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Research Article

Assess the knowledge regarding the use of menstrual cups among B.Sc. Nursing students in Upasana College of Nursing Kollam

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Abstract

Background: The study to assess the knowledge regarding the use of menstrual cups among B.Sc Nursing students in Upasana College of Nursing Kollam. The objective of this study is to assess the knowledge regarding the use of menstrual cups among B.Sc Nursing students to find out the association between the Knowledge of B.Sc Nursing with selected demographic variables.

Materials and Methods: The approach used in this study is non-experimental and the research design is qualitative. The sample consists of 30 students from the 4th semester B.Sc. Nursing students in Upasana College of Nursing, Kollam. The instrument used in the study is a structured questionnaire, after obtaining consent, a structured knowledge questionnaire was given to them. The data were collected and analyzed using descriptive and inferential statistics techniques.

Results: Research which revealed that 36.6% of students have good knowledge, 56.6% have average knowledge, and 6.67% have poor knowledge regarding the use of menstrual cups and there is a significant association between knowledge score and area of residence, there is no significant association between age, religion, monthly family income, exposure to health-related information, source of health-related information, type of family and monthly expenditure for sanitary products.

Conclusion: Menstrual cups are a better alternative to the current methods of menstrual sanitation, and it is durable, eco-friendly, comfortable, safe, has no need for frequent changing in the day, and has no disposal issues.

Keywords: B.Sc. nursing students, knowledge, menstrual cup, menstrual sanitation, sanitary products

Introduction

Menstruation, often referred to as a woman's period, is a natural biological process that occurs in most females of reproductive age. It involves a series of hormonal and physiological changes in a woman's body.[1] The menstrual cycle is typically around 28 days, although it can vary from person to person. It is controlled by hormones, primarily estrogen and progesterone. During menstruation, the lining of the uterus (endometrium) is shed, resulting in the lease of blood and tissue through the vagina. This flow typically lasts from 2 to 7 days. Many women experience various symptoms during their menstrual cycle, including cramps (dysmenorrhea), bloating, breast tenderness, mood swings, and fatigue. These symptoms can vary in intensity.[2] There are several products available to manage menstrual flow, including sanitary pads, tampons, menstrual cups, and period underwear. The choice of product is a personal preference. Proper menstrual hygiene is essential to prevent infection and discomfort. It is important to change menstrual

Date of Submission: 20-01-2025
Date of Revision: 07-02-2025
Date of Acceptance: 18-02-2025

Access this article online
Website: https://innovationaljournals.com/index.php/ijnr
ISSN No: 2456-1320
DOI: 10.31690/ijnr.2025.v011i01.001

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products regularly, wash hands before and after changing products, and maintain good genital hygiene.[3] Menstrual cups are designed to be inserted into the vaginal canal to collect menstrual blood. They are flexible and can be folded for easy insertion. Once inside, the cup opens up and creates a seal against the vaginal walls, preventing leaks. Unlike disposable menstrual products such as pads and tampons, menstrual cups are reusable and can last for several years with proper care. This makes them an eco-friendly option, as they reduce the amount of menstrual waste generated. Menstrual cups come in different sizes and capacities to accommodate varying levels of menstrual flow. Users can choose a size that suits their needs, typically based on factors such as age, childbirth history, and flow. Menstrual cups require minimal maintenance. They should be rinsed or washed with mild soap and water between uses and thoroughly cleaned at the end of each menstrual cycle. They can be sanitized by boiling for a few minutes. Many users find menstrual cups comfortable to wear. They can be worn for up to 12 hours, depending on the individual's flow, which is longer than most disposable products.[4] This extended wear time is convenient, especially for those active menstrual cups that are generally considered safe and do not pose an increased risk of toxic shock syndrome when used as directed. They do not contain harmful chemicals often found in some disposable products. A menstrual cup is a sustainable, cost-effective, and comfortable alternative to traditional disposable menstrual products. It offers users the convenience of extended wear, reduces environmental waste, and is becoming increasingly popular among individuals seeking eco-conscious and economical menstrual hygiene options.[5] Menstrual hygiene is a fundamental aspect of women's health, and over the years, various products have been developed to manage menstrual flow. Among these, menstrual cups have emerged as a sustainable and innovative alternative to traditional options such as pads and tampons. Menstrual cups are small, bell-shaped devices made from medical-grade silicone, rubber, latex, or elastomer. They are designed to be inserted into the vaginal canal to collect menstrual blood. Unlike disposable products, menstrual cups are reusable, eco-friendly, and offer several benefits to users. The concept of menstrual cups dates back to the early 20th century, but it is only in recent years that they have gained widespread recognition and acceptance. This surge in popularity can be attributed to several factors, including increased environmental consciousness, the desire for cost-effective menstrual solutions, and a growing awareness of the importance of sustainable menstruation practices.[6]

This present study on the use of menstrual cups among nursing students is significant as it addresses a specific population with unique needs and responsibilities. It has the potential to improve education, promote sustainability, reduce stigma, and inform healthcare practices. In addition, it contributes to the broader conversation about sustainable menstruation and its impact on health-care professionals and the environment.

