

Knowledge And Attitude Regarding Alternative Menstrual Products Among Young Women

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Abstract—Background: Menstrual health and hygiene are essential to women's reproductive health and well-being. Although disposable sanitary pads remain widely used, alternative menstrual products such as menstrual cups, period panties and tampons offer potential economic and environmental benefits. However, cultural beliefs, misconceptions and lack of practical information may influence their acceptance.

Objectives: To assess knowledge and attitude regarding alternative menstrual products among young women, determine their association with selected socio-demographic variables, examine the relationship between knowledge and attitude, and distribute an information booklet. **Methodology:** A quantitative, non-experimental descriptive design was adopted among 75 young women aged 17–21 years at St. Mary's College, Thrissur, Kerala, selected through non-probability convenience sampling. Data were collected from 27 February to 7 March 2026 using a structured tool comprising socio-demographic variables, a 20-item knowledge questionnaire and a 20-item five-point Likert attitude scale. Data were analysed using descriptive statistics, chi-square test and Karl Pearson correlation coefficient. **Results:** Of the 75 participants, 47 (64%) had adequate knowledge, 16 (25%) had moderate knowledge and 12 (11%) had inadequate knowledge. Regarding attitude, 45 (60%) had a positive attitude, 26 (34.67%) had a neutral attitude and 4 (5.33%) had a negative attitude. Most participants, 64 (85.33%), used commercial sanitary pads, while 6 (8%) used menstrual cups and 3 (4%) used period panties. No significant association was found between knowledge or attitude and the selected socio-demographic variables. A strong

positive correlation was observed between knowledge and attitude ($r = 0.898$, $p < 0.001$).

Conclusion: Although most participants demonstrated adequate knowledge and a positive attitude, utilization of alternative menstrual products remained low. The strong positive correlation between knowledge and attitude highlights the need for structured menstrual health education, counselling and accessible information to support safe and informed menstrual product choices.

Index Terms—Menstrual health, menstrual hygiene, alternative menstrual products, menstrual cup, knowledge, attitude, young women, health education, reproductive health.

I. INTRODUCTION

Menstruation is a normal physiological process and an important aspect of reproductive health. Menstrual health involves physical, psychological and social well-being and requires access to appropriate menstrual products, sanitation, privacy, information and safe disposal facilities. However, myths, stigma and cultural restrictions may influence menstrual practices and product choices. Alternative menstrual products such as menstrual cups, period panties, tampons and reusable cloth pads have gained attention because of their potential economic and environmental benefits. However, studies indicate that adequate awareness does not always translate into actual use. Among college students in central Kerala, despite good knowledge regarding menstrual cups, utilization

remained low, with fear of leakage and misconceptions regarding virginity reported as important concerns. Young women are an important group for menstrual health education as they develop independent health behaviours and reproductive health choices. Therefore, the present study was undertaken to assess the knowledge and attitude regarding alternative menstrual products among young women in a selected college at Thrissur, with the aim of identifying educational needs and supporting informed menstrual health practices.

II. METHODS

Research design: Quantitative research approach with descriptive research design

Setting of the study: St. Mary's College, Thrissur, Kerala; located approximately 1.5 km from Thrissur city and offers undergraduate and postgraduate programmes.

Population and sample: young women aged 17–21 years from different streams of study studying at St. Mary's College, Thrissur. A total of 75 young women who fulfilled the inclusion criteria were selected for the study.

Sampling technique: non-probability convenience sampling technique

Inclusion criteria: Participants included if they were:

1. Aged between 17 and 21 years.
2. Studying at St. Mary's College, Thrissur.
3. Willing to participate in the study.
4. Present during the period of data collection.

Exclusion criteria:

Young women who were unwilling to participate or absent during data collection were excluded.

The categorization according to score distribution:

Knowledge	Adequate knowledge	Moderate knowledge	Inadequate knowledge
	17–20	15–16	14 or below
Attitude	Positive attitude	Neutral attitude	Negative attitude
	75–100	66–74	65 and below

Content validity of the research tool was established by experts from the departments of Child Health Nursing and Obstetrics and Gynaecology Nursing.

