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Factors Influencing Unmet Needs for Family Planning Among Currently Married Women in Nepal

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ABSTRACT

Background: Family planning is one of the most cost-effective interventions available, but still there exists unmet needs for family planning. Women are said to have unmet needs for family planning if they want to stop or delay child bearing, but are not using any methods of contraception. According to Nepal Demographic and Health Survey (NDHS) 2001 data the prevalence of unmet needs in Nepal was 27.8%. Unplanned or unwanted pregnancy may result in abortion which in most of the cases occurs in unhygienic conditions in Nepal taking many lives each year. **Purpose of the study:** To determine the unmet needs of family planning in Nepal and identify the factors responsible. **Methodology:** The secondary data of NDHS 2006 was used and the study was done on 8,244 women who were married at the time of survey. An analytical study was done to find the association between unmet needs and explanatory variables and was assessed by univariate and multivariate logistic regression. Also the linear trend was tested. **Results:** There were total 26% unmet needs for family planning (10% spacing and 16% limiting). There was significant association ($p<0.05$) between unmet needs and explanatory variables such as age (decreasing, $p<0.001$ for linear trend), place of residence [rural (OR=1.04; CI=0.91-1.19)], religion [Muslims (OR=1.97; CI=1.51-2.57)], education, (decreasing, $p<0.001$ for linear trend), parity (increasing, $p<0.001$ for linear trend), wealth index (decreasing, $p<0.001$ for linear trend) and exposure to media [newspaper (OR=1.19; CI=1.01-1.41), television (OR=0.97; CI=0.85-1.10) and radio (OR=1.20; CI=0.99-1.45)]). No significant association was found with age at first marriage. **Conclusion:** One quarter of the women still have unmet needs for family planning. The factors influencing unmet needs should be consider while formulating a family planning program. Thus, family planning program should prioritize rural, uneducated, young and underprivileged women.

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MPH

ACRONYMS

1. NDHS: Nepal Demographic and Health Survey
2. IUDs: Intrauterine Device
3. FPAN: Family Planning Association Nepal
4. NGOs: Nongovernmental Organizations
5. INGOs: International Nongovernmental Organizations
6. ICPD: International Conference on Populations and Development
7. WHO: World Health Organization
8. MWRA: Married Women of Reproductive Age
9. GDI: Gender-related Development Index
10. MOH: Ministry of Health
11. HIV: Human Immunodeficiency Virus
12. AIDS: Acquired Immunodeficiency Syndrome
13. MOHP: Ministry of Health and Population
14. STIs: Sexually Transmitted Infections
15. VDCs: Village Development Committees
16. PSU: Primary Sampling Unit
17. DHS: Demographic and Health Survey
18. IEC: Independent Ethics Committee
19. SPSS: Statistical Package for the Social Sciences
20. Fig: Figure
21. FP: Family Planning
22. OR: Odds Ratio

23. CI: Confidence Interval

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CHAPTER I

INTRODUCTION

1.1 Background

Family planning can be defined as the term which refers to use of modern contraceptives or natural techniques for either limiting or spacing pregnancies. Pills, male and female sterilization, Intrauterine Device (IUDs), injectables, implants, male and female condoms, diaphragm and emergency contraception are modern methods of contraception. Similarly, traditional methods include periodic abstinence, withdrawal and folk methods (1). It is required for individuals and couples to anticipate and attain their desired number of children and also for the spacing and timing of their births. It has direct impact on women's health and well-being as well as on the outcome of each pregnancy (2). It is also one of the most cost-effective interventions available. Family planning services can bring a wide range of benefit to women, their families and the society as a whole. It allows spacing of pregnancies and can delay pregnancies in high risk women, thus, reducing maternal deaths, can reduce infant mortality by preventing closely spaced and ill timed pregnancies which are termed as the contributor for infant mortality. It can also help in reducing unsafe abortion which accounts for 67,000 deaths annually and can also reduce adolescence pregnancies and slows population growth as well. Thus, family planning is essential in reducing poverty and achieving United Nations' Millennium Development Goal (3).

The population of Nepal was 11.6 million in 1971 which doubled in 30 years and reached 23.2 million. And the population growth rate increased from 2.1 to 2.3 from 1971 to 2001 (4). Initially the family planning services were limited to the Kathmandu valley only, the capital. On

November, 1968 the Nepal Family Planning and Maternal Child Health project was launched at the government level through the effort of the Family Planning Association Nepal (FPAN). The project was gradually expanded to cover the whole country. Now family planning services has become a priority program of the Nepal Government. Besides, a number of local Nongovernmental Organizations (NGOs) and International Nongovernmental Organizations (INGOs) are also involved in the delivery of family planning services at primary levels (5).

An International Conference on Population and Development (ICPD), Cairo, 1994 and the fourth world conference on women, Beijing, 1995 emphasized women empowerment including reproductive and sexual rights as the basic tool for development (6). From the standpoint of women's reproductive health rights, unmet need was considered as one of the indicators for violation of such rights and one of the several basic rationales for women empowerment (7).

In developing countries an estimated 200 million couples would like to delay or stop childbearing but are not using any methods of family planning (8). Unmet need is defined on the basis of survey data as the percentage of women who are currently not using any method of contraception and want no more child (limiting) or delay child bearing (spacing) (9). The unmet need for family planning is declining but is still very high. In Africa, 53% of married women of reproductive age have unmet needs for modern contraception i.e. modern methods for family planning. In Asia and the Latin America and the Caribbean- regions with high contraceptive prevalence, the unmet needs for family planning are 21% and 22% respectively (8).

There are various reasons responsible for unmet needs of family planning. According to World Health Organization (WHO), the reasons are:

- Limited choice of family planning methods

- Limited access to contraception mainly among young people, poor people or unmarried people
- Fear or experience of having side-effects
- Cultural or religious opposition
- Poor quality of available family planning services
- Gender based barriers (8).