Materials and Methods

Study design and setting

The research design is the master plan specifying the methods and procedures for collecting and analyzing the needed information in a research study. The research design adopted for this study was a descriptive study. A research setting is the physical, social, and cultural site in which the researcher conducts the study. The setting of this study was Upasana College of Nursing, Kollam.

Sample size and sampling method

Sample refers to a subset of the population selected to participate in a research study. The Sample should be representative of the population. It can generalize the findings from the research sample to the population as a whole. The sample for the present study consists of 30 4th-semester B.Sc. nursing students of Upasana College of Nursing. The sampling technique is the process of selecting a representative part of the population. Non-probability purposive sampling technique was used to select the sample for the present study.[7]

Data collection tool and technique

Tools are instruments used by the researcher to observe or measure the key variables in the present problem. In the present study, the structured knowledge questionnaire was used as the tool to collect knowledge regarding the use of menstrual cups. Data collection tools are methodologies employed to gather data from the targeted group with pre-defined parameters.

The tool was prepared and selected based on the objectives of the study. The methods used for the development and selection of the tool were; a review of relevant literature and discussion with subject experts.

The tool consists of two sections:

SECTION A – Assessment of sociodemographic characteristics

Tool 1: Sociodemographic data

A structured questionnaire was prepared to assess the socio-demographic variables of 4th semester B.Sc. nursing students which include, age, sex, marital status, previous knowledge, and source of health-related information.[8]

SECTION B – Structured questionnaire

Tool 2: Knowledge questionnaire

The structured knowledge questionnaire was prepared by referring to the guidelines and other manual resources.[3,5] It consists of 10 closed questions and 20 multiple-choice questions concerning the importance, methods, and dos and don'ts of using a menstrual cup. Each question has four options: One right answer and three distractors. Each right answer carries 1 mark. The minimum score is zero and the maximum score is 30. The total score of each sample is categorized in Table 1.

Data management and analysis

Data collection is the process of obtaining the subject and collecting the data for the study. The study was done among fourth-semester B.Sc. nursing students of Upasana College of Nursing. After obtaining permission from the concerned authority the purpose of the study was explained to participants and they were assured that all the data would be kept confidential and would be used only for study purposes. Data were collected from 30 students. Sociodemographic data were collected and the knowledge score was assessed by a structured knowledge questionnaire. Data analysis is the process of systematic organization and synthesis of research data and testing of hypotheses using those data. Both descriptive and inferential statistics were used to analyze the data based on the objectives.[8]

Frequency and percentage distribution were computed for analysis of the sociodemographic data. The knowledge score of students was analyzed by frequency and percentage.

The chi-square test was used to find the association of selected sociodemographic variables with knowledge scores.

For the interpretation of the hypothesis and findings, the level of significance was set at 0.05.

Ethical and cultural consideration

Prior permission was taken from the head of the institution and written informed consent was obtained from participants. Maintain confidentiality to all the participants.[9]

Results

Sociodemographic data

The present study was conducted to assess the knowledge regarding the use of menstrual cups among fourth-semester B.Sc. nursing students in Upasana College of Nursing Kollam.

Objectives

Section A: Sociodemographic data of B.Sc. nursing students

- Among the participants selected for the study 60% of students belong to the age group of 18–20 years and 40% belong to the age group of 20–22 years
- Considering religion 73% of participants are Hindus 20% of participants are Christian, and 6.6% are Muslims
- Regarding the family income 30% belongs to < 5000, 53.3% in 5000–10000, and 16.6% in >10,000
- Regarding health-related information 33% get regular health-related information, 60% get health-related information occasionally, and 6.6% get health-related information rarely
- Considering sources of health-related information 33.3% get health-related information from mass media, 6.6% get health-related information from newspapers, and 60% get it from the Internet
- Considering the type of family 96% belong to the nuclear family, 3.3% belong to an extended family and no one belongs to a joint family
- Regarding area of residence, 50% are in rural areas, 13.3% in semi-urban areas, and 36.6% in urban areas
- Regarding expenditure for sanitary products: 26.6% of monthly expenditure is between 50 and 100, 63.3% between 100 and 300, and 10% between 300 and 500.

Section B: Frequency and percentage distribution of knowledge score regarding use of menstrual cup

In this study, 6.67% of the fourth-semester students had poor knowledge, 56.6% had average knowledge, and 36.6% had good knowledge regarding the use of menstrual cups [Table 2].

This section deals with the distribution of samples according to knowledge score.

Frequency and percentage distribution of knowledge score among fourth-semester B.Sc. nursing students regarding use of menstrual cups.

Data presented in the table depicts that 6.67% of fourth-semester students have poor knowledge, 56.6% have average knowledge, and 36.6% have good knowledge regarding the use of menstrual cups.

Section C: Association between knowledge with sociodemographic variables

Nursing students with respect to the area of residence were statistically significant. The age, religion, monthly family income, exposure to health-related information, source of health-related information, type of family, and monthly expenditure toward sanitary products were statistically not significant and calculated Chi-square values as 1.923, 3.95, 8.417, 5.892, 3.592, 8.86, and 3.239 but there was a significant association between knowledge score and area of residence and calculated Chi-square value is 10.063 [Table 3]. In the section, to test the association between the knowledge SCORE and selected demographic variables the following hypothesis and null hypothesis were stated and tested using Chi-square.