Study variables:

The demographic variables included age, year of study, stream of study, monthly family income, place of residence, type of accommodation, previous source of information regarding alternative menstrual products, currently used menstrual product, average monthly expenditure on menstrual products and characteristics of menstruation.

The research variables were knowledge and attitude regarding alternative menstrual products.

Data collection tool: The data collection tool was developed based on an extensive review of literature and expert guidance. The tool consisted of three main sections.

Section A:

Socio-demographic data - consisted of 10 items covering the demographic and menstrual-product-related characteristics of the participants.

Section B:

Structured knowledge questionnaire consisting of 20 multiple-choice questions was used to assess knowledge regarding alternative menstrual products. Each item had four possible responses, with one correct answer. A correct response was awarded one mark and an incorrect response received zero.

Section C:

A five-point Likert attitude rating scale consisting of 20 statements was used to assess attitude regarding alternative menstrual products. Positive and negative statements were included alternately.

The maximum possible score was 20 for knowledge questionnaire. In the attitude scale, positive statements responses were scored from 5 for strongly agree to 1 for strongly disagree. For negative statements, reverse scoring was used. The total attitude score ranged from 20 to 100.

Data collection procedure: Formal permission was obtained from the concerned authorities. The purpose of the study was explained to the participants and

written informed consent was obtained. Confidentiality and anonymity were maintained.

Data were collected from 27 February 2026 to 7 March 2026 from 75 eligible participants. Following completion of data collection, an information booklet regarding alternative menstrual products and their advantages was distributed to the participants.

Data analysis:

The data were organized, tabulated and analysed using descriptive and inferential statistics. Statistical analysis was performed using SPSS version 24.0.

Frequency and percentage were used to describe socio-demographic variables, knowledge levels and attitude levels. Chi-square test was used to determine the association between knowledge and attitude with

selected socio-demographic variables. Karl Pearson correlation coefficient was used to determine the relationship between knowledge and attitude. A p-value of less than 0.05 was considered statistically significant for the association analyses.

Ethical considerations: Permission was obtained from the concerned institution. Participants were informed about the purpose of the study and written informed consent was obtained. Confidentiality and anonymity were maintained. Participants were informed of their right to withdraw from the study without penalty.