The desired numbers of children for women have decreased compared to past generations. In countries with strong family planning programs, the use of modern contraceptive methods has increased rapidly over the past 30 years. Even in less developed regions, contraceptive use approaches 60% of couples. This reflects greater contraceptive use by women. However, poverty, lack of access to effective contraceptive protection and profound inequalities between men and women in many countries limit women's ability to plan their pregnancies. Rather than the personal preference of the women the differing patterns of contraceptive use reflects political and economic decisions made by governments to emphasize certain methods, the attitudes of medical professionals, cost, the limited range of methods offered in some countries or an uneven availability of contraceptive supplies (10).

According to NDHS 2001 survey, in Nepal the total demand for family planning is 67.1% of married women of reproductive age (MWRA) among which 39.3% is met. The unmet needs prevalence was found to be 27.8% with 11.4% spacing and 16.4% limiting. (4).

Nepal's Context

Contraceptive use is considered as risky behaviour in rural Nepal, and any change in couple's reproductive capacity constitutes risk. Any fertility decisions including the use of contraception

are based on the context of competing motivations, real-life contingencies and economic considerations. This is mainly because children are desired as a means to secure social and mainly economic welfare of the family in future. Thus, couples balance their future needs against their present economic hardships. The couple's decision regarding birth of their children is also based on the family members so; they are stuck between their own decision and their kin decision (11). Thus, in Nepal many socio-demographic characteristics influence couples decisions regarding the use of family planning services which needs to be explored.

Women's situation in Nepal

Nepal is a male dominant, developing country. Nepalese women have very less power to take decision by themselves about their own life. Gender-related Development Index (GDI) has increased from 0.345 in 1996 to 0.452 in 2001. As indicated by the gender empowerment measure score, women are much less empowered than men in the political, economic and professional domains. Women's income is one half of that of men and their participation in the political process is only one fourth of that of men. The gap is wider when it comes to participation in professional and administrative jobs. The situation is even worse in rural areas. Women in rural areas of Nepal are much less empowered than the women in urban areas. Also those who live in far-western and mid-western development regions have similar conditions (12). Women's lag behind men mainly because of disparity in education, limited right to own and inherit property by women until recent past, poor health especially reproductive health, low access to labour markets, employment opportunities, gender based violence and minimal or no representation in decision making (13). In addition to all these there are different kinds of ill treatment and tortures to which women are particularly vulnerable. Women's are ill treated and manhandled by men. Many women especially poor are till date being traumatized and beaten in

names of black magic. Even a woman is not safe in her own house and is being traumatized by their in-laws. There are different kinds of culture which is deep rooted due to which women are under immense physical and mental trauma. The most common and difficult to eliminate even among the educated people are that of 'kamaiyas' and 'chaupadi'. 'Kamaiya' is an agriculturally based bonded labour system mainly in which the 'kamaiya' has made a verbal contract with the landlord or money lender to work for a year. They do not receive wages but instead gets only a small part of production. If in case of some extreme situations that there is no production they will be under immense financial pressure and have to borrow money from their landlord. Then they have to work every time without wages to clear the debt and as a result they are bonded and this continues from generation to generation. Thus, within a few generations many people become 'kamaiyas' working in others land. Women become 'bukhrani' meaning helper and children worked as 'kamlari' meaning maids or domestic workers and men works in field (14). In 'kamlari' system girls are sold by their parents under economic hardships to wealthier families to work as housemaid. Those girls sold are some of age even of 5 years (15). Also especially in the far western development regions of the country there exists 'chaupadi'. In 'chaupadi' system women are isolated every month during their menstrual cycle and also 11 days after delivery. In both the cases they are regarded as untouchable and they have to stay in animal shed during that time. Every month the women having their menstrual cycle have to stay in that shed and they cannot see the sun, interact with male members, cannot eat dairy products, and do daily activities. This system gives women the feeling of inferiority and negatively affects their health by making them live in an unhygienic condition and eat non-nutritious foods (16). Thus, Nepalese women are dominated in every aspects of their life.

1.2 Statement of problem

About 75 million pregnancies worldwide are unplanned/unwanted (17). Unwanted pregnancies happen for many reasons. One of them could be rape. Some people who engage in coitus simply do not know about contraception, or they are unable to get contraceptives, or they are young, cannot discuss on using contraceptives with their partners, or the contraceptives they use do not work as many of them fear technologies and thus, use traditional methods instead of modern contraceptives (18). Most of these unintended pregnancies are not carried to full term, but aborted often in unhygienic condition leading to serious consequences. It is estimated that worldwide about 46 million pregnancies (22% of total pregnancies and 61% of unintended pregnancies) are aborted (19).

In Ministry of Health (MOH), New Era and ORC Macro's study it is also estimated that among the total pregnancies each year in South and South East Asia, about one-third are unintended. In Nepal, the data suggest that more than a third (35%) of all pregnancy and 41% of the last pregnancy among currently pregnant women are unintended (19).

Unplanned/unwanted pregnancy is one of the leading causes of maternal mortality and morbidity in South Asia. It is assumed that most women with unwanted/unplanned pregnancies do not continue the pregnancy to the full-term and try to terminate it, often by traditional and harmful methods leading to serious health consequences. The reason for such huge numbers of unintended pregnancies in South Asia includes low contraceptive use, method failure and high unmet need for contraceptives. Each year worldwide, more than 20 million women experience ill health as a result of pregnancy. Many of these pregnant women experience permanent disabilities

and/or death due to pregnancy and delivery related complications (19). In 2005, WHO estimated about 536,000 maternal deaths worldwide out of which 99% occurs in developing countries (20).

It is estimated that within the next 15 years, unmet needs will grow by 40% worldwide. Family planning is an economically sound investment. However, it has been losing ground as an international development priority. There is gap between need and available resources and also the funding is decreasing (10).

