Saudi Journal of Medical and Pharmaceutical Sciences **ISSN 2413-4929 (Print)**
Scholars Middle East Publishers **ISSN 2413-4910 (Online)**
Dubai, United Arab Emirates
Website: http://scholarsmepub.com/

Awareness of Preconception and Pregnancy Care among Bachelor Level Students of Dharan

Bagale A[1]*, Pokharel N[2], Shrestha M[3], Lamichhane M[4]
[1]Lecturer, Archana Bagale, Yeti Health Science Academy, Kathmandu 44606, Nepal
[2]Professor, Nirmala Pokharel, HOD, Maternal Health Nursing, B.P Koirala Institute of Health Science, Dharan, Nepal
[3]Professor, Mangala Shrestha Maternal Health Nursing, B.P Koirala Institute of Health Science, Dharan, Nepal
[4]Resident, Department of Pediatrics, Tribhuwan University, Maharajgunj Medical Campus, Maharajgunj, Kathmandu, Nepal

Original Research Article

***Corresponding author**
Bagale A

Article History
Received: 14.07.2018
Accepted: 18.07.2018
Published: 30.10.2018

DOI:
10.36348/sjmps.2018.v04i10.002

Abstract: Preconception and pregnancy care is important for better pregnancy outcome. Awareness of both male and female is necessary for reducing maternal and neonatal morbidity and mortality in developing country like Nepal. The objective was to find out level of awareness on preconception and pregnancy care among bachelor level students of Dharan. Descriptive design was used for the study. Purposive sampling method was used to select 50 students from each college. Four colleges were selected through simple random sampling from 16 colleges and a total of 200 students who were studying bachelor final year were selected for study. Data were collected by self-administered Semi structured questionnaires. The result shows that 24.5% of total respondents heard about folic acid. Among them 7% were male respondents and 17.5% were female respondents. Majority (89%) of respondents accepts that male's awareness is important for better pregnancy outcome. Female (mean awareness=55.2) were more aware than male (mean awareness=52.61) respondents on preconception and pregnancy care. Female were more aware on both preconception and pregnancy care. The source of information (media, newspaper) is associated with level of awareness. (p=0.010). Awareness level is related to employment status with higher proportion of employed individuals showing average awareness level (p=0.014). An equal to half (50.5%) of respondents have average awareness level on preconception and pregnancy care. The study concludes female (17.5%) have more good awareness level than male (7%) respondents.

Keywords: Preconception, pregnancy, awareness.

INTRODUCTION

Preconception care is the provision of biomedical, behavioral and social health interventions to women and couples before conception occurs, aimed at improving their health status, and reducing behaviors and individual and environmental factors that could contribute to poor maternal and child health outcomes. Its ultimate aim is improved maternal and child health outcomes, in both the short and long [1].

To say that having a baby is one of the life"s richest, most rewarding experiences is a cliché that is nevertheless true. There is just nothing else quite like bringing new life into the world-the waiting, the wonder, the magic of creating the enduring bonds of intimacy and sharing love. For such overwhelmingly important area of our lives, pregnancy, across the board, is stumbled and bumbled into. There is thank fully, a much better, safer, saner way to go to about this. We call it pre pregnancy Medicine [2].

Preconception care includes identification of risk factors, immunization, base level health status, folic acid supplementation, smoking and alcohol cessation, screening for genetic disease, drugs used before pregnancy and family planning [3].

Pregnancy the nine months or so for which a woman carries a developing embryo and fetus in her womb – is for most women a time of great happiness and fulfillment. However, during pregnancy, both the woman and her developing child face various health risks [3].

Pregnancy is that wonderful period in a woman's life when she spends each and every day in pleasant anticipation, waiting to hold bundle of joy in her arms at the end of the pregnancy. All women need health care and attention during pregnancy. This care helps pregnant women to be healthier and have fewer problems in birth. Prenatal care should come from the woman herself, from her family and the community, and from a midwife [4].

In the fiscal year 2070/71 national level ANC first visit as percentage of expected pregnancy has 86

percent. Institutional delivery has increased 50 percent in FY 2070/71 as compare to FY 2068/69 and it was 44 percent. Percentage of mothers who received first postnatal care at the health facility among expected live births has also increased 59 percent in the reporting year. In FY 2070/71 percentage of women who had first PNC visits among estimated live birth increased 59 percent and it was 56 percent in the FY 2068/69 [5].

Opportunities to prevent and control diseases occur at multiple stages of life; strong public health programmes that use a life-course perspective from infancy through childhood and adolescence to adulthood are needed. Preconception care contributes to these efforts. Even if preconception care aims primarily at improving maternal and child health, it brings health benefits to the adolescents, women and men, irrespective of their plans to become parents [1].

