>	<b>2143</b>	<b>2006</b>	<b>2158</b>	<b>2059</b>	

\*\*\* Significant at 1 percent level, \*\* Significant at 5 percent level and \* Significant at 10 percent level

Source: Nepal Demographic and Health Survey, 2001, 2006, 2011 and 2016.

The electronic media, such as radio and television are important for communicating messages about family planning. Information on the level of exposure to such media is important for program managers and planners to effectively target population for information, education, and communication (IEC) campaigns. In Nepal, the most common media sources are radio and television, while print media is mostly accessed by the educated.

Media access is also found to influence young women to use contraceptive methods. Young women who report that they listen to radio or watch or read newspapers at least once a week use contraceptives more than those who do not have access to such media. For example, in 2016 among young women who stated that they had exposure to one media at least once a week, 38 percent reported that they used contraceptives as compared to 27.8 percent who had no exposure of such media (Table 7). Similarly, for those who heard family planning from at least one of the media (newspaper, radio or TV) were more likely to use contraceptive methods. The mass media are useful for teaching young adults because the media can use elements of popular culture to articulate a message in young women's own terms.

### Service Factors Accessibility and Contraceptive Use

Studies around the world in the last two decades indicate that young people and adolescents are often unwilling or unable to obtain needed health services due to the barriers related to the availability, accessibility, acceptability and equity in health services (WHO 2011).

**Table 8:** Percent Distribution of Currently Married Non-Pregnant Young Women Age 15-24 by Contraceptive Method Currently Used According to Service Factors Accessibility

Service Factors Accessibility	Contraceptive Use				Percent Change 2001-2016
	2001	2006	2011	2016	
<b>Visited Health Facility in Last 12 Months and Told Family Planning</b>					
Not visited	12.7	22.4	24.6	27.4	115.7
Visited, but did not tell family planning	24.7	31.0	30.4	35.5	43.7
Visited and also told family planning	58.9	56.3	46.9	41.7	-29.2
$\chi^2$	237.492***	52.737*	42.658**	18.630***	
<b>Visited by Family Planning Worker Last 12 Months</b>					
No	21.2	27.9	25.5	30.2	42.5
Yes	43.9	52.3	47.0	39.1	-10.9
$\chi^2$	49.311***	58.446***	56.733***	17.667***	
<b>Total</b>	<b>23.2</b>	<b>30.7</b>	<b>30.5</b>	<b>34.1</b>	<b>47.0</b>
<b>N</b>	<b>2143</b>	<b>2006</b>	<b>2158</b>	<b>2059</b>	

\*\*\* Significant at 1 percent level, \*\* Significant at 5 percent level and \* Significant at 10 percent level

**Source:** Nepal Demographic and Health Survey, 2001, 2006, 2011 and 2016.

Visits to health facilities encourage greater use of contraceptives, particularly modern methods. The results showed that women who did not visit health facilities in the previous 12 months were less likely to use contraceptives. Similarly, women who were not visited by family planning fieldworkers in the previous 12 months were less likely to use contraceptives.

### **Determinants of Contraceptive Use: Multivariate Analysis**

Multivariate logistic regression analyses are done by impulsively fitting all the variables that were found to be significantly associated with the use of contraceptive methods in the multivariate logistic regression model and results are shown in Table 9. Both gross and net effect are applied in order to show the association between contraceptive use of young women and each of the predictor variables before and after controlling the effect of the other predictor variables.

In this study, an attempt has been made to examine the effects of different determining variables on contraceptive use and identify a number of factors that have important influences on young women use of contraceptives in Nepal. Although all variables are found to be important predictors of contraceptive use in gross models, only some variables (no. of living children, spousal separation, occupation of women, wealth index, caste/ethnicity, fertility preference, ideal number of children, husband desire for children, decision making status, and media exposure) are remained significant in the final (net) model (Table 9).

This study finds use of contraceptive to be higher among women with higher number of living children than among women with one or no child. Young women having three and more children are almost 4 times (OR= 3.782) more likely to use contraception than women having less than or equal to one child. This confirms findings from previous studies (Khan et al., 2008). This could be the women with at least two or more living children are likely to be more interested in limiting childbirth than are childless women, or those with only one living child.

Currently married young women living with their husbands are 14 times (OR=14.508) more likely to use contraception than that of women with husbands living elsewhere. Young women working in agricultural

field are more likely to use contraception unlike their counterparts with not working women. With regard to occupation, women in this study, who were currently working in agricultural sector, are more likely to use family planning methods. Women who work in agricultural sector are 1.6 times more likely to use contraceptive when compared to not working women.