1.3 Significance of study

This study will be useful in finding the factors influencing the unmet needs for family planning among currently married women in Nepal. In 2001, 27.8% of the married women in Nepal had unmet needs for family planning (4). The main reasons behind the unmet needs are necessary to be known in order to formulate good plans and policies.

This study can also be useful for other researcher to gain valuable information regarding issue of interest. It can also be valuable to the organization working in family planning sector to know the factors influencing unmet needs and conduct necessary programs. This study can also provide information to those working in the area of Human immunodeficiency virus (HIV) and Acquired immunodeficiency syndrome (AIDS) to estimate the utilization and hindering factor for use of family planning methods.

1.4 Objectives of study

General objective:

The general objective of the study was to determine the unmet needs of family planning and identify the factors responsible.

Specific objectives:

The specific objectives of the study were:

- To determine the unmet needs of family planning in Nepal.
- To identify the factors influencing the unmet needs.

1.5 Research question

What are the factors influencing the unmet needs of family planning?

CHAPTER II

METHODOLOGY

2.1 Data and methods

The data for this report has been taken from NDHS 2006, which is a nationally representative sample survey. The 2006 NDHS was carried out under the guidance of the population division of the Ministry of Health and Population (MOHP) and was implemented by a local research organization, New Era. The primary purpose of this survey is to furnish policymakers and planners with detailed information on fertility, family planning, infant, child, adult and maternal mortality, maternal and child health, nutrition and knowledge of HIV/AIDS and other sexually transmitted infections (STIs). The data from this survey is openly available and was obtained from MEASURE DHS.

The 2006 NDHS used the sampling frame provided by the list of census enumeration areas with population and household information from the 2001 Population Census. Each of the 75 districts in Nepal is subdivided into Village Development Committees (VDCs), and each VDC into wards. The primary sampling unit (PSU) for the 2006 NDHS is a ward, sub ward, or group of wards in rural areas, and sub wards in urban areas. Information on the subdivision of the urban wards was obtained from the updated Living Standards Measurement Survey. The sample for the survey is based on a two-stage, stratified, nationally representative sample of households. At the first stage of sampling, 260 PSUs (82 in urban areas and 178 in rural areas) were selected using systematic sampling with probability proportional to size. A complete household listing operation was then carried out in all the selected PSUs to provide a sampling frame for the

second stage selection of households. At the second stage of sampling, systematic samples of about 30 households per PSU on average in urban areas and about 36 households per PSU on average in rural areas were selected in all the regions (5).

2.2 Study design

An analytical study has been done to find the association between unmet needs and the explanatory variables and has been assessed by univariate and multivariate analysis.

2.3 Study variables

There was 1 dependent variable and 10 independent variables as shown in table 2.3.1 and table 2.3.2 respectively. The description of the variable and the measurement scale is given in the table. The exact questions directly related with some of the variables are given in annex.

Table 2.3.1: Operational definitions of dependent variable and their measurements NDHS 2006

Variable	Description	Measurement Scale
Unmet Needs	According to data the response for unmet needs was categorized into 9 categories. This was recoded into dichotomous variable as 1=Yes and 0=No. Unmet need to space and unmet need to limit was recoded as 1=yes and other responses including missing value was recoded as 0=No.	0 = No 1 = Yes

Table 2.3.2: Operational definitions of independent variables and their measurements NDHS 2006

Variables	Description	Measurement Scale
Age	Exact month and year of respondent was asked in the questionnaire and then was classified according to five years age group from 1-7.	1=15-19 2=20-24 3=25-29 4=30-34 5=35-39 6=40-44 7=45-49
Place of residence	Types of place of residence of the respondent were asked during identification of respondent as city/town/rural and were coded as shown in measurement scale.	1=Urban 2=Rural
Religion	The religion of the respondent was categorized in questionnaire as Hindu, Buddhist, Muslim, Kirat, Christian and Others. Then the coding was done as Hindu, Buddhist and Muslim as it is and Kirat, Christian and others as others.	1=Hindu 2=Buddhist 3=Muslim 4=Others
Education	Those not attending school was coded as no education and for those who have attended school highest grade completed was asked. The coding was then done accordingly.	0=No education 1=Primary 2=Secondary 3=Higher
Parity	The total number of children living with or away from respondents was asked. Then it was coded in ascending order from no children to five or more children.	0=None 1=One 2=Two 3=Three 4=Four 5=>=Five
Wealth index	The economic index was constructed using household asset data including ownership of a number of consumer items ranging from a television to a bicycle or car, as well as dwelling characteristics, such as source of drinking water, sanitation facilities and type of material used for flooring. Each asset is assigned a weight (factor score) generated through principal components analysis, and the resulting asset scores were standardized in relation to a normal distribution with a mean of zero and standard deviation of one. Each household was then assigned a score for each asset and the scores were summed for each household; individuals were ranked according to the score of the household in which they resided. The sample was then divided into quintiles from one (lowest) to five (highest) (5).	1=Poorest 2=Poor 3=Middle 4=Rich 5=Richest
Age at first marriage	Respondent's age at first marriage was asked in the questionnaire and the coding was done according to less than 20 and more than or equal 20.	0=<20 1=>= 20
Newspaper exposure	Respondents were asked if they read newspaper almost every day, at least once a week, less than once a week, do not read. Then it was coded as 0=No who do not read newspaper and 1=Yes to other responses.	0=No 1=Yes
Television exposure	Respondents were asked if they watch television almost every day, at least once a week, less than once a week, do not watch. Then it was coded as 0=No who do not watch television and 1=Yes to other responses.	0=No 1=Yes
Radio exposure	Respondents were asked if they listen to radio almost every day, at least once a week, less than once a week, do not listen. Then it was coded as 0=No who do not listen to radio and 1=Yes to other responses.	0=No 1=Yes

2.4 Study population

The study populations were the women married at the time of survey. Interviews were completed for 10,793 women age 15-49. Out of 10,793 women, 8,244 women were married at the time of survey.