Globally, preconception care has not become part of routine practice. The practice of preconception care is almost non-existent in developing countries [6] and Nepal is no exception.

Exploring the current level of awareness may help to identify the barriers to preconception care and pregnancy may contribute to the reduction of maternal and infant morbidity and mortality rates

OBJECTIVES

Primary Objective: To find out the level of awareness on preconception and pregnancy care among bachelor level students.

Secondary Objectives:

- To assess awareness regarding preconception and pregnancy care.
- To identify the differences on preconception and pregnancy care among male and female students.
- To find out the association between level of awareness and selected variables

Operational Definition

Preconception care: Preconception care is the provision of biomedical, behavioral and social health interventions to couples before conception as measured by questionnaires.

Pregnancy care: care to pregnant lady after conception till delivery. It includes ANC visit, antenatal care-personal hygiene, birth spacing, balanced diet, micronutrients, institutional delivery, birth preparedness and complication readiness and breast feeding as measured by questionnaires.

Awareness: It refers to correct response from the respondents regarding the preconception and pregnancy care measured by questionnaires.

METHODOLOGY

Study Design: Descriptive Cross-sectional study was used

Study Setting: Dharan; A sub metropolitan City of Sunsari District, located in Eastern Development Region. There were 15 colleges where bachelor level was taught. Those were college where non health related faculty/ discipline were taught.

- Dharan Model College, Siddhicharan Marg, Dharan
- Dharan College of Management, Bhupi Marg, Dharan
- Mahindra Multiple Campus Dharan, College Road.
- Dharan City College, Chatara Line.

Study population: Final year bachelor Level students of selected college of Dhahran Sub Metropolitan City, Nepal

Sample: Bachelor level students of Dharan Sub Metropolitan City.

Sample size

As per A one group pretest posttest study on "Impact of Educational Intervention on Awareness Regarding Preconception Care among Bachelor Level Students" by [13]**,** the awareness level of pretesting was 50% among respondents.

So using the same prevalence rate at 95% Confidence interval with 15% allowable error;

$$\text{Sample size (n)} = z^2pq/l^2$$

(Where p=prevalence, q= 1-P)
z=1.96 at 95% confidence interval and l=maximum allowable error)
p= 0.5; q= 0.5; L= 0.07
n= 1.96* 1.96 *0.5*0.5/ (15% of 50%)^2 =170
After adding 10% non-response rate, n=170+17=187≈200

Sampling Technique

Simple random sampling was done to select four colleges of Dharan Sub metropolitan City. This was done through lottery method. Among four colleges Purposive sampling was done to select 50 students from each college.

Eligibility Criteria

Inclusion Criteria

- Bachelor Final year students of Dharan Sub metropolitan City
- Those who have willingness to participate in study.
- Both married and unmarried students.

Exclusion Criteria

- Those who do not meet inclusion criteria.

- Absent in class at the time of data collection.
- Medical, nursing and paramedic students.
- Those who are not interested in this research.
- Students whose job is related to health sector (in case of job holder students)
- Students of pure Science (B.Sc)

Research Instruments / Questionnaire

Semi structured questionnaires were developed on the basis of an objective which consists of:
Part I: Questionnaires related to Socio-Demographic
Part II: Questionnaires related to preconception care

It consisted of 13 questionnaires. Among them 10 questionnaires consisted multiple response answers. Question number 1, 2 and 3 were single response questionnaires. Each correct response possessed 1 mark and incorrect response possessed 0 marks. Total score was 52.

Part III: Questionnaires related to Pregnancy care

It consisted 13 questionnaires. Among them question number 2, 3, 4,5,10 and 13 were multiple response questionnaire. Each correct response possessed 1 mark while incorrect response possessed 0 marks. Total score was 40.

Awareness level was categorized as less than first quartile as poor awareness, between first and third quartile as average awareness and the score more than third quartile as good awareness. It was classified as Poor: less than 44.25(less than first quartile), average: 44.26-61(between first and third quartile) and good: 62-92 (more than third quartile) of total awareness score.

Validity of Research Instrument

The content validity of tool was assured with consultation and revision with experts of nursing faculties, Biostatistician and Nepali teacher. The questionnaires were taken from similar study conducted in Nepal and the article was already published in Saudi Journal of Medical and Pharmaceutical Sciences.

Pretesting of the Research Instrument

Pretesting was done in 10% (20 respondents) of calculated sample size and necessary modification was done.

