

Knowledge regarding Menstrual Cup among Nursing Students in Educational Institutions of Golaghat District, Assam

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Abstract: Menstruation is an important indicator of reproductive health therefore hygiene-related practices and its management has utmost importance for adolescence girls and women. As a menstrual hygiene product majority women use sanitary pads during periods which takes more than hundred years to decompose in the environment. But the reusable environment friendly menstrual cup as sanitary products are not much popular. **Objectives and methodology:** A descriptive survey methodology was adopted for the present study. The study settings were the selected nursing schools of Golaghat district, Assam. Data were collected using purposive sampling technique from the 194 nos. GNM nursing students by using structured questionnaire. The data were analyzed using descriptive and inferential statistics. **Results:** The findings revealed that majority of the sample (88.1%) belongs to the age group of 18–20 years and only 3.6% sample uses menstrual cup as menstrual product during periods. Among the study participants majority 72.2% have adequate knowledge on the menstrual cup. The Knowledge on menstrual cup was found to be significantly associated with type of family and previous information regarding menstrual cup.

Keywords: Knowledge, Menstrual cup, Nursing Students.

1. Introduction

According to WHO/UNICEF Joint Monitoring programme (2012) menstrual hygiene is using is clean material for managing menstruation for the absorption or collection of menstrual blood as and when necessary with maintaining privacy and having access for safe & convenient facilities for cleaning and disposal of the material. (UNICEF, 2019)¹. Education to menstrual hygiene and its management are the utmost importance (UNICEF, 2019) since it is an important indicator of reproductive health and hygiene. According to the National Family Health Survey (NFHS-5) data, 77.6% women in India uses hygienic methods of menstrual protection out of which 64.4% of women use sanitary napkins, 49.6% use cloth, 15 % uses locally prepared napkins, 1.7% tampons and only 0.3% use menstrual cups²

Menstrual cups are bell-shaped and usually made up of medical grade silicone. Menstrual cup is inserted into the vagina and collects menstrual blood which can be easily discarded. The cup can be emptied every 6-8 hourly depending upon the flow and thereafter rinsed and reinserted. It comes with an average price of Rs.200-500 and available in pharmacy and online platform. The cup should be sterilized by boiling for 5 minutes before and after each menstrual cycle³. A menstrual cup is more eco-friendly rather than sanitary napkins which are widely used by women. It has a service life of upto 10 years for reuse.³ As we like to follow the western culture using and throwing into the dustbin has become our habit for menstrual waste management also. As per the estimated data⁴ of menstrual load in India 36% women and girls are using sanitary napkins, producing one billion used pads per month that in turn produces 12 billion used pads per year⁴. These sanitary

pads are made of cellulose, super absorbent polymers, plastic covering, and adhesives or glue etc. which do not decompose easily and remain in the environment causing soil and water pollution and blockage in the urban drain causing artificial flood in the city. On the other hand when these used pads are burned in the open places or in burning chambers or low quality incinerators they release toxic chemicals like dioxins and furans which are known carcinogens and harmful for health. (menstrual-waste-management Sep 2019)⁴.

Therefore, the need of the hour is to manage menstrual waste effectively through education and awareness among girls and women about sustainable practices of menstrual cups. GNM students' knowledge on menstrual cups as safe, inexpensive and eco- friendly product will help to create positive implications on women admitted in hospital setting and public health field. With this thought researcher has taken up the study to assess nursing students' knowledge on the use of menstrual cups.

2. Materials and Methods

A descriptive cross sectional research design was conducted in the month of September 2025. As the aim of the study was to assess the knowledge regarding menstrual cup among nursing students therefore the study setting was selected as two nursing institutions of Golaghat district, Assam. A total of 194 nos. sample was selected using purposive sampling technique. As a tool self- structured questionnaire was used consisting of two sections - socio demographic proforma and knowledge questionnaire regarding menstrual cup with total 20 items. Knowledge was assessed by assigning a score of "1" and "0" and for each right and inappropriate answer and

knowledge score $10 \geq$ median was considered to have good knowledge for menstrual cup.

Data collection procedure

Permission was obtained from the head of the institutions and informed consent was obtained from the subjects. The purpose of the study was explained to the participants and confidentiality and anonymity was assured. The questionnaire was administered to the **194 female GNM students** in the class room and it took around 10-15 minutes to complete the procedure which was followed by debriefing session. Data was analyzed using descriptive and inferential statistics using SPSS 20.0 version.