2.5 Study area

The study area was the Nepal.

2.6 Study duration

The study duration was from January to July, 2012.

2.7 Ethical consideration

The study was conducted only after the approval of the research committee of the Nepal and Norway. In Nepal, New Era organization was approached for the ethical clearance. The information obtained was that there was no ethical clearance required for using Demographic and Health Survey (DHS) data. In Norway the detail methodology section and the e-mail provided by New Era organization from Nepal was sent to Regionale Komitter for medisinsk og Helsefaglig Forskningsetikk. They replied the e-mail and stated that

"The project is based on anonymous data from "The Nepal Demographic and Health Survey." The data set is available for public use, and there are no restrictions on the use. The project comes to research on anonymous data and therefore need no approval from the IEC."

2.8 Data processing and statistical analysis

The secondary data of NDHS 2006 survey was analyzed using Statistical Package for the Social Sciences (SPSS). The association between unmet needs and the explanatory variables were assessed using binary logistic regression. At first dummy variables were made to fit the variable into the regression model to assess the interaction between the dependent variable and the explanatory variable. The dependent variable was assigned the value 0 and 1. The absence of unmet needs was given the value 0 and presence of unmet needs the value 1. Similarly, explanatory variables were coded with presence of some categorical effect as 1 and absence of categorical effect as 0. For continuous variable each response was coded as having the effect as 1 and not having the effect as 0. Univariate logistic analysis was performed and then multivariate logistic analysis was performed. Also the linear trend was tested. The linear trend was tested with age taken as an exact age, dummy variable of each response was taken for religion, dichotomous variable was taken as it is and continuous variable coding was coded in ascending order.

CHAPTER III

RESULTS

3.1. Socio-demographic characteristics of women

Table: 3.1.1: Socio-demographic characteristics of married women (N=8,244) NDHS 2006

Socio-demographic characteristics	Frequency (Total=8244)	Percent
Age		
15-19	787	9.5
20-24	1642	19.9
25-29	1660	20.1
30-34	1264	15.3
35-39	1155	14.0
40-44	976	11.8
45-49	760	9.2
Mean/Median age	30.87 / 30.00	
Place of residence		
Urban	2177	26.4
Rural	6067	73.6
Religion		
Hindu	7210	87.5
Buddhist	566	6.9
Muslim	269	3.3
Others: Christian	70	0.8
Others: Kirat	126	1.5
Others: Unspecified	3	0
Education		
No education	5070	61.5
Primary	1413	17.1
Secondary	1520	18.4
Higher	241	2.9
Parity		
0	817	9.9
1	1283	15.6
2	1731	21.0
3	1479	17.9
4	1080	13.1
5 or more	1854	22.5
Wealth Index		
Poorest	1745	21.2
Poorer	1593	19.3
Middle	1550	18.8
Richer	1673	20.3
Richest	1683	20.4
Age at first marriage		
<20	6947	84.3
>=20	1297	15.7

The frequency and the percentage of 7 independent variables are shown in table 3.1.1. The frequency of 3 independent variables exposure to media (radio, television, newspaper) and the dependent variable unmet needs are shown in fig. 3.2.3 and fig. 3.3.1 respectively.

From the figure we can see that most of the respondents were in age-group 20-29, with 20.1% in 25-29 and 19.9% in 20-24 age-groups. According to place of residence, 73.6% of the women live in rural areas whereas only 26.4% lives in urban areas.

Most of them were Hindu (87.5%) and only few followed other religions. Only 2.9% of the women had an education more than secondary level and 61.5% women were uneducated. The wealth index showed presumed result of almost 20% in each group as was categorized in quintiles.

Most of the respondent (84.3%) had their first marriage at the age less than 20 years and only 15.7% were married when they were 20 years. Similarly, 22.5% of the respondents had 5 or more than 5 children, 13.1% had 4 children, 17.9% had 3, 21.0% had 2 and 15.6% had 1 child.

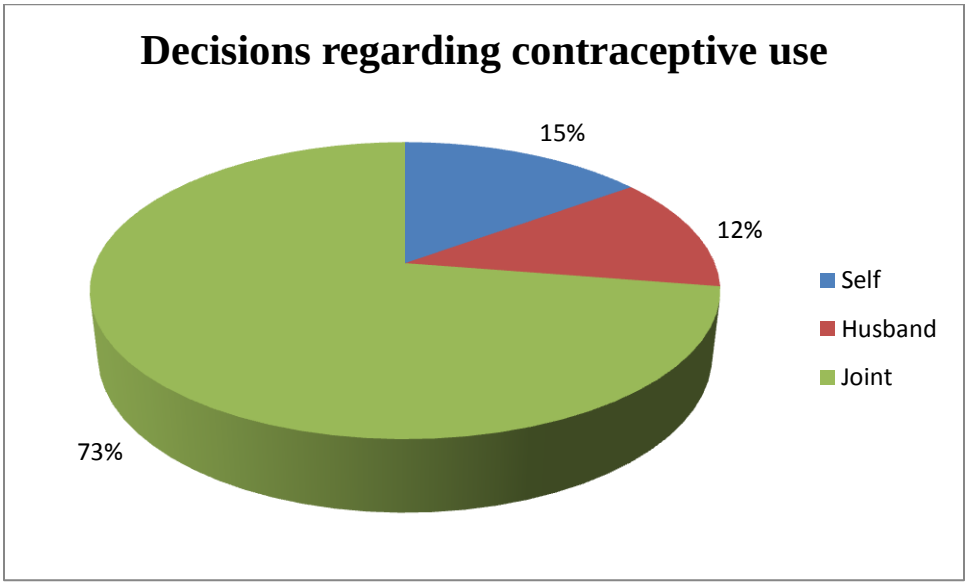
3.2 Knowledge and use of family planning methods