Data Collection Procedure

List of colleges where bachelor level course was conducted (colleges which were not related to health sector) was prepared from Dharan sub metropolitan City. There were 15 such colleges. Four colleges were chosen by simple random sampling method (which was 25% of total colleges).Among them 50 students were selected from bachelor final year from each college. Then purposive sampling was done to select required number of students present in classroom at the time of data collection. Formal permission from each college was taken for data collection. The data was collected by administering self-directed semi-structured questionnaires**.**

Data Management and Statistical Analysis
Data handling

Master chart was prepared. Data were entered in Microsoft Excel 2007 and converted into SPSS 21 version for statistical analysis. The descriptive data were expressed in frequency, percentage, mean, standard deviation, median, etc. along with graphical and tabular presentation.

Coding

Appropriate coding was done.

Monitoring

Data were checked after every 10^{th} entry.

Statistical methods

Both descriptive and inferential statistics were used to analyze the data. Socio demographic data were analyzed using descriptive statistics Chi. Square test was used at 95% Confidence Interval where p value<0.05 be considered statistically significant to find significance of difference in male and female awareness. Chi-square test to determine the association between level of awareness and selected demographic variables and source of information

Ethical Consideration

The ethical clearance was taken from the Institutional Review Committee of BPKIHS. The IRC number for ethical approval of my thesis protocol is 350/073/074. After selection of colleges formal permission was taken from campus chief of each college. Participation was voluntarily taken. Informed (verbal and written) consent was taken from each participant. Confidentiality and anonymity was maintained by writing code number instead of name of participants.

DATA ANALYIS AND INTERPRETATION

This chapter presents findings and interpretation of data. Data were collected from200 respondents. Descriptive statistics like frequency, percentage was used to describe the demographic characteristic of respondent. For inferential statistic, independent t-test and Chi square test were used to show the association of awareness and selected variable. P value ≤ 0.05 was considered as statistically significant. The collected data was analyzed by using descriptive and inferential statistics. For the facilitation of interpretation of data, findings have been grouped into following groups:

- Demographic characteristics of respondent
- Awareness on preconception and pregnancy care
- Awareness on folic acid
- Gender difference in level of awareness

- Association of awareness with Selected Variable

Table-1: Socio Demographic Characteristics of Respondents N=200

Characteristics	Category	n (%)
Age in Years	15-20	71(35.5%)
	21-25	127(63.5%)
	26-30	2(1%)
	Mean±SD =21.19±1.46,Range=9	
Religion	Buddhist	20(10%)
	Hinduism	156(78%)
	Christians	9(4.5%)
	Muslim	6(3%)
	Others(kirati)	9(4.5%)
Ethnicity	Dalit	6(3%)
	Janajati	145(72.5%)
	Madhesi	3(1.5%)
	Brahmin/Chhetri	43(21.5%)
	Others	3(1.5%)
Type of Family	Nuclear	123(61.5%)
	Joint	76(38%)
	Extended	1(0.5%)
Marital Status	Unmarried	197(98.5%)
	Married	3(1.5%)
Residence	Urban	162(81%)
	Rural	38(19%)
Occupation of Father	Technical/professional	47(23.5%)
	sales/Services	48(48%)
	Agriculture	50(25%)
	Labor	11(5.5%)
	Abroad	44(22%)
Occupation of Mother	Technical/professional	4(2%)
	Sales/ Services	8(4%)
	Agriculture	19(9.5%)
	House wife	169(84.5%)
Economic status	lower economic	187(93.5%)
	lower middle	12(6%)
	upper middle class	1(0.5%)

Table-1 depicts that 63.5% of respondents were of age 21-25 years. The mean age of respondents was 21.19years with the range of 18-27 years. Female respondents were more than male respondents. Majority (78%) and (72.5%) of respondents follow Hinduism and belong to Janajati ethnic group respectively. Near to two third (61.5%) of respondents live in nuclear family. Majority of respondents i.e. 98.5%and 92.5% were unmarried and were unemployed respectively. Majority (81%) of respondents were resident of urban area. Half (50%) of respondent father's occupation was agriculture whereas majority (84.5%) of respondents mothers were housewife. Majority (93.5%) of respondents were from lower economic status.

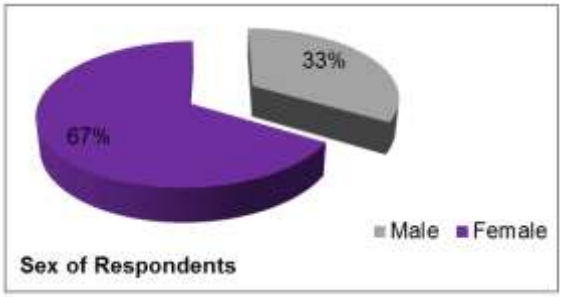

Fig-2: Sex of Respondents (n=200)

Figure-2 represents that female respondents (67%) were more than male respondents (33%).