H0: There will be no significant association between knowledge score and selected demographic variables.

H1: There is a significant association between knowledge score and selected demographic variables.

Table 1: Scoring of structured questionnaire

S. No.	Score	Level of knowledge
1	0–10	Poor
2	10–20	Average
3	20–30	Good

Table 2: Frequency and percentage distribution of knowledge score regarding use of menstrual cup

Knowledge score	Level of knowledge	Frequency	Percentage
0–10	Poor	2	6.67
11–20	Average	17	56.6
21–30	Good	11	36.6

Table 3: Association between knowledge with sociodemographic variables

S. No.	Demographic variables	Degree of freedom (df)	Chi-square value (χ^2)
1.	Age in year	2	1.923
2.	Religion	4	3.95
3.	Family income	4	8.417
4.	Exposure to health-related information	4	5.892
5.	Source of health-related information	4	3.592
6.	Type of family	4	8.86
7.	Area of residence	4	10.063
8.	Expenditure toward sanitary products	4	3.239

Table value: 5.99 (df=2), 9.49 (df=4). *n*=30. **Significant at 0.05

The data presented in the table shows that there was an association between the knowledge score of fourth-semester students and their area of residence χ^2 = 10.063, here the p value is greater than the table value. Hence, the research hypothesis is accepted and the null hypothesis is rejected. No significant association between score of fourth-semester students and sociodemographic variables such as age (χ^2 = 1.923), religion (χ^2 = 3.95), family income (χ^2 = 28.417), health-related information (χ^2 = 5.892), source of health-related information (χ^2 = 3.592), type of family (χ^2 = 8.86), monthly expenditure toward sanitary products (χ^2 = 3.239). Here, the calculated χ^2 value is less than that of the table value. Hence, the null hypothesis is accepted.

Discussion

A descriptive study with a survey approach was used to assess the knowledge regarding the use of menstrual cups among nursing students in seven Nursing Institutes across four Eastern States of India (Jharkhand, Bihar, Odisha, and West Bengal) selected through convenience sampling. The participants included were students of General Nursing Midwifery, Basic B. Sc. Nursing, Post Basic B. Sc. Nursing, and M. Sc. Nursing. Samples were selected through a random stratified sampling method, i.e., 25% from each course run by the selected Nursing Institutes. The course was taken as a stratum. The total sample size for the study was 335. The study findings revealed that nursing students did not possess adequate knowledge regarding using menstrual cups; hence, educating them and spreading awareness among them is necessary.[10,11]

A similar descriptive study can be conducted to assess knowledge about the side effects of sanitary pads and promote menstrual cup usage among college girls. Utilizing a non-experimental survey design, data were collected over 7 days from 30 respondents using a structured questionnaire. Results indicated that a significant majority (90%) of participants had inadequate knowledge regarding menstrual cups, with only 10% exhibiting moderate knowledge. The findings highlight a critical gap in awareness about menstrual health and hygiene, emphasizing the need for educational interventions. Promoting knowledge about menstrual cups could encourage better practices and hygiene management during menstruation.[12]

A similar study was conducted in Alleppey regarding the use of menstrual cups. The study results showed that the students have less knowledge regarding menstrual cups.[13]

Sociodemographic data

In the present study, 60% of B.Sc. Nursing students were in the age group of 18–20 years, 73.33% were Hindu, 53.3% had monthly family income between 5000 and 10000, 60% have occasionally exposure to health-related information, 60% got health-related information from Internet and awareness classes, 96.66% belongs to a nuclear family, 50% were living in a rural area, 63.33% had monthly expenditure toward sanitary products.

Distribution of sample according to knowledge score

Association between knowledge score and sociodemographic variables

The data present in the present study shows that there were no association between knowledge score and sociodemographic variables such as age, religion, monthly family income, exposure to health-related information, the main source of health-related information, type of family, monthly expenditure toward sanitary products and χ^2 value as 1.92, 3.95, 8.41, 5.8, 3.59, 8.86, and 3.23 is less than the table value. However, there was a significant association between knowledge score and area of residence, and the calculated χ^2 is 10.06 is more than the table value χ^2 = 9.49. The findings are congruent with the results of the descriptive study.

Conclusion

Fourth-semester B.Sc. Nursing students have average knowledge regarding menstrual cups. It is very important for educators to provide information regarding menstrual cup use to student nurses. This education will help with knowledge about menstrual cups.

Acknowledgment

Prof Alexie Alex Former Principal Upasana College of Nursing Kollam, Management and staff of Upasana College of Nursing Kollam.

Funding

NA.

Conflicts of Interest

NA.

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How to cite this article: Sasikumar S. Assess the knowledge regarding the use of menstrual cups among B.Sc. Nursing students in Upasana College of Nursing Kollam. Int J Nur Res. 2025;11(1):1-5.