Table: 3.2.1: Knowledge and practice of family planning methods among married women NDHS 2006

	Yes	**No**
Knowledge of family planning methods	8233	11
Practice of family planning methods	5487	2757

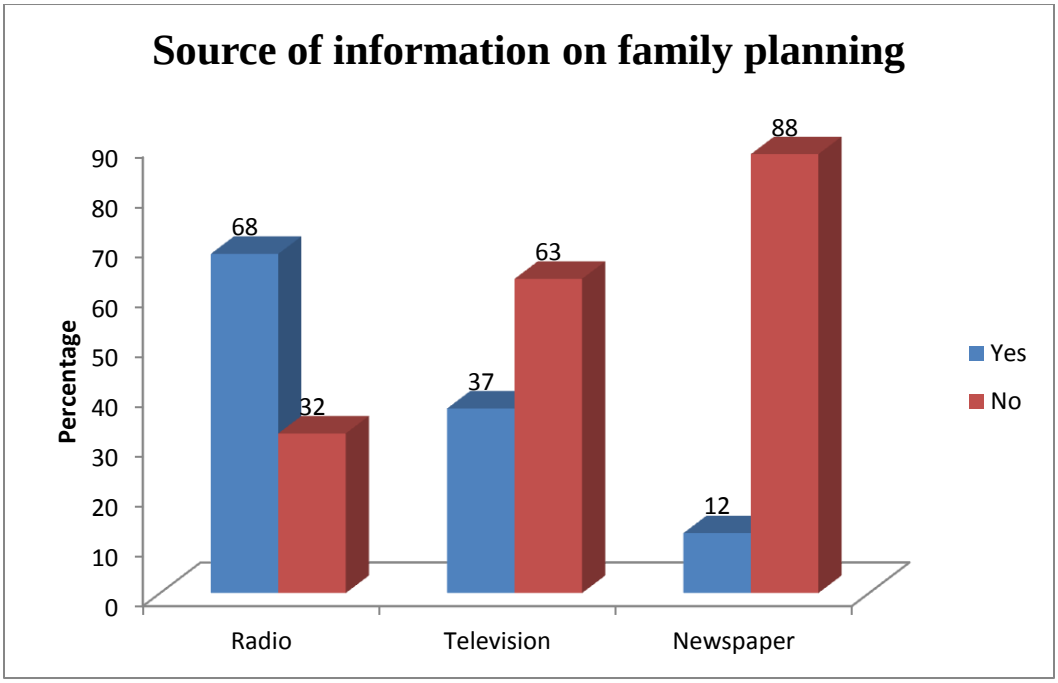
Among the total respondents, 8,233 i.e. 99.9% had knowledge about family planning methods whereas only 11 of them had no such knowledge. From the table we can see that large number of people have knowledge about family planning methods but the use of family planning methods is only limited to 5,487 i.e. 66.5% women. The remaining 33.5% of the women do not use any form of family planning methods.

Fig. 3.2.2: Decision taker regarding use of family planning methods NDHS 2006



The variable decision regarding contraceptive use was taken as it shows the decision power of women which can be one of the factor influencing unmet needs. However, among the total 8,244 respondents, there was response from only 3,806 respondents so; this variable could not be included in regression model. Among those respondent 73% had joint decision regarding the use of contraceptive, 15% make their self decision regarding this issue and 12% of respondent's husband make the decision for them.

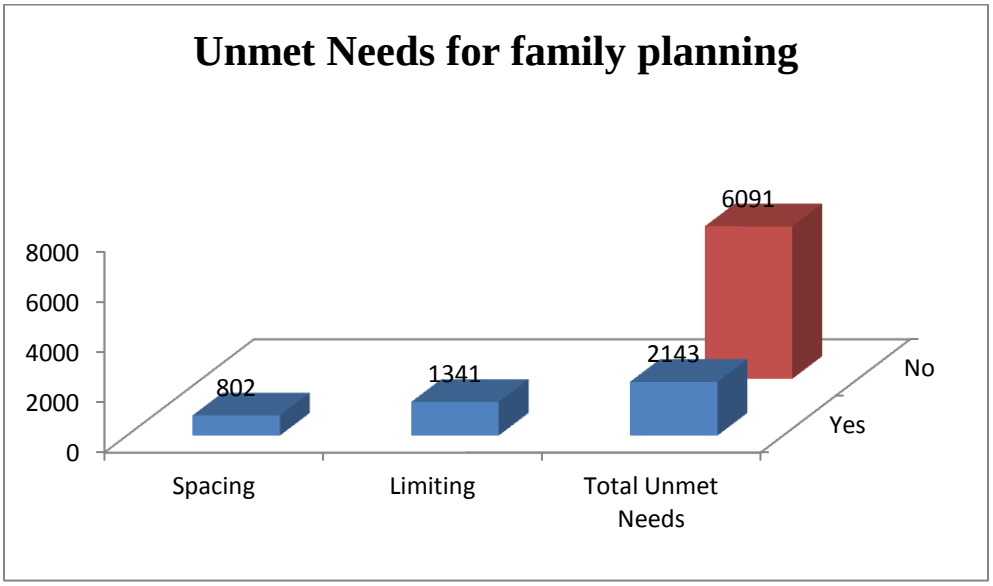
Fig.: 3.2.3: Source of information on family planning NDHS 2006



It is seen from the figure that the main source of information on family planning was radio. 68% respondent's main source of information was radio whereas it was only 37% from television and only 12% from newspaper.