Figure-3 portrays that majority (92.50%) of respondents were unemployed whereas only 7.50% of respondents were employed.

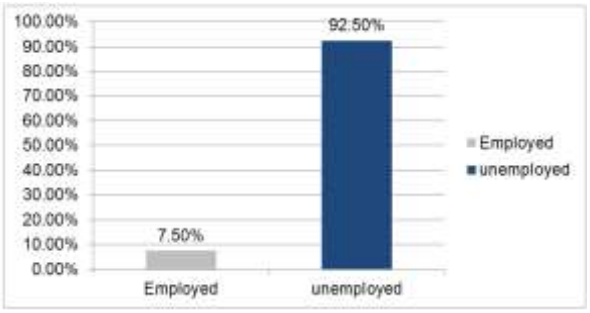

Fig-3: Employment Status of Respondents (n=200)

Table-2: Information on source of Preconception Care (n=200)

Characteristics	**Response**	**n(%)**
Receive Information on preconception care	Yes	159(79.5%)
	No	41(20.5%)
If yes,Sources of information**n=159**		
	Radio/TV	96(60.4%)
	Health Worker	24(15.1%)
	Friends/Family	20(12.6%)
	Newspaper/books	19(11.9%)

Table-2 shows that about three-fourths (79.5%) of respondents have heard on preconception care. Among 159 respondents who have heard about preconception care, Near to two thirdof respondents (60.4%) have got this information from Radio/TV. Only 11.9 % have received information from newspaper/books.

Table-3: Gender Differences in Level of Awareness on preconception and pregnancy care (n=200)

Characteristics	**Awareness Good**	**Average**	**Poor**
Sex			
Male	14(7%)	33(16.5%)	20(10%)
Female	35(17.5%)	68(34%)	30(15%)

Table-3 depicts that 17.5% of female and 7% of male respondents have good awareness score. Only 10% and 15% of female and male respondents have poor level of awareness respectively.

Table-4: Awareness on Folic Acid among Respondents (n=200)

Characteristics	**Male (66)**	**Female(134)**
	N (%)	**n (%)**
Information about folic acid	14(21.21%)	35(26.11%)
If yes, folic acid should be taken 3 months before conception **(n=49)**	10(15.15%)	16(11.9%)
Benefits of iron/folic acid(n=49)		
Increase in birth weight		
Improve iron status	8(12.12%)	11(8.20%)
Prevent anemia	8(12.12%)	15(11.19%)
Lower rates of neural tube defect	13(19.69%)	20(14.92%)
	1(1.51%)	2(1.49%)

Table-4 depicts that 24.5 % of total respondents heard about folic acid. Among them 14 were male and 35 were female respondents. Among 49 respondents who have heard about folic acid only 26 respondents i.e. 53.06% know that folic acid should be taken 3 months before conception. Only 1.51 % and 1.49 % of male and female were aware on fact that folic acid lowers the rate of neural tube defect respectively.

Table-5: Awareness on Usefulness of Male Awareness on Pregnancy care among respondents (n=200)

Characteristic	n (%)
Usefulness of male awareness	
yes	178(89%)
No	22(11%)
If yes, n=178	
Helps in check up	25(14.04%)
Provide better care to wife	40(22.47%)
Not explained reason of male awareness	113(63.48%)

Table-5 depicts that majority (89%) of respondents accepts that male's awareness is important for better pregnancy outcome. Among 178 respondents who accept male awareness is important for better pregnancy outcome, 63.48% of respondents did not explain benefits of male awareness while 14% of them states that husband will help in checkup and 22.57% of respondents states that he will provide better care to his wife.

Table-6: Distribution of Respondents According to the Level of Awareness (n=200)

Awareness level	n (%)
<Q1 (<44.25): Poor	50(25%)
Q1-Q3(44.26-61): Average	102(51%)
>Q3(62-92): Good	48(24%)

Table-6 depicts that awareness level is categorized as less than first quartile as poor awareness, between first and third quartile as average awareness and the score more than third quartile as good awareness. About half (51%) and one fourth (25%) of respondent have average and poor awareness on preconception and pregnancy care respectively.

