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ORIGINAL RESEARCH ARTICLE

AWARENESS REGARDING PRECONCEPTION CARE AMONG BACHELOR LEVEL STUDENTS, BANEPA

Maiya Shobha Manandhar[1]*, Durga Subedi[2]

[1]Lecturer, NAMS, Bir Hospital Nursing Campus, Gausala, Kathmandu, Nepal.
[2]Professor, Department of Midwifery, T U, IOM, Nursing Campus, Maharajgunj, Kathmandu, Nepal.

***Correspondence to:** Ms. Maiya Shobha Manandhar, Lecturer, NAMS, Bir Hospital Nursing Campus, Gausala, Kathmandu, Nepal.*
Email: maiyasmanandhar@gmail.com

ABSTRACT

Background: Preconception care means care and counseling that is provided to future parents. The objective of the study was to identify the level of awareness regarding preconception care among bachelor level students. **Methods**: A descriptive cross sectional study was carried out with bachelor level students from 4 different colleges of Banepa. Samples were selected using cluster sampling. Data was collected through self-administered questionnaire. The data was analyzed using descriptive and inferential statistics. **Results**: In the study, 59.9% of the respondents had fair awareness and 20.2% had low awareness and only 18.9% had high awareness regarding preconception care. There is significant association between information acquired and level of awareness (p=0.026) and source of information and level awareness (p= 0.069). **Conclusion**: In overall, respondents had fair awareness with higher level in prevention of teratogenic exposure. There is significant association between information acquired and source of information and level of awareness.

Key words: Awareness, Bachelor level students, Preconception care.

INTRODUCTION

The embryo from 17-56 days is more sensitive to environmental factors and there is higher risk for fetal abnormalities. The first prenatal visit usually a month or later after missed period is too late to prevent the outcomes (congenital anomalies and low birth weight) associated with abnormal organogenesis. So, it is best that the woman and her partner seek preconception care.[1] Several preconception care models have been developed. The main components of preconception care are: i) Risk assessment ii) Health Promotion iii) intervention for identified risks.[2]

Preconception care is recognized as a critical component of health care for women of reproductive age. It is part of a larger health-care model that results in healthier women, infants, and families.[3] In 2007, Nepal Government has also incorporate preconception care in the components of antenatal care.[4]

Many women continue to enter pregnancy in poor health and at risk for poor pregnancy outcomes.[1] In addition to having chronic diseases; substantial proportions of women who become pregnant engage in high-risk behaviors and contribute to adverse pregnancy outcomes eg. smoking, taking alcohol or illicit drugs.[3] According to World Health Organization, due to congenital abnormalities an estimated 303000 newborn die within 4 weeks of life every year.[5] Similarly around 15 million babies are born birth complications are the leading cause of death for children under 5 causing an estimated 1 million deaths in 2015 globally.[6] A number of poor pregnancy outcomes are associated with potentially preventable risk factors that can be identified, manage and minimized with preconception care and counseling.[7] Different studies indicate that improving a woman's health before pregnancy will improve pregnancy outcomes.[1]

Although preconception care is important issue of people belongs to reproductive age they are very limited aware about this. A study conducted in United State of America showed that the level of awareness of pre conception health messages among men and women was limited. There was only 48% male and 57% female had heard, seen or read anything about preconception health information.[8] Study done in Nepal revealed that the awareness

regarding preconception care among bachelor level students was low as total mean score of awareness was 8.77 with standard deviation of 2.423.[9]

The general objective of study was to identify the level of awareness regarding preconception care among bachelor level students. Specific objectives were to assess the awareness regarding preconception care among bachelor level students and to identify the association between selected variables (sex, age, marital status, mass media, planning for baby) and awareness regarding preconception care among bachelor level students.