Past studies opined that female education emerged as an important variable affecting the contraceptive use. Education also contributes to delaying marriage, which also has direct effects on fertility, by postponing a woman's childbearing career. Postponing marriage would be one way to curb the norm of early motherhood. Though bi-variate analysis (both cross classification and gross effect) shows a positive attitude towards contraceptive practice, but in logistic regression no statistically significant relation is found. In fact, some scholar (Martin, 1995) argued that once a country is near completion of the fertility transition, education and other socio economic status don't play the same role as during the stage of high fertility levels. This seems to have occurred in the case of young women in Nepal.

Young women in the richer wealth index quintiles are more likely to use modern contraceptive methods compared with the poorest wealth category. The odds of modern contraceptive use increase as wealth increases. Compared with the poorest quintile of women, the odds of using contraceptive are 1.339, 1.992, and 2.124 times higher among the middle, richer, and richest women respectively. This supports the findings from previous studies (Adebowale, Adedini, Ibisomi & Palamuleni. 2014; Nketiah-Amponsah, Arthur, and Aaron, 2012). This could be linked with many factors. Poor women might face difficulties in getting access to services. Moreover, economic power is the source of an ability to exercise one's rights. Hence, poor women may not achieve their family planning needs to the same extent that wealthier women are able to.

The analysis revealed significant differences in contraceptive use across different caste/ethnic groups. Muslim women have significantly lower and *Janajati* women have higher odds of contraceptive use compared to *Brahmin/chhetri* women.



**Table 9:** Unadjusted (Gross Effect) and Adjusted (Net Effect) Odds Ratios for Use of Contraceptives (N=2059)

Characteristics	Model I (Gross Effect)	Model II (Net Effect)
<b>Demographic Characteristics</b>		
<b>Age of Women</b>		
15-19 (R)	1	1
20-24	1.479***	0.887
<b>No. of Living Children</b>		
No living child (R)	1	1
One child	2.163***	2.865***
Two and more childrens	2.772***	3.901***
<b>Presence of Son</b>		
No son(R)	1	1
Having at least one son	1.884***	1.143
<b>Spousal Separation</b>		
Husband living elsewhere(R)	1	1
Husband living with her	10.112***	14.517***
<b>Socio Economic Characteristics</b>		
<b>Education of Women</b>		
No education(R)	1	1
Primary	1.212	.813
Secondary	1.800***	1.169
Higher	1.918***	1.198
<b>Education of Husband</b>		
No education(R)	1	1
Primary	1.701***	1.205
Secondary	1.661***	1.109
Higher	1.290***	1.744*
<b>Occupation of Women</b>		
Not working(R)	1	1
Agriculture	1.304***	1.618**
Non agriculture	1.933***	1.088
<b>Occupation of Husband</b>		
Not working(R)	1	1
Agriculture	2.820***	1.509
Non agriculture	1.087	1.217
<b>Wealth Status</b>		
Poorest(R)	1	1
Poorer	0.909***	1.059
Middle	0.929***	1.339*
Richer	1.284*	1.992***
Richest	1.152***	2.124***
<b>Caste/Ethnicity</b>		
Brahmin/chhetri(R)	1	1
Other tarai caste	0.628***	.582**
Dalits	0.646***	1.057

**Table 9:** Unadjusted (gross effect) and adjusted (net effect) odds ratios for use of contraceptives (Contd....)

Janajati	1.421***	1.962***
Muslim	0.273***	.489**
<b>Living Residence</b>		
Rural(R)	1	1
Urban	1.397***	1.164*
<b>Fertility Preference and Decision Making Characteristics</b>		
<b>Fertility Preference</b>		
Wants no more(R)	1	1
Wants another	0.364***	.742**
<b>Ideal no. of Children</b>		
One or less(R)	1	1
Two	0.468***	.522***
Three and more	0.200***	.334***
<b>Husband Desire for Children</b>		
Both wants same(R)	1	1
Husband wants more	0.765***	.653**
Husband wants fewer	0.078	1.169
<b>Decision Making Power</b>		
No decision(R)	1	1
Some decision	1.589***	1.226*
<b>Media and Family Planning Programme Exposure</b>		
<b>Media Exposure (Radio, TV, News Paper)</b>		
No exposure (R)	1	1
Exposure in at least one media in a week	1.620***	1.214*
<b>Heard Family Planning in the Media (Radio, TV, News Paper)</b>		
No(R)	1	1
Yes, at least one media in last month	1.753***	1.149
<b>Service Accessibility Factors</b>		
<b>Visited Health Facility in Last 12 Months and Told Family Planning</b>		
Not visited(R)	1	1
Visited, but did not tell about family planning	1.443***	0.941
Visited and also told about family planning	1.888***	1.016
<b>Visited by Family Planning Worker Last 12 Months</b>		
No	1	1
Yes	1.485***	1.207*
<b>Nagelkerke R Square</b>		<b>0.451</b>