Table-7: Gender Difference in Awareness Regarding Preconception and Pregnancy care (n=200)

S.N	Awareness	Maximum Score	Mean± SD		Mean
			Male	Female	
1	preconception care	52	25.29±7.49	26.90±6.57	26.36
2	Pregnancy care	40	26.80 ± 7.34	27.45 ±6.67	27.23
3	Total awareness	92	52.61 ± 14.07	55.2 ± 13.6	53.6

Table-7 depicts that total score of awareness is 92. Female (mean awareness=26.90) were comparatively more aware on preconception care than male respondents (mean awareness=25.29). Similarly female (mean awareness=27.45) were more aware on pregnancy care than male respondents (26.80=mean awareness). Female (mean awareness=55.2) were more aware than male (mean awareness=52.61) respondents on preconception and pregnancy care. Female were more aware on both preconception and pregnancy care.

Ω-Independent T test

Table-8 shows that Awareness level of respondents is independent of age, sex, religion, ethnicity, occupation of parents, family type, residence and economic status. Awareness level is related to employment status with higher proportion of employed individuals showing average awareness (p=0.014). This may be possibly because employed people are more conscious about their career and future and think more about family planning and reproductive health.

The source of information is associated with level of awareness (p=0.010). The Respondent's awareness level is more if they got information on preconception care from various sources like media, books and newspaper

Marital status of respondent is independent of awareness level on independent t –test. Married respondents have more awareness (58.66=mean awareness) than unmarried respondents (53.52=mean awareness) on preconception and pregnancy care.

DISCUSSION

A descriptive cross sectional study was conducted among 200 students of Dharan Sub metropolitan City. The students were from non health

related faculty. The study was conducted with the objective to find out awareness on preconception and pregnancy care among bachelor level students, to find difference in level of awareness among male and female students and to find association between awareness levels with selected demographic variables. The collected data was analyzed descriptively and inferentially using SPSS 21 and MS excel 2007.

Table-8: Association between Level of Awareness and Selected Socio Demographic Variables (n=200)

Characteristics	Awareness Good	Average	Poor	P value
**** Age**				0.111
<20yrs	23(11.5%)	29(14.5%)	19(9.5%)	
>20yrs	26(13%)	70(35%)	31(15.5%)	
Sex				
Male	14(7%)	33(16.5%)	20(10%)	0.469
Female	35(17.5%)	68(34%)	30(15%)	
****Religion**				
Hindu	37(18.5)	79(39.5)	40(20%)	0.727
Buddhist	7(3.5%)	10(5%)	3(1.5%)	
Others	5(2.5%)	12(6%)	7(3.5%)	
Residence				
Urban	43(21.5%)	79(39.5%)	40(20%)	0.369
Rural	6(3%)	22(11%)	10(5%)	
****Ethnicity**				
Janajati	40(20%)	13(6.5%)	40(20%)	
Madhesi	10(5%)	15(7.5%)	20(10%)	0.528
Bhramin/Chhetri	6(3%)	11(5.5%)	10(5%)	
Others	10(5%)	10(5%)	15(7.5%)	
Family type				0.906
Nuclear	32(16%)	70(35%)	50(25%)	
Joint	10(5%)	12(6%)	26(13%)	
Occupation of father				
Sales & Service	13(6.5%)	22(11%)	13(6.5%)	
Agriculture	9(4.5%)	29(14.5%)	12(6%)	
Abroad	12(6%)	24(12%)	8(4%)	0.825
Others	14(7%)	27(13.5%)	5(2.5%)	
Source of information				
radio/TV	12(6%)	25(12.5%)	11(5.5%)	
Health Worker	15(7.5%)	35(17.5%)	22(11%)	**0.010**
Friends/family	7(3.5%)	17(8.5%)	20(10%)	
Newspaper/books	6(3%)	18(9%)	12(6%)	
Employment				
Unemployed	48924%)	88(44%)	49(24.5%)	**0.014**
Employed	1(0.5%)	13(6.5%)	1(0.5%)	
Economic Status				
Lower	10(5%)	80(40%)	50(25%)	0.671
Lower middle	23(11.5%)	20(10%)	17(8.5%)	
****Occupation of Mother**				
Housewife	43(21.5%)	83(41.5%)	43(21.5%)	0.428
Others	6(3%)	18(9%)	7(3.5%)	

Variable		Mean± SD	
Ω Marital Status	Unmarried	50.26 ±8.45	0.316
	Married	57.54± 6.34	

Note: *Continuity Corrected, Chi square test applied for all.

This finding is consistent with the similar study conducted by Gautam P, this reveals that (33.48%) of respondents have monthly income ranged between Rs 21001 – 28000 [9].