METHODS

Descriptive cross-sectional design was used in this study. The population was the students who were studying in bachelor level in those selected colleges. Cluster sampling was used to select the sample for the study. There are six bachelor level colleges at Banepa City; Kabhre Multiple Campus, Banepa Sidhartha Campus, Pragati Pravat Campus, Chaitanya Multiple Campus, Gyankunja College and Millennium College where numbers of students are respectively 470, 140, 143, 320, 150 and 246. First of all those colleges divided as cluster then simple random sampling technique was applied to select four colleges to get adequate samples. Kavre Multiple Campus, Banepa Sidhartha Campus, Millennium College and Chitanya Multiple Campus were selected. All the students from the selected clusters (colleges) who were present during data collection period were taken as sample (Kavre Multiple Campus-99, Banepa Sidhartha College-89, Millennium Campus-80, Chaitanya Multiple Campus - 76).

A semi-structured self administered questionnaire was developed. The data was collected after the approval of research proposal from Institutional Review Board (IRB) of TU, IOM. Data coded, entered in to computer package with software: SPSS version 20. The data was analyzed and calculated using descriptive and inferential (Chi square, Pearson's coefficient of correlation and Mann Whitney U test) statistics. In order to find out the level of awareness of the bachelor level students, quartile was used. Here, Q1= 15, Q2= 17 and Q3=19. So, score < 15= low awareness, score 15-19= fair awareness, score more than 19= high awareness.

RESULTS

Table 1: Socio-Demographic Characteristics of Respondents (n=344)

Socio-demographic Characteristics	Frequency	Percent (%)
Sex		
Male	95	27.6
Female	249	75.4
Age in years		
18-24	139	95.5
25-30	5	4.5
Mean age	**19.78 ± 1.518**	
Faculty		
Management	191	55.5
Education	95	27.6
Humanities	58	16.9
Marital Status		
Unmarried	312	90.7
Married	32	9.3
If married (n = 32)		
Planning for baby	18	56.2

Married	14	43.8
Information on Preconception Care		
No	203	59.0
Yes	141	41.0
If yes, source of information (n=141)		
Mass media	104	73.8
Health professionals	37	26.2

The majority (72.4%) of respondents were female. Regarding age of respondents 95.5% were from age group 18 to 24 years and only 4.5% were age group of 26 to 30 years. The mean age was 19.78 ±1.518. In the studied group students were form different faculties where management is predominant (55.5%), followed by education (27.6%) and humanities (16.9%). The majority of respondents were unmarried (90.7%). Among married respondents more than half (56.2%) were planning for baby in near future. Only 41% had received information about preconception care. Among respondents, who received information, 73.8% had received from mass media 26.2% from health professionals.

Table 2: Level of Awareness among Bachelor Level Students Regarding Preconception Care (n=344)

Level of Awareness	Number of Response	Percentage
Low Awareness	73	21.2
Fair Awareness	206	59.9
High Awareness	65	18.9

More than half (59.9) of the respondents had fair awareness and 21.2% of the respondents had low awareness. Only 18.9 of the respondents had high awareness regarding preconception care. The above findings reveal that on an average the respondents had fair awareness regarding preconception care.

Table 3: Area-Wise Mean, Standard Deviation (SD) and Mean Percentage of Awareness Score of Bachelor Level Students on Preconception Care (n= 344)

Awareness Area	Maximum Possible Score	Mean Score	SD	Mean Percentage
Concept of preconception health	6	3.89	1.33	64.83
Preconceptional promotion of health	13	7.31	1.89	56.23
Prevention of teratogenic exposure	8	5.74	1.30	71.75

Study revealed that; mean percentage of awareness scores is 64.83% in the area of concept of preconception care with mean 3.89 ± 1.33. In the area of preconceptional health promotion the mean percentage was 56.23% with mean 7.31 ± 1.89 and the mean percentage in the area of prevention of teratogenic exposure is 71.75% with mean 5.74 ± 1.30.

TABLE 4: Item-Wise Distribution of Percentage of Correct Responses on Concept of Preconceptional Health (n=344)

Item	No. of correct response	Percentage
Preconception care helps to reduce birth defect	260	78.5
Meaning of conception	267	77.6
Duration of Preconception period	242	70.3
Meaning of Preconception care	205	59.6
Components of preconception care	196	57.0
Most suitable age for providing preconception care	160	46.5

The table 4 reveals that majority of correct response (78.5%) was obtained to the item preconception care helps to reduce birth defects. However, only 46.5% of the respondents aware about most suitable age for giving preconception care.