III. RESULTS

SECTION A

SOCIO-DEMOGRAPHIC CHARACTERISTICS

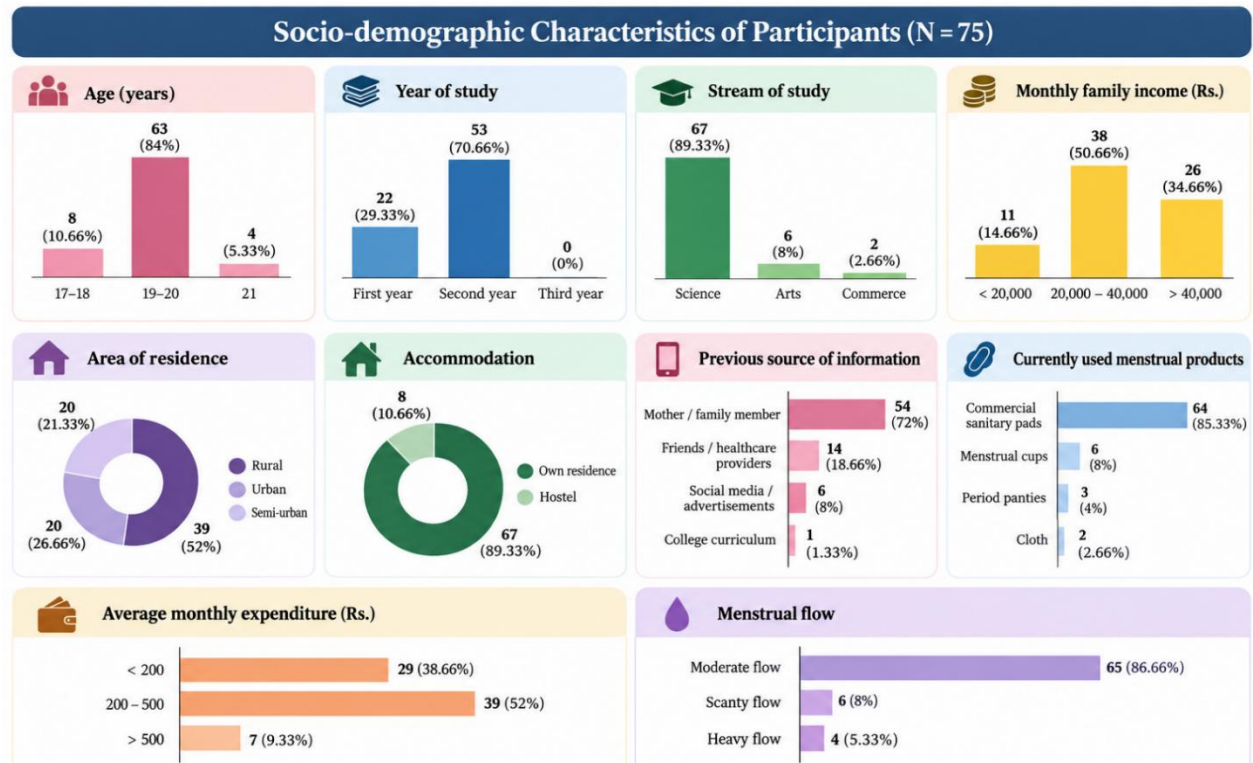


Fig 1: Socio-demographic variables distribution of the participants n=75

SECTION B

DESCRIPTION OF LEVEL OF KNOWLEDGE ON ALTERNATE MENSTRUAL PRODUCTS AMONG YOUNG WOMEN

Table 1: Frequency and percentage distribution of level of knowledge among young women n=75

Sl No	Variables	Frequency	Percentage
1	Adequate knowledge	47	64%
2	Moderate knowledge	16	25%

3	Inadequate knowledge	12	11%
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The table 1 shows the frequency and percentage distribution of level of knowledge among young women regarding alternative menstrual products.

Out of 75 participants, 47 (64%) were having adequate knowledge, 16 (25%) were having moderate knowledge and 12 (11%) of the participants had inadequate knowledge regarding alternative menstrual products

SECTION C

DESCRIPTION OF ATTITUDE ON ALTERNATE MENSTRUAL PRODUCTS

The table 2 shows the frequency and percentage distribution of attitude among young women regarding alternative menstrual products

Table 2: Frequency and percentage distribution of attitude among young women n=75

Sl No	Variables	Frequency	Percentage
1	Positive attitude	45	60%
2	Neutral attitude	26	34.67%
3	Negative attitude	4	5.33%

Out of 75 participants, 45 (60%) were having positive attitude, 26 (34.67%) were having neutral attitude and 4 (5.33%) of the participants had negative attitude regarding alternative menstrual products.

SECTION D

ASSOCIATION BETWEEN KNOWLEDGE AND ATTITUDE WITH THE SOCIO-DEMOGRAPHIC VARIABLES

The study examined the association between knowledge level and level of attitude with the 10 selected variables. The calculated chi-square values for all the selected variables were lower than the corresponding table values. Therefore, no statistically significant association was found between knowledge level and level of attitude with any of the selected socio-demographic variables. The null hypothesis stating that there was no significant association between the level of knowledge and level of attitude

with selected socio-demographic variables was therefore accepted in the study.

SECTION E:

RELATIONSHIP BETWEEN KNOWLEDGE AND ATTITUDE. THE CORRELATION BETWEEN KNOWLEDGE AND ATTITUDE SCORES WAS ANALYZED USING PEARSON CORRELATION COEFFICIENT.