Socio Demographic Characteristics of the Respondents

Awareness of preconception care among women and men of Jordan also reveals similar data that female respondents (70.38%) are more than male respondents [6].

Near to three fourth (72.5%) of respondents were of janajati ethnic group. The result is simila to the janajati population (62%) of Dharan Sub metropolitan City [14]. The finding may be due to most resident of Dharan are of janajati ethnic group.

Near to two third (61.5%) of respondents were from nuclear family followed by joint family. The result is consistent with similar study done on Dang , Nepal, among reproductive aged women showed that 66.96% of respondents were from nuclear family followed by joint family [9].

Majority of respondents (92.5%) were unmarried .This may be due to they were still student since this study is done on bachelor level students. Majority (81%) of respondents were from urban area. Since the study is carried out in Sub Metropolitan City May be majority of students were from same city.

Half (50%) of respondent's father occupation was agriculture. Majority (84.5%) of respondents mothers were housewife. This result could be because Nepalese women are still not much empowered. The finding is consistent with the similar study conducted among reproductive aged women in Dang, more than half (67%) of respondents were housewife [6].

Majority (93.5%) of respondents were from lower economic status, whose monthly income of family was from range NPR 10,000- NPR45700.

Information on Preconception Care

More than three-fourths i.e. 79.5%of respondents have heard about preconception care in this study. Among them near to two third i.e 60.4% of respondents have got information from Radio/TV. While only 11.9 percentages of respondents have got information from newspaper and books. Only 15% of respondents have got information from health worker. The result is contrary to the similar study done among reproductive aged women in Dang where only 28.63% of respondent have heard about preconception care. Among them only 47.69% have got information from radio/TV and 20% have got information from newspaper and books [9].

Awareness on Folic acid

In this study only 24.5% of respondent have heard about folic acid to be taken during preconception period. Among them 7% were male and 17.5% were female respondents. Among those respondents who have heard about folic acid only 20% male and 32.65% female respondents were aware about the fact that folic acid should be taken from 3 months before conception. Female were more aware than male. Only 2 female respondents and one male respondent have awareness on prevention of neural tube defect can be done by taking folic acid before pregnancy. The awareness on folic acid is not associated with the total awareness on preconception and pregnancy care.

A similar crossectional study was done to assess awareness of preconception Care among men and women in Jordan also support the result of current study on Folic acid. Seventy Nine Percentages of women and fifty nine percentages of men have heard about folic acid. Among them 33.7% female respondents and 21.2 % male respondents were aware about time to start folic acid [6].

A similar type of study conducted in Dang, Nepal among reproductive aged women showed that only 11.46% of the respondents provided correct answer that folic acid should be taken 3 month before conception. Majority of the respondents 78.85% mentioned the benefits of multi vitamin supplementation before conception is to lower incidence of still birth. Only 74% of the respondents provided correct answer for preventing neural tube defect is the folic acid [9].

A cross-sectional study done to assess awareness of periconceptional folic acid supplementation among Nepalese women of childbearing age. The study was done in Kathmandu Model Hospital in 2012 AD. The result showed that Forty percent (95% CI 35.1-45.0) of women had heard about FAS, 16.3%

However, the findings in the present study showed that 33.7% of women and 21.2% of men were aware of the protective period of folic acid consumption. The results of the current study were inconsistent with results reported in the United Arab Emirates and Lebanon while, in Ontario, 81% of women were reported to be aware of the time for folic acid consumption [10].

A cross-sectional study carried out among Emirati women of child-bearing age who were resident in the Al Ain District, Abu Dhabi, United Arab Emirates. The total number of women included in this study was 205, and only 85 women (41.5%) revealed that they were aware of the importance of preconception folic acid. Only 23 women (11.2%) thought that folic acid should be taken before pregnancy [11].

Male Awareness on Pregnancy Care

Majority of respondents (89%) agreed the male awareness is necessary for pregnancy care. Among them 14% stated that he will help in health checkup of his wife whereas 22.47% stated that he will provide better care to his wife if he became aware on pregnancy care. Not a similar study was found to compare the findings regarding the male awareness is necessary for better pregnancy outcome.

A meta-analysis done on "Male involvement and maternal health outcomes". Male involvement was associated with improved maternal health outcomes in developing countries [12].

Gender Differences in Level of Awareness

In current study female respondents (mean awareness score =55.2 ±13.6) were more aware than male (mean awareness=52.61 ±14.7) respondents on preconception and pregnancy care. Female were more aware on both preconception and pregnancy care. But statistically not significant.

Contrary result is found in similar study done on Jordan i.e. mean awareness score of male is 9.3± 2.6 more than mean awareness score of female 7.0 ± 2.9 [6].