Table 5

This table is divided into table 5a and 5b due to space constraint.

Table 5a: Item-wise Distribution of Percentage of Correct Responses on Preconceptional Promotion of Health

Item	Frequency	No. of correct response	Percentage
Both, spouses get involved in preconception care	344	303	88.1
Obstetrician/Gynaecologist provides preconception counseling	344	285	82.8
Necessary actions before pregnancy	342	259	75.7
Best example of moderate exercise	344	238	69.2
Most suitable method for unwanted pregnancy	344	232	67.4
Girls with symptoms of STDs, hypertension/diabetes/ epilepsy must go for preconceptional medical check up	344	226	65.7
Couple who have family history of genetic problem go for genetic counseling	342	216	63

Table 5a reveals that; Majority (88.1%) of respondents had known that the both spouses get involved in preconception care. Only 63% respondents had awareness that couple who have family history of genetic problem go for genetic counseling.

Table 5b: Item-wise Distribution of Percentage of Correct Responses on Preconceptional Promotion of Health

Item	No. of responses	No. of correct response	Percentage
Appropriate time to Quitting hormonal family planning before pregnancy by woman	343	163	47.5
Contents of balanced diet	344	143	41.6
Oral/dental is important in preconception period and during pregnancy	344	136	39.5
Meaning of Body Mass Index	344	126	36.6
Normal Body Mass Index	342	103	30
Action of folic acid in fetus	339	85	25

Table 5b reveals that less than fifty percent (47.5%) had idea about appropriate time to Quitting hormonal family planning before pregnancy by woman. Less correct responses had obtained in action of folic acid (25%).

TABLE 6: Item wise Distribution of Percentage of Correct Responses on Prevention of Teratogenic Exposure(n=344)

Item	No. of correct response	Percentage
Best preventive method for STD and HIV/AIDS	313	91
Effect of Smoking and taking alcohol during pregnancy on growing fetus	308	89.5
Effect of Taking medicine during pregnancy without doctor's prescription for growing fetus	285	82.8
Effect of Alcohol in the male reproduction	281	81.7
Effect of exposure of both partners to the pesticide on conception and its outcomes.	266	77.3
Effect of exposure to cat feces before and during pregnancy by woman	219	63.7
Effect of X-ray during pregnancy on growing fetus	191	55.5
Criteria for Intensity of fetal developmental abnormality	112	32.6

Table 6 shows most of the respondents (91%) were aware about best preventive method for STD and HIV/AIDS followed by effect of Smoking and taking alcohol during pregnancy on growing fetus 89.5%. However only32.6% had awareness about intensity teratogen.

Table 7: Association between Level of Awareness and Selected Variables of the Respondents

Selected variables	Low Awareness (%)	Fair Awareness (%)	High Awareness (%)	χ^2 value	p value
Sex (n=344)					
Male	19 (20.0)	52(54.7)	24(25.3)	3.489	0.175
Female	54(21.7)	154(61.8)	41(16.5)		
Marital Status(344)					
Married	3(9.4)	22(28.7)	7(22.0)	2.962	0.227
Unmarried	70(22.4)	154(49.0)	58(18.6)		
Information acquired(n=344)					
Yes	25(17.7)	80(56.7)	36(25.6)	7.336	0.026*
No	48(23.6)	126(62.1)	29(14.3)		
Source of information (n=141)					
Mass Media	15(14.4)	58(55.8)	31(29.8)	5.349	0.069*
Health Profession	10(27.0)	22(59.5)	5(13.5)		

*: p Value Significant at ≤ 0.05 level by Chi square test

Above table depicts that there is statistically significant association between information acquired and sources of information and level of awareness. However there is no statistically significant association between sex and marital status of respondents with awareness level at 5% significant level using chi square test.

Association between Planning for Baby and Overall Awareness of the Respondents

There is no statistically significant association between overall awareness and planning for baby

at 5% significant using Mann Whitney test (p value 0.237).

