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Knowledge on Preconception Care among Reproductive Age Women in Bharatpur Hospital

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ABSTRACT

Background

Knowledge on preconception care (PCC) among reproductive-age women is essential to ensure a healthy pregnancy, the health of the future child, and the prevention of reproductive health related complications. The study aim was to find the level of knowledge on preconception care among reproductive age women.

Methods

A descriptive cross-sectional study conducted among 230 reproductive aged women attending antenatal outpatient department at Bharatpur Hospital from 15 January to 15 February 2025 for antenatal checkup. Data was collected through semi-structured interview schedule and analyzed using SPSS 16 version. Data was analyzed using descriptive and inferential statistics such as frequency, percentage, mean, standard deviation and Chi-square test.

Results

The overall findings of the study revealed that majority of the respondents (96.31%) had good level of knowledge and 3.68 % had poor level of knowledge regarding preconception care. The mean score for the level of knowledge was 33.43±5.09. Among the four aspects of PCC, cent percent respondents had good knowledge on reproductive health risk factors and 40% of respondents were intervention aspect of preconception care.. The level of knowledge on preconception care was statistically significant with ethnicity ($p<0.05$) and level of education ($p<0.05$) where p value is 0.02 and 0.009 respectively.

Conclusions

The study concludes that majority of respondents had good level of knowledge on PCC. However, low level of knowledge was found on intervention aspect of PCC. The education program should be focused on intervention of preconception care.

Keywords: knowledge; preconception care; reproductive age women.

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INTRODUCTION

Reproductive health is a basic human rights endorsed by various national and international initiative.[1] Preconception care (PCC) is a reproductive health care that enhances pregnancy outcomes by optimizing women's health.[2] Reproductive health is a fundamental right of women under the Public Health Service Act of Nepal 2075. Positive preconception care intervention can improve subsequent pregnancy and child health outcomes.[3] Nepal has committed to reduce the MMR 70 by 2030.[4] Preconception care for prevention of adverse health consequences to women and their offspring.[5] Reproductive health is important part of health care system to reduce morbidity and mortality rate related to pregnancy.[6] From Nepal as similar as in many developing countries, large proportion of reproductive age women have unmet reproductive health needs with poor knowledge on preconception care.[7-10] Preconception care is a integral part of antenatal care to improve the couple's health to facilitate positive pregnancy outcome.[11,12] Many studies showed that awareness programs is influencing factor for increase knowledge on preconception care.[10,13-16] This study aimed to determine the level of knowledge on preconception care among reproductive age women and find out the association between levels of knowledge on preconception care with selected demographic variables.

METHODS

A descriptive cross-sectional study was conducted to find the level of knowledge on preconception care among reproductive age women attending antenatal outpatient department at Bharatpur Hospital, Bharatpur, Chitwan Nepal. The setting of the study was purposively selected. Research approval was taken from Institutional Review Committee (IRC) of Bharatpur Hospital, Chitwan, Nepal. (Ref. No. 081/82-029A). Non-probability purposive sampling technique was used to select the desired sample. The data was collected from respondents by using semi structured interview schedule from January 15 to February 15, 2025. Informed written consent was obtained before data collection with participants who were reproductive age women and willing to participate in this study. Pre-test was done among 10% of total simple size who were population among women of reproductive age group attending antenatal OPD at Bharatpur Hospital using semi structured interview schedule and necessary modification was done in instrument. Sample was estimated on the basis of the previous study, in which the prevalence of preconception care was found as 15%.[10] The sample was calculated by taking 15% prevalence with 95% CI and 5% margin error. The calculated simple size was 195 by adding 15% non-response sample that is 29. The calculated sample size was 224. This study was conducted among 230 respondents of reproductive age women. Data were checked daily for completeness and consistency. The collected data were organized, coded, entered in SPSS version 16. Data was summarized using the descriptive statistics such as frequency, percentage; mean and standard deviation. Besides, inferential statistics (Chi-square test) was used to find out the association between levels of knowledge about preconception care with socio demographic variables. Level of knowledge was calculated by possible score in knowledge question and classified into two groups such as good level of knowledge (>50%) and poor level of knowledge (≤ 50%).[17]

RESULTS

The age range of 230 respondents were 17- 40 years. The mean ± SD of age was 26.61±4.78 years out of which 37% were between the age group of 25-29 years and 4.3 % were below 20 years. Concerning the area of residence, 66.1% of respondents were from urban area. Likewise, highest number of the respondents (80.4%) were Hindu followed by Buddhist, Muslim and Christian. Regarding the ethnic group, more than half of respondents (55.2%) were Brahmin/Chhetri followed by Janajati, Dalit, Madeshi and Muslim. Cent percent of respondents were literate and out of which 76.5% had secondary level of education and above. About half of the respondent were house maker (Table 1).