In current study, one fourth (25%) of respondents have poor awareness, near to half (50.5%) of respondents have average awareness and 24.5 % of respondents have good awareness level. Among them female were more aware than male respondents.

The finding is inconsistent with the similar study done in Dang, Nepal the majority of respondents (84.58%) have average level of awareness while only 15.42% of respondents have good level of awareness. while no one have poor level of awareness [8].

Level of Awareness and Selected Socio demographic Variables

In current study half of respondents (50.5) have average awareness on preconception and pregnancy care. Mean awareness is 53.5 in current studies. Mean awareness level and SD of female is 52.10±13.21 and male is 54.35±11.70. The result is supported by the study done in Jordan those Jordanian women and men were moderately aware of preconception and pregnancy care [6].

The result is supported by the similar type of study done among reproductive aged women done in Dang, The mean awareness level and SD is.63.13±7.14 [9].

Association between Level of Awareness and Selected Socio demographic Variables

Current study depicts that there was no statistically significantly association between age, sex, religion, marital status, occupation of parents and level of awareness.

This finding is supported by the study done on Dang among reproductive aged women in Dang. This concludes that awareness is independent of age, sex, marital status, occupation of parents [9].

The finding is also supported by the study done in Jordan among reproductive aged men and women [6].

This may conclude that the awareness is independent of socio demographic variables. There is association between employment status and level of awareness (p=0.0143) and also there is significant association between source of information and level of awareness (p=0.010)

SUMMARY

This study was done with the aim of finding out the level of awareness on preconception and pregnancy care among bachelor level students of Dharan. There were total 15 colleges where bachelor level is taught in non-health related field. Among them four colleges were chosen randomly through lottery method. Total 200 students were taken for study from four colleges, 50 respondents from each college.

In this study 63.5% of respondents were of age 21-25 years. The mean age of respondents was 21.19years with the range of 18-27 years. Female respondents were more than male respondents. Majority (78%) and (72.5%) of respondents follow Hinduism and belong to janajati ethnic group respectively. More than half (61.5%) of respondents live in nuclear family.

Majority of respondents i.e. 98.5% and 92.5% were unmarried and were unemployed respectively. Majority (81%) of respondents were resident of urban area. Half (50%) of respondent father's occupation was agriculture where as majority (84.5%) of respondents mothers were housewife. Majority (93.5%) of respondents were from lower economic status. In this study about three-fourths (79.5%) of respondents have heard on preconception care. Among 159 respondents who have heard about preconception care, more than half (60.4%) have got this information from Radio/TV. Only 11.9 % have received information from newspaper/books.

Only 17.5% of female and 7% of male respondents have good awareness score. Whereas, only 10% and 15% of female and male respondents have poor level of awareness respectively.

Total score of awareness of preconception and pregnancy care was 92. Female (mean awareness=26.90) were comparatively more aware on preconception care than male respondents (mean awareness=25.29). Similarly female (mean awareness=27.45) were more aware on pregnancy care than male respondents (26.80=mean awareness). Female (mean awareness=55.2) were more aware than male (mean awareness=52.61) respondents on preconception and pregnancy care.

Female were more aware on both preconception and pregnancy care. Age, sex, religion, ethnicity, residence, marital status, family type and occupation of respondent's parents of respondent are

independent of awareness level. Awareness level is related to employment status with higher proportion of employed individuals showing average awareness (p=0.014). Mean awareness of score of female and male is 54.35 and 52.10 respectively. Mean awareness score of respondents residing in urban and rural are 54.69 and 52.05 respectively. The source of information is associated with level of awareness. The Respondent's awareness level is more if they got information on preconception care from various sources like media, books and newspaper (p=0.010.

CONCLUSION

The study result depicted gender differences in awareness level on preconception and pregnancy care. Very few of respondents have heard about folic acid and aware about its benefits while maximum percentage of respondents has heard about preconception care. But there was no statistically significant relationship between age, sex, marital status, religion, occupation of parents, residential area and level of awareness on preconception and pregnancy care. There was association between employment status, source of information and level of awareness. It was concluded that the awareness level on preconception and pregnancy care among bachelor level students is only of average level and only few of them were aware on intake of preconceptional folic acid. So the awareness on this aspect as to be raised to this level of students to reduce maternal and neonatal mortality rate.

Implications of Study

The finding of the study might prove to be helpful in the areas of practice, education, administration and research.