3.3 Unmet needs for family planning

Fig. 3.3.1: Total unmet needs (spacing and limiting) for family planning among married respondents NDHS 2006



In the survey data the response for unmet needs was categorized as never had sex, unmet needs to space, unmet needs to limit, using to space, using to limit, spacing failure, limiting failure, desire birth<2 years, no sex-want to wait and infecund-menopausal. The response as unmet needs to space and unmet needs to limit was taken as having unmet needs and all other response category including 10 missing value was taken as not having unmet needs. There were total 26% unmet needs for family planning. Out of which 10% was unmet needs for spacing and 16% was unmet needs for limiting. 74% of the respondents do not have any unmet needs for family planning.

3.4 Association between independent variables and unmet needs for FP

Table 3.4.1: Odds ratio (OR) with Confidence Intervals (CI) for unmet needs of family planning among 8,244 married women NDHS 2006

Independent Variables	Unmet Needs		Univariate		Multivariate	
	Yes	No	OR	95% CI	OR	95% CI
Age						
15-19	300	487	1	Ref.	1	Ref.
20-24	542	1100	1.13	0.74-1.73	0.75	0.46-1.21
25-29	458	1202	0.72	0.62-0.82	0.61	0.51-0.72
30-34	303	961	0.59	0.51-0.69	0.44	0.36-0.54
35-39	270	885	0.57	0.49-0.67	0.39	0.31-0.48
40-44	165	811	0.38	0.31-0.46	0.24	0.19-0.31
45-49	105	655	0.30	0.24-0.48	0.18	0.13-0.24
Place of residence						
Urban	486	1691	1	Ref.	1	Ref.
Rural	1657	4410	1.30	1.16-1.46	1.04	0.91-1.19
Religion						
Hindu	1809	5401	1	Ref.	1	Ref.
Buddhist	167	399	1.25	1.03-1.50	1.32	1.06-1.64
Muslim	97	172	1.68	1.30-2.17	1.97	1.51-2.57
Others	70	129	1.62	1.20-2.17	1.49	1.09-2.04
Education						
No education	1203	3867	1	Ref.	1	Ref.
Primary	405	1008	1.29	1.13-1.47	1.20	1.03-1.40
Secondary	476	1044	1.46	1.29-1.66	1.43	1.18-1.73
Higher	59	182	1.04	0.77-1.40	1.14	0.79-1.64
Parity						
0	221	596	1	Ref.	1	Ref.
1	448	835	1.44	1.19-1.75	1.65	1.35-2.01
2	447	1284	0.96	0.88-1.06	1.22	1.10-1.35
3	328	1151	0.91	0.85-0.97	1.20	1.11-1.30
4	239	841	0.76	0.62-0.94	2.06	1.58-2.69
5 or more	460	1394	0.89	0.73-1.07	3.12	2.38-4.09
Wealth Index						
Poorest	604	1141	1	Ref.	1	Ref.
Poor	443	1150	0.72	0.62-0.84	0.74	0.63-0.86
Middle	380	1170	0.61	0.52-0.71	0.61	0.52-0.71
Rich	383	1290	0.56	0.48-0.65	0.53	0.45-0.63
Richest	333	1350	0.46	0.39-0.54	0.41	0.33-0.50
Age at first marriage						
<20	1780	5167	1	Ref.	1	Ref.
>=20	363	934	1.12	0.98-1.28	1.06	1.04-1.08
Exposure to media						
Newspaper						
No	1537	4639	1	Ref.	1	Ref.
Yes	606	1462	1.25	1.12-1.39	1.19	1.01-1.41
Television						
No	710	1853	1	Ref.	1	Ref.
Yes	1433	4248	0.88	0.79-0.97	0.97	0.85-1.10
Radio						
No	175	640	1	Ref.	1	Ref.
Yes	1968	5461	1.31	1.10-1.57	1.20	0.99-1.45

*p-value for linear trend: age<0.001, education<0.001, parity<0.001, wealth index<0.001.

Univariate and multivariate logistic analysis of unmet needs with the independent variables were done. The univariate analysis was performed with only a single variable included in the model at a time. For example: for age the 15-19 years age group was chosen as reference and the six other age groups were included each with their dummy variables. Multivariate analysis was performed with all variables included in the model at a time. Dichotomous variable was taken as it is and dummy variables were made for others. There were altogether 27 variable including dependent variables at a time in a model. The independent variables associated with unmet needs for family planning ($P<0.05$) were age, place of residence, religion, education, parity, wealth index and exposure to media (newspaper, television and radio). The unmet needs was higher among age group 20-24 compared with that of the 15-19 reference group. With increase in age there was gradual decrease in unmet needs. So, the 20-24 age groups had the highest need for family planning. According to place of residence, there was increase in unmet needs among rural population compared with urban population. The odds of having unmet needs among rural population is 1.04 times that of an urban population. There was a high unmet need among Muslims compared to other religions.

According to level of education, at first there was gradual increase in unmet needs with increase in education from no education to primary and secondary. But there was decrease in unmet needs from secondary to higher education. The number of children in the family i.e. parity shows that with increase in parity there was an almost gradual decrease in unmet needs with increase in parity and again increase when the number of children is 5 or more. Here, we can see that there is difference in odds ratio between univariate and multivariate logistic regression. This difference exists due to multicollinearity with age. Also, in case of wealth index we can see that with increase in wealth index there was decrease in unmet needs. Thus, the reference categories i.e.

the poorest group has highest unmet needs. There was no significant association found between unmet needs and age at first marriage.

According to exposure to media, the odds of having unmet needs for women who reads newspaper is 1.19 times that of women who do not read newspaper. Similarly, the odds of having unmet needs among women who watch television is 0.97 times that of women who do not watch television. And the odds of having unmet needs among women who listens radio is 1.20 times that of women who do not listen radio.