3. Results

Majority of the sample under study 88.1% belongs to the age group of 18–20 years and most of the sample 92.3% reported as Hindu and 85.6% participant's permanent residence was rural community with majority 88.7% belongs to nuclear family. Almost half (57.2%) of the respondents experienced menarche after 13 years. Only 7 participants (3.6%) out of 194 uses menstrual cup as menstrual product during periods. Almost half 42.3% participants were not previously aware of menstrual cup to be used as menstrual material. And among the respondents who knew about menstrual cup majority 91(81.6%) participants received information from internet and social media. Majority 92.3% respondent's yearly family income below 2 lakhs. [Table-1]

Table 1: Frequency and percentage distribution according to demographic characteristics, n= 194

Variable	Frequency	Percentage (%)
Age	18 -20 years	171
	21- 23 years	23
Religion	Hindu	179
	Others	15
Area of residence	Rural	166
	Urban	28
Type of family	Nuclear	172
	Joint	22
Age at Menarche	Before 13 years	83
	After 13 years	111
Type of menstrual product used during period	Menstrual cup	7
	Sanitary napkins	185
	Others	2
Previous information regarding menstrual cup	Yes	112
	No	82
If yes, Sources of information regarding menstrual cup	Internet & Social media	91
	Other sources	21
Family income (130)	Below 2 lakh / year	179
	Above 2 lakh/ year	15

Table 2: Frequency and percentage distribution according to knowledge on menstrual cup, n= 194

Level of knowledge on Menstrual cup	Score range	Frequency	Percentage %
Adequate	≥ 10	140	72.2%
Inadequate	< 10	54	27.8%

Table 2 findings reveals that among the study participants majority 140 (72.2%) have adequate knowledge on the menstrual cup.

Table 3: Association between knowledge on Menstrual cup and selected demographic variables, n= 194

Area		Total		χ^2	df	P-value	Remarks
		Adequate	Inadequate				
Age	18 -23 years	127	44	3.179	1	0.075	NS
	Above 23years	13	10				
Religion	Hindu	128	51	0.497	1	0.481	NS
	Others	12	3				
Area of residence	Urban	24	4	2.991	1	0.084	NS
	Rural	116	50				
Type of family	Nuclear	120	52	4.34	1	0.037	*S
	Joint	20	2				
Age at menarche	Before 13 years	62	21	0.464	1	0.496	NS
	After 13 years	78	33				
Type of menstrual product used	Menstrual cup	7	0	2.801	1	0.094	NS
	Others	133	54				
Previous information regarding menstrual cup	Yes	93	19	15.589	1	0	**S
	No	47	35				
Family income	Below 2 lakh	130	49	0.245	1	0.621	NS
	Above 2 lakh	10	5				

*S=Significant at $P < 0.05$

*NS= Not Significant

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Table 3 shows that Knowledge on menstrual cup was has significant association with type of the family of the sample and previous information regarding menstrual cup.

4. Discussion

In the present study majority of the sample under study (88.1%) belongs to the age group of 18–20 years with 88.7% belongs to nuclear family and 92.3% respondents belongs to the low income group where yearly family income below 2 lakhs. Almost half of the study population (57.7%) had previous information about menstrual cup and among them 81.6% participant's source of information are internet and social media. The major finding is that although 72.2% students have adequate knowledge (score level $10 \geq$ with maximum score is 20) about menstrual cup only 3.6% respondents uses menstrual cup as menstrual product during periods. The findings are similar to the study conducted by De U et al (2023)⁵ in their study on knowledge on usage of menstrual cup among nursing students found that the majority-70.4% students scored between 11-20. Present study is also supported by study Ballal SK et al (2020)⁶ in their study in Karnataka among reproductive woman found that 82% sample had good knowledge about menstrual cup but only 2.6% have used it. Syama, Reeja R (2024)⁷ study revealed that 83.3% of college students had average knowledge regarding menstrual cup but only 2% of students used menstrual cup.

The study also reveals that majority 185(95.4%) nursing students uses sanitary napkins which is similar to the study of Gomez R et al (2024)⁸ among nursing students of Udupi district found 93.3% of the participants used sanitary pads alone. De U et al (2023) found 83.9% nursing student used sanitary pads. This could be due to the lack of popularity of menstrual cups over sanitary pads among nursing students. Also could be regarding their marital status as all sample were unmarried and 100% students are hostel boarders.

Present study findings revealed that knowledge of menstrual cup had significant association with socio demographic variables mainly type of family and previous information about menstrual cups. Syama, Reeja R (2024) in their study found that knowledge of college students had significant association with socio personal variables mainly education of mother and occupation of father.

5. Conclusion

Menstrual cups are the safest, comfortable and sustainable options for managing menstrual hygiene. They are reusable, reduce solid waste and are environment friendly than any other menstrual sanitary products. It has been in use with less popularity since very long time and very limited studies are conducted regarding its awareness and use among girls and women in Assam.

6. Future Scopes

On the basis of findings of present study, the following recommendations can be offered for future research:

- The study can be done on large number of samples at different settings to generalize the study findings.

- A comparative study can be conducted between menstrual cup and others menstrual hygiene products among women of reproductive age group.
- Awareness program regarding menstrual cup as new technology among large number of population

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