Regarding obstetric characteristics, more than half of

Table 1. Socio-demographic characteristics of respondents. (n=230)	
Variables	**Frequency (%)**
Age group in years	
15-19	10(4.3)
20-24	75(32.6)
25-29	85(37.0)
≥30	60(26.1)
Mean age ±SD : 26.61±4.78 years	
Area	
Urban	152(66.1)
Rural	78(33.9)
Religion	
Hindu	185(80.4)
Buddhist	30(13.0)
Muslim/Christian	15(6.5)
Ethnicity	
Brahmin/Chettri	127(55.2)
Janajati	73(31.7)
Dalit	22(9.6)
Madeshi/Muslim	8(3.4)
Level of education	
Non formal education	5(2.2)
Basic	49(21.3)
Secondary and above	176(76.5)
Type of occupation	
Agriculture	48(20.9)
Housemaker	114(49.6)
Others	68(29.5)

Table 2. Obstetric characteristics and source of information of respondents. (n=230)	
Variables	**Frequency (%)**
Number of pregnancy	
Primigravida	123(53.5)
Multigravida	107(46.5)
History of preconception care	
Yes	78(33.9)
Number of children	
None	130(56.5)
One	73(31.7)
Two or more	27(11.8)
Heard about preconception (yes)	217(94.3)
Source of information(n=217)**	
Mass media	164(75.5)
Interpersonal communication	126(58.0)
Health care professionals	71(32.2)

*Multiple response***

the respondents (53.5%) were primi gravida and 46.5 % multigravida. As reproductive health care, 33.9% of the respondents had history of preconception care. More than half of the respondents (56.5%) had no children. Majority of the respondents (94.3%) had heard about preconception care. Regarding the source of information about preconception care, most common source was mass media (75.5%) (Table 2).

Regarding different aspects of preconception care, the percentage of mean score knowledge was found cent percent with 12.04 mean score and 1.31 standard deviation for reproductive health risk followed by health promotion, concept of preconception care and intervention. The total knowledge score of respondents was 33.43 with 5.09 standard deviation and 72.67 % of mean score. The range of mean score obtained was o 14-43 and maximum possible score was 46 (Table 3).

Majority of the respondents (96.31%) had good level of knowledge and 3.69 % had poor level of knowledge regarding preconception care (Table 4).

Table 3. Knowledge aspect of respondents regarding preconception care. (n=217)				
Knowledge aspect	**Mean±SD**	**Percentage of mean score**	**Range**	**Maximum possible score**
Concept of preconception	9.50±2.37	65.41	3-16	18
Reproductive health risk factors	12.04 ±1.31	100	6-13	12
Health promotion	10.40±1.58	88.66	5-12	12
Intervention	1.60±1.48	40	0-4	4
Overall	33.43±5.09	72.67	14-43	46

Table 4. Respondents' level of knowledge regarding preconception care. (n= 217)	
Level of knowledge	**Frequency (%)**
Poor	8(3.69)
Good	209(96.31)

Among the different socio-economic variables, the level of knowledge towards preconception care is statistically significant with ethnicity ($p<0.05$), occupation ($p<0.05$) where p value are 0.02 and 0.009 respectively (Table 5).