\*\*\* Significant at 1 percent level, \*\* Significant at 5 percent level and \* Significant at 10 percent level, (R) Reference category

**Source:** Nepal Demographic and Health Survey, 2001, 2006, 2011 and 2016.

The result of both models explains *Janajati* young women are more likely to use contraception as compared to Brahmin/Chhetri women. Women belonging to the *Janajati* groups are 1.9 times more likely and *Muslim* are 51 percent less likely to use contraceptives than that of *Brahmin/chhetri* women. A study conducted in India indicates similar observations, showed the result, Muslim women have lower odds of contraceptive use compared with non-Muslim women (Hussain, 2011). This indicates that the less favorable attitude of Muslims toward family planning and are likely to have a lower approval rate for contraceptive use. A study conducted in the urban areas of the Kathmandu Valley revealed that use of a modern method of contraception was associated with religion with significantly less odds of using a modern method of contraception if the young person identified as Hindu (Tamang, Greenow, McGeechan & Black, 2017). The possible reason for greater use of contraception by non-Hindu youths, primarily *Janajati*, may relate to the more egalitarian nature of their religious and cultural beliefs and practices compared to the Hindu traditions.

Women whose husbands wanted more children have 35 percent lower odds of contraceptive use than women whose husbands wanted the same number of children as they did. Likewise, as expected, among women wanting a child later or wanting no more children are 26 percent less likely to use contraceptives as compared with women who want another child soon. Some decision making power in household matter, are more likely to use contraception as compared to women having no decision making power in their households. Empowered women in terms of household decision making matters are 20 percent more likely to report using contraceptive methods as compared to not empowered women. According to theories of women's empowerment and evidence from some studies, equity in household decision-making is associated with positive outcomes in various spheres, including health (Hou & Ma, 2011; Woldemicael & Beaujot, 2011). This perspective is confirmed by this study finding showing the statistically significant association between some decisions a woman can make in the household and higher use of contraceptive method.

Exposure to mass media is also significantly associated with use of contraceptives. Women who listen to the radio or watch TV or read news paper at least once a week (exposure to media) are 1.2 times more likely to use contraceptive compared to those who never utilize these media. However, family planning programme exposure (heard about family planning on medias - radio, TV and news paper- in the last months preceding

the interview) did not exhibit significance in determining whether a young woman would use contraceptive or not. Controlled for interaction with all variables, (Model II), women who had visited by Family planning worker in the last 12 months are more likely to use contraceptive as opposed to women who had not visited by family planning workers.

## **CONCLUSION**

This study examines use and determinants of contraceptive methods among currently married young women of aged 15-24 years in Nepal. The levels of contraceptive use among young married women in Nepal have been increasing over time. However, the study shows that the contraceptive prevalence rate of young women is only 34.1 percent which is much lower than the current national level of 52 percent among all women of reproductive age according to the NDHS 2016 report. The most commonly used method is injectables followed by the condom and oral contraceptive pill. This may relate to the fact that government of Nepal has made these methods easily available and accessible to all reproductive age men and women in Nepal. As a policy measure, findings of this study are very useful as it can inform policy and decision making in the government healthcare system to increase the contraception users among young people to protect from unintended pregnancy and sexually transmitted infections.

This study has found that government health facilities are the leading sources of family planning methods. This is not surprising considering that these facilities tend to provide services free of charge thus removing one of the key barriers to accessing family planning services among young women. However, it shows that private health facilities are a good source of family planning methods, suggesting a need to equip them with supplies so that young women who prefer to obtain their supplies from private facilities are not deprived of these methods. In addition, the fact that private facilities came second to government facilities suggests a need for strong public-private partnerships to increase access to and utilization of family planning methods among young women in Nepal.

The study findings show that number of living children, spousal separation, husband education, women, occupation, wealth status, caste/ethnic affiliation, fertility preference, decision making status, ideal number of children they prefer and media exposure, are statistically associated to the use of contraception among young women in Nepal. There is need to strengthen income generating activities so as to improve young women

socio-economic status which will translate into female economic and social empowerment hence ability to discuss sexuality related issues. Family planning programmes should be designed so as to address the contraceptive need of young women especially the low parity and Muslim adolescents.

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