CHAPTER IV

DISCUSSION

The unmet needs for family planning among married women of Nepal was 26% (10% for spacing and 16% for limiting births) which was similar to result found in a study done in Eastern region of Nepal i.e. 25% unmet needs (9% for spacing and 16% for limiting births) (21). Also in a study done in resettlement colony of east Delhi, India the total unmet need was 25.4% (6.7% spacing and 18.7% limiting births) (22). In an unmet need study conducted in Calcutta National Medical College, India showed 23.1% of unmet needs in women (23). Also, 22% unmet need was found in Sunsari, Eastern district of Nepal in a hospital based study (24). These two studies shows a little less prevalence which might be because it was a study done on hospital setting and women coming to hospitals are more educated and are more aware about the health seeking behaviour compared to women taken from community settings.

There was a linear decrease in unmet needs for family planning with increase in age in this study. The decrease in unmet needs with increase in age might be because the woman generally wants their first pregnancy to be delayed so, there is more desire of having family planning at young age but are not getting it. Similar kind of result of linear decrease in unmet needs with increase in age was found in Kenya in the year 1993-2003, with 15-19 as reference group, 20-24 age (OR 0.87), 25-29 (OR 0.53) 30-34 age (OR 0.37) 35-39 age (OR 0.29), 40-44 age (OR 0.17), 45-49 age (OR 0.07) (25). This high unmet need in young age group is also supported by the study done in Eastern region of Nepal (21). Also similar result was seen in Nepal in 2001 with about 30% of married women of 15-30 years expressing unmet needs (4). Similarly, the study done in Uttar Pradesh, India also showed highest unmet needs in age group 15-19 years (39%) declining

slowly until ages 35-39 and thereafter more rapid decline. The author described it as a much interest of using family planning methods in fertile age group (26). The study of unmet needs done in an immunization clinic at Patiala, India also showed the similar result with unmet needs at its peak in late twenties (21.1%) and then declined with increase in age (27). In a study of unmet needs done in Eritrea highest unmet needs was found in younger women compared to those in older age groups (28). In Ethiopia, in the year 2000, similar trend of linear decrease in unmet needs was found with increase in age (29). In a study done in 5 Latin American countries (Brazil, Columbia, Dom. Republic, Ecuador and Peru) a similar result of linear decrease in age with increase in age was found in 4 of them (30).

The place of residence had also shown affect on unmet needs. The unmet need was found to be higher in rural areas than in urban areas in this study. The lower unmet needs in urban areas might be due to higher education status, higher source of information and facilities found in urban areas. This affect on unmet needs is supported by the similar result found in the study performed in Turkey (31), Eastern district of Nepal, Sunsari (24) and Uttar Pradesh, India (26). In the study done in an immunization clinic in Patiala, India, unmet need was more in rural areas (19%) than in urban areas (13%) (27). In Demographic and Health Survey (DHS) comparative report 14 done in 58 developing countries the similar trend was seen with unmet needs higher in rural areas than in the urban areas except Moldova and 9 sub-Sahara African countries (32). A similar result was also found in Iran with rural areas having higher unmet needs (33). In Rwanda also similar result was found (45% Vs 62%) (34). Also in Ethopia in the year 2005 higher unmet needs was found among rural residence (25.6 % Vs 38%) (29). In a study in 5 Latin American countries a similar result was found in all the countries with rural areas having high unmet needs than urban areas Brazil (11.6% Vs 23.6%), Columbia (13.2% Vs 21.8%), Dom. Republic (17.6%

Vs 21.8%), Ecuador (19.6% Vs 21.8%) and Peru (19.3% Vs 46.3%) (30). Butajira district, Ethiopia also had higher unmet needs in rural areas compared to urban areas (35). The other studies have almost similar reasons as I have mentioned for my study of rural areas lagging behind different opportunities in case of education, information and wealth.

There was high unmet needs among Muslims (OR=1.97) compared to other religions. The reason behind this might be there is more religious prohibition for using family planning method among Muslims compared to other religions. Muslims are found to be less likely to be ever users in the study of urban slums of Delhi (36).

There was a gradual increase in unmet needs seen from no education to secondary education and then decrease from secondary to higher education. This might be because women with no education do not know about family planning thus; they do not have any need about something they do not know. The women with at least secondary education have unmet needs because they have knowledge about family planning methods and might have interest in using it but are unable to, giving rise to unmet needs. And again those women who have higher education are capable of making their own decision and not having unmet needs. Similar result was found in Kenya with no education as reference category, increase in unmet needs at first primary (OR 1.12), and then decline in unmet needs secondary plus (OR 0.74). This result was described by author as gap between increasing desire to control fertility and ability to do so and then eventual decrease as more women use contraception (25). According to DHS comparative report 14, some countries were found to have similar result such as Bangladesh in 2004 with no education (11%), primary (12%) and secondary (11%), Nepal in 2001 with no education (28%), primary (29%) and secondary (23%), Benin in 2001 with no education (27%), primary (31%) and secondary (26%), Cameroon in 2004 with no education (20%), primary (23%) and secondary

(17%) and almost all of African countries (32). Similar result were found in rural areas of Haryana, India where unmet need was high among primary literacy group (51.6%) and illiterate women (46.4%) compared to higher education and above (27.2%) (37). The study of Uttar Pradesh, India also showed the result that illiterate women have more unmet needs than literate women (26). Similar result was found in the study of women in an immunization clinic at Patiala, India where unmet need varied inversely with education of women (27). In the study done in 10 selected member states of the United Nations Economic Commission for Europe, 9 countries found similar result of increase in educational attainment and decrease in unmet needs (38). Also in Iran, decrease in unmet needs with increase in educational attainment was found (33). This was also seen in Rwanda with 69% unmet needs among those who received less than 3 years of education and 27% among those with at least 10 years of education (34). Also, in a study done in resettlement colony in Delhi there was decrease in unmet needs with increase in educational attainment, illiterate group (30.1%), primary education (22.9%), secondary or higher education (22.4%) (22). In a study of 5 Latin American countries similar result was found in all the countries having low unmet needs with increase in educational attainment (30). The main reason for this suggested by almost all other studies is that educated women are more informed about different choices, methods and have more availability.