Nursing Practice

The findings of study can be utilized by the nurse practitioners to provide appropriate and adequate preconception and pregnancy care counseling to clients. Nurses have to widen their scope in all areas of community and initiate different teaching strategies as School Health Nurse to motivate students to follow healthy life style.

Nursing Administration

The findings of the study might be helpful to the concerned authorities to realize the need of preconception and pregnancy care and counseling to be incorporated as a part of health service. The nurse administrator should take keen interest in providing information on health related programs beneficial to community people and to college students who are soon going to be parents.

Nursing Research

The findings of this study might provide baseline data on the scenario of preconception and pregnancy care among adolescents and young adults in our context. It might encourage the new researchers to lay more emphasis on research in this area.

Nursing Education

In order to provide holistic care to the clients, the nursing curriculum needs to cover the detailed information on different aspects of preconception and pregnancy care. Nursing students should be made aware of their role in health promotion. The students teaching experience should emphasize on teaching various community groups, school, college students on preconception and pregnancy care.

Limitations of Study

- Several visits had been done in Government College due to difficulty in finding respondent in college due to student's election programme.

RECOMMENDATIONS

- Preconception and pregnancy care should be integrated in the curriculum of school and college education so that all people can gain the basic knowledge on Preconception and pregnancy care.
- Awareness to be more widespread should be disseminated by the mass media like Television and radio in the form of serials and documentaries so that all can be aware of it.
- Policy makers should realize the need to incorporate preconception care as part of an overall strategy to prevent maternal and child mortality and morbidity. Privatization can aid its accessibility to the public.
- The study can be replicated on a larger sample to generalize the findings.
- A similar study can be done with educational interventions.
- A descriptive study can be conducted to screen the preconception health risk in reproductive aged group women.

REFERENCES

1. World Health Organization. (2013). Preconception care: maximizing the gains for maternal and child health. Geneva: World Health Organization.
2. Temel, S., Erdem, Ö., Voorham, T. A., Bonsel, G. J., Steegers, E. A., & Denktaş, S. (2015). Knowledge on preconceptional folic acid supplementation and intention to seek for preconception care among men and women in an urban city: a population-based cross-sectional study. *BMC pregnancy and childbirth*, *15*(1), 340.
3. Dutta, D. (2015). Textbook of Obstetrics. Edited by Hiralal Konar. Eight ed. India: Jaypee Brothers Medical publisher, 103-104.
4. Amasha, H. A., & Heeba, M. F. (2013). Maternal awareness of pregnancy normal and abnormal signs: an exploratory descriptive study. *IOSR J Nurs Health Sci*, *2*(5), 39-45.

5. Ministry of Health and Population. (2011). Nepal Demographic and Health Survey. Available at: http://www.measuredhs.com.[Accessed:20 May 2016]
6. Al-Akour, N. A., Sou'Ub, R., Mohammad, K., & Zayed, F. (2015). Awareness of preconception care among women and men: a study from Jordan. *Journal of Obstetrics and Gynaecology*, *35*(3), 246-250.
7. Paudel, P., Wing, K., & Silpakar, S. K. (2012). Awareness of periconceptional folic acid supplementation among Nepalese women of childbearing age: a cross-sectional study. *Preventive medicine*, *55*(5), 511-513.
8. Dhakal, K. (2015). Impact of educational intervention on awareness regarding Periconceptional care among bachelor level students. *Journal of Society of Surgeons of Nepal*, 16(2), 34-38.
9. Gautan, P., & Dhakal, R. (2016). Knowledge on preconception care among reproductive age women. *Saudi J Med Pharm Sci*, *2*(1), 6.
10. Alkaabi, M. S., Alsenaidi, L. K., & Mirghani, H. (2013). Awareness and knowledge of the use and benefits of folic acid supplements in women in the United Arab Emirates. *Hamdan Medical Journal*, *212*(1208), 1-4.
11. Vermeulen, E., Miltenburg, A. S., Barras, J., Maselle, N., van Elteren, M., & van Roosmalen, J. (2016). Opportunities for male involvement during pregnancy in Magu district, rural Tanzania. *BMC pregnancy and childbirth*, *16*(1), 66.
12. Yargawa, J., & Leonardi-Bee, J. (2015). Male involvement and maternal health outcomes: systematic review and meta-analysis. *J Epidemiol Community Health*, jech-2014.
13. Dhakal, S. (2010). GHG emissions from urbanization and opportunities for urban carbon mitigation. *Current Opinion in Environmental Sustainability*, *2*(4), 277-283.
14. Siegel, R., DeSantis, C., & Jemal, A. (2014). Colorectal cancer statistics, 2014. *CA: a cancer journal for clinicians*, *64*(2), 104-117.