Association between Age of Respondents and Level of Awareness

There is weak positive correlation (r= 0.084) between age of respondents and overall awareness and that correlation is not statistically significant at 5% significant using Pearson's coefficient correlation test (p value 0.118)

DISCUSSION:

In this study, the majority of respondents were female (72.4%). And percentage distribution of the respondents according to their age showed that most of them (98. 5%) were between ages of 18-24 years with mean age was 19.78 ±1.51. The majority of respondents were unmarried (90.7%). Among married respondents more than half (56.2%) were planning for baby in near future.

In this study only 41% had received information about preconception care. Similar finding is reported by Egegwu, Dim1, Dim2 & Ikmemr, that revealed 43.1% of respondents had heard about preconception care.[10] Among respondents, who received information, 73.8% had received from mass media, 26.2% from health professionals. This finding is congruent with study finding done by Mitchell, Levis, & Prue. In the study, Television (25.5–30.6%) and magazines (19.9–29.5%) were the most prominently reported sources for receiving preconception health information whereas only 22.2% from health professionals.[8] However study result done by Cheruvathur revealed that there was no difference between mass media and health professionals in providing information.[11]

Assessment of the level of awareness of bachelor level students revealed that 59.9% of the respondents had fair awareness and 21.2% had low awareness. Only 18.9% of the respondents had high awareness regarding preconception care. This finding is supported by the study finding done by Coonrod, Bruce, Malcolm, Drachman & Frey; where awareness was shown in percentage, the respondents had average awareness of preconception care, score was 76%.[12]

Findings of area wise awareness showed that mean percentage of awareness scores was 64.83% in the area of concept of preconception care with mean 3.89 ± 1.33 and in the area of preconceptional promotion of health, the mean percentage was 56.23% with mean 7.31 ± 1.89 and followed by in the area of prevention of teratogenic exposure which was 71.75% with mean 5.74 ± 1.30. However the study findings done by Cheruvathur , awareness scores were 44% in the area of concept of preconception care with mean 3.08 ± 1.16 and mean percentage of 39.65% with mean 7.93 ± 1.89 in the area of Preconceptional promotion of health whereas the mean percentage in the area of prevention of teratogenic exposure was 34.82% with mean 3.83±1.45.[11]

In the study, areas of higher awareness include best preventive method of STDs/HIV/AIDS (91%), effect of Smoking and taking alcohol during pregnancy (89.5%). Area of low awareness existed in quitting hormonal family planning before pregnancy (47.5%), in most suitable age for giving preconception care (46.5%), and action of folic acid (25%). Low awareness in action of folic acid is supported by study done in Kathmandu model hospital by Paudel, Wing & Silpakar that study result showed that awareness in folic acid supplementation is very low.[13] However other studies showed that slightly more awareness; there was 49.7% in study done in China by Liang, Ma, Zhou, & Li and 59% in study done by Delgado.[14,15]

As regard the association between level of awareness and sex of respondents, the study findings revealed that there is no statistically significant relationship between awareness level and sex of the respondents. This result is different to other studies, which showed that there is significant higher awareness among female than males.[16,17]

Study result of association between age and awareness level of respondents demonstrated that although there is mild positive correlation between age and awareness level but it is not statistically significant. Previous studies showed that there is significant higher awareness in older respondents.[15, 16]

Finding of association between awareness level and marital status showed that married respondents were more aware than unmarried but that difference is not statistically significant. However a study done by Corbett showed that married are

more aware than unmarried.[17] Similarly the findings also revealed that there is no statistically significant association between overall awareness and planning for baby. However a qualitative study conducted by Squiers et al., revealed that participants, especially those planning a pregnancy in the next year, were most aware about preconception care.[18]

CONCLUSION:

Respondents had fair awareness regarding preconception care. There is statistically significant association between level of awareness and information acquired as well as with source of information (mass media). However there is no statistically significant association between age, sex, marital status and planning for baby with awareness this might be due to same education status of respondents and awareness through mass media.

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