An almost gradual decrease in unmet needs was seen until 4 children and then there was increase in unmet needs after 5 or more children. The reason behind this might be that women may not want to have contraception before they have 3-4 children but after that they want no more children and desire to opt for family planning services. The study done in Eastern Nepal showed that unmet needs increase with increase in number of children. The author describes this as the women desire to have at least 2-3 children and the need for spacing or limiting only after more

children which increased unmet needs (21). Also a community based study among Egyptian women performed in Eastern Cairo showed the increase in unmet needs with greater number of children (39). In a study done in resettlement colony of Delhi, India also found the same result of increase in unmet needs with increase in number of children (22). In Ethiopia in the year 2005, similar trend was seen of more unmet needs with more than 5 children (29).

There was a gradual decrease in unmet needs with increasing income in this study. This is mainly because rich people have access to more things, are better educated and have the capacity to make their own decisions. There was similar result found in Kenya, with first quartile i.e. having the lowest income have highest unmet needs and then there was gradual decrease with second quartile (OR 0.84), third (OR 0.77), fourth (OR 0.67) and fifth (OR 0.59) (25). In DHS comparative report 14 the similar trend was seen with unmet needs inversely related to wealth in most of the countries with only few exceptions (32). In a study conducted in resettlement area in Delhi, India similar result of decrease in unmet needs was seen with increase in per capita income (22). Other studies have also described the main reason for this as the better opportunity, educational status and access of wealthy people.

There is higher unmet needs found among women who had their first marriage at the age less than 20. This variable is however, not significant. According to country code 2010 (marriage chapter), legal age for marriage in Nepal is 20 years (40) but 84.3% of the total women in the study had their marriage at the age less than 20. Many girls in Nepal have their marriage fixed by their parents when they are very young. Even some parents fix the marriage of their children as soon as they are born.

There was high unmet need among women who are exposed to media such as radio and newspaper whereas there was low unmet need among those women exposed to television than those who are not. The reason behind this might be that Nepal is a poor developing country and television is available to only wealthy people. Despite the country being a male dominant society, the women in rich families can make their own decision. So, those women having access to television have low unmet needs and others having access to only newspaper and radio have high unmet needs. In Kenya also there was lower unmet need among women who are exposed to family planning messages (OR 0.83) (25).

CHAPTER V

CONCLUSION AND RECOMMENDATION

The total number of married women in the survey was 8,244 from 15 to 49 years of age with median age 30. Most of them lived in rural areas, they were Hindu and uneducated. One quarter of the women were found to have unmet needs for family planning.

Among the variables tested for association with unmet needs, there was significant association for age, place of residence, religion, education, parity, wealth index and exposure to media. High unmet need was found among women with younger age, rural residence, Muslims, women with no education, higher parity and low wealth index. There was mixed result in exposure to media with those exposed to television having low unmet needs and those exposed to radio and newspapers have high unmet needs.

There was no significant association found between unmet needs and age at first marriage.

Recommendations:

- Family planning programs should be made taking on account these different factors which influence unmet needs.
- Family planning programs should focus on younger populations having longer span of reproductive age.
- Rural areas should be mainly focused as the majority of women who are oppressed lives here.

- Female education should be a prioritized program by government.
- Different kinds of information on family planning should reach the community people on such a way that even an uneducated group can understand.
- There should be routine research on family planning so that the problems are identified soon and necessary programs are implemented.
- Some incentives can be provided with family planning measures so that they are more willing to use it.

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ANNEX

Nepal Demographic and Health survey 2006: Women's questionnaire – Questions related with my study

Identification

City/Town/Rural (City=1, Town=2, Rural=3)

107. In what month and year were you born?
Month……...
Don't know month…….98
Year ……...
Don't know year ……9998

109. Have you attended school?
Yes……..1
No……2

110. What is the highest grade you completed?
Grade…….

115. Do you read a newspaper or magazine almost every day, at least once a week, less than once a week or not at all?
Almost Every day……..1
At least once a week……..2
Less than once a week……...3
Not at all…….....4

116. Do you listen to the radio almost every day, at least once a week less than once a week or not at all?
Almost Every day…….1
At least once a week…….2
Less than once a week……..3
Not at all……...4

117. Do you watch television almost every day, at least once a week, less than once a week or not at all?
Almost Every day…….1
At least once a week…….2
Less than once a week……...3
Not at all……4

118. What is your religion?
Hindu……1
Buddhist……2
Muslim……...3
Kirat……...4
Christian…….5
Other…….

204. How many sons live with you? And how many daughters live with you?
IF NONE, RECORD '00'.
Sons at home…….
Daughters at home…….

206. How many sons are alive but do not live with you? And how many daughters are alive but do not live with you?
IF NONE, RECORD '00'.

Sons Elsewhere…….
Daughters Elsewhere…….

301. What is your current marital status?

Currently married……..1
Married, Gauna not performed….2
Widowed……..3
Divorced……...4
Separated……..5
Never married……...6

309. How old were you when you (first) got married? Age……..

318. Have you ever used anything or tried in any way to delay or avoid getting pregnant?

Yes…….1
No……...2

324. Are you currently doing something or using any method to delay or avoid getting pregnant?

Yes…….1
No……...2

708. You have said that you do not want (a/another) child soon, but want any (more) children, but you are not using any method to you are not using any method to avoid pregnancy. Can you tell me why not using a method? RECORD ALL REASONS MENTIONED

719. Would you say that using contraception is mainly your decision, mainly your husband's decision, or did you both decide together?

Mainly Respondent…….1
Mainly Husband……..2
Joint Decision……..3
Other……