Table 5. Association between overall levels of knowledge on preconception care with selected-demographic variables.			
Variables	**Level of knowledge**		**p-value**
	Poor n(%)	**Good n(%)**	
Age group in years			
15-24 in years	4(5.0)	76(95%)	0.47
25 and above	4(2.9)	133(97.1)	
Area of residence			
Urban	7(1.4)	140(95.2)	0.44
Rural	1(1.4)	69(98.6)	
Type of family			
Nuclear	2(2.7)	71(97.3)	0.72
Joint	6(4.2)	138(95.8)	
Religion			
Hindu/Buddhist	6(2.9)	200(97.1)	0.55
Muslim/Christian	2(18.2	9(81.8)	
Ethnicity			
Brahmin/Chhetri	1(0.8)	121(99.2)	0.02**
Others	7(7.4)	88(92.6)	
Level of education			
Non formal/basic level	5(11.6)	38(88.4)	0.009**
Secondary level and above	3(1.7)	171(98.3)	

*Under Pearson Chi-square test, Fisher's exact test** was used with significance in p<0.05.*

DISCUSSION

Socio-demographic findings of the study revealed that among 230 respondents 37.0% were between the age group of 25-29 years with mean age 26.61 years and 4.78 standard deviation. Concerning the area of residence, 66.1% of the respondents were from urban areas. Majority of the respondents (80.4%) were Hindus, 55.2% were Brahmin and Chhetri. Highest number of respondents (49.6%) were house maker. There is a similarity of study conducted in Kaski District where majority of the respondents (85.5%) were Hindus and 47.3% were Brahmin/ Chhetri.[18] The finding of study is also similar to the study was conducted in Dang district where majority of respondents (96.03%) were Hindu and cent percent were literate. Highest number of respondents were house worker.[10] Regarding obstetric characteristics, most of the respondents(94.3%) had heard about preconception care. The finding of the study is similar to the study was conducted in Bheerkot Municipality where cent percent of respondents were heard about preconception care.[17] Regarding the source of information about preconception care, most common source was mass media (75.5%). The finding of the study is similar to the study wasconducted in the different area where mass media was the most common source of information.[10,18] Majority of the respondents (96.31%) had good level of knowledge and 3.68 % had poor level of knowledge regarding preconception care. The finding of study is little bit similar to the study conducted in Pokhara 18 revealed that 20 % of respondents' had poor level of knowledge followed by 64.5% had average level of knowledge and 15.5% had good level of knowledge. Likewise, the study from Nigeria[19], contrast from this study where 65.3% of the respondents had average knowledge and only 15.42% respondents had good level of knowledge regarding preconception care. This study is contrast from the study was conducted in Malawi, out of 136 respondents 54% had heard of preconception care where 57.7% demonstrated a good level of knowledge of preconception care and 42.3% had poor level knowledge.20 The finding of this study is nearly similar to the study conducted in National Medical College Teaching Hospital where the highest number of respondents (66.5%) had average level of knowledge, 30.5% had adequate level of knowledge and 3% had inadequate level of knowledge.[7] Among four aspects of preconception care, cent percent of respondents had knowledge on reproductive health risk factors. The finding of study is almost similar to the study was conducted in Dang, District where highest knowledge score in the area of reproductive health risk factors.[10] Good level of knowledge (96.31%) in this study might be due to small areas of study and it could also be assumed that women attending in hospital from the urban areas like Bharatpur metropolitan city are comparatively more aware than the women of other places due to greater access to education and health facility. The finding of the study shows that there has been remarkable progress in awareness and knowledge level about preconception care comparatively. The level

of knowledge towards preconception care was statistically significant with ethnicity (<0.05) and level of education (<0.05) where p value are 0.02 and 0.009 respectively. The finding of study is similar to the study was conducted in different area where there was statistically significant association between educational level of respondents with level of knowledge on preconception care 7.[18,19] So, education seems one of the major influencing factors of knowledge on preconception care.

CONCLUSIONS

The finding of the study showed that majority of the respondents had good level of knowledge and only few numbers of respondent had poor level of knowledge regarding preconception care. Most of the respondents had heard about preconception care. Regarding knowledge score on different aspect of PCC, highest score was found in reproductive health risk factors and lowest knowledge score was found in intervention aspect. However, most of respondents didn't use PCC service due to lack of knowledge on how the provided services can affect maternal and neonatal health. Likewise, few of them were aware on intake of folic acid for prevention of neural tube defect in newborn. There was statistically significant association between level of knowledge on preconception care with ethnicity and level of education. This result reveals that the higher education often correlating with better understanding of preconception care. So, the more education and awareness should be provided to enhance the level of knowledge on intervention of preconception care.

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