Table 3: Correlation between knowledge and attitude of young women n=75

Attributes	KnowledgeScore	Attitude Score
Knowledge	1	0.898
Attitude	0.898	1

Significant at 0.01 level ($p < 0.001$)

The table 3 shows that there was a strong positive correlation between knowledge and attitude ($r = 0.898$). All correlations were statistically significant at 0.01 level ($p < 0.001$). This indicates that as knowledge increases, attitude also improve.

IV. DISCUSSION

The discussion is based on the objectives of the study. The present study was conducted among 75 young women in a selected college at Thrissur to assess the knowledge and attitude regarding alternative menstrual products.

The first objective was to assess the level of knowledge regarding alternative menstrual products among young women. The present study revealed that among 75 participants, 47 (64%) had adequate knowledge, 16 (25%) had moderate knowledge and 12 (11%) had inadequate knowledge regarding alternative menstrual products. These findings were supported by a study conducted by Yadav RN et al. (2018) among 406 adolescent girls, which reported a favourable level of knowledge regarding menstrual hygiene practices. Similarly, Divakar H et al. (2020) reported that more than 70% of obstetricians and gynaecologists had good knowledge regarding menstrual cup usage. A systematic review by van Eijk AM et al. (2019) also reported increasing awareness regarding menstrual cups globally, although knowledge gaps still existed in some settings.

The second objective was to assess the attitude regarding alternative menstrual products among young

women. The present study revealed that 45 (60%) participants had a positive attitude, 26 (34.67%) had a neutral attitude and 4 (5.33%) had a negative attitude towards alternative menstrual products. These findings were supported by Gharacheh M et al. (2021), who reported that 73% of women had a positive attitude towards menstrual cups, mainly due to comfort and cost-effectiveness. Similarly, van Eijk AM et al. (2019) reported high satisfaction among menstrual cup users. However, studies have also highlighted cultural beliefs, stigma and lack of adequate menstrual facilities as barriers to the acceptance of alternative menstrual products.

The third objective was to find the association between the level of knowledge and selected socio-demographic variables. The present study revealed that there was no significant association between the level of knowledge and selected socio-demographic variables such as age, year of study, stream of study, monthly family income, place of residence, type of accommodation, previous source of information, currently used menstrual product, average monthly expenditure and characteristics of menstruation. These findings were supported by Bhatt JK (2017), who reported no significant association between demographic variables and adaptability of menstrual cups. However, contrasting findings were reported by Yadav RN et al. (2018), where educational level was significantly associated with knowledge.

The fourth objective was to find the association between attitude and selected socio-demographic variables. The present study revealed that there was no significant association between attitude and the selected socio-demographic variables. This finding was supported by Hajinasab N et al. (2021), who reported no strong association between attitude and demographic variables among women. Similarly, van Eijk AM et al. (2019) indicated that attitudes towards menstrual products may be influenced more by awareness and exposure than by demographic characteristics. However, Jones A et al. (2019) reported that environmental awareness and educational level significantly influenced attitudes towards sustainable menstrual products.

The fifth objective was to determine the relationship between knowledge and attitude regarding alternative menstrual products among young women. The present

study revealed a strong positive correlation between knowledge and attitude ($r = 0.898$, $p < 0.001$), indicating that an increase in knowledge was associated with a more positive attitude towards alternative menstrual products. These findings were supported by previous research indicating that better menstrual health knowledge is associated with improved menstrual practices and positive behavioural outcomes.

The sixth objective was to distribute an information booklet regarding alternative menstrual products. An information booklet was prepared and validated by experts and distributed to the participants after data collection. The booklet provided information regarding alternative menstrual products and their advantages. Previous intervention studies cited in the project have reported that structured educational materials such as booklets can improve knowledge and attitudes regarding menstrual health and promote informed and safe menstrual practices.

V. CONCLUSION

The present study assessed knowledge and attitude regarding alternative menstrual products among 75 young women aged 17–21 years studying at a selected college in Thrissur. Menstrual health and hygiene are important aspects of women's reproductive health and well-being. Adequate knowledge and a positive attitude regarding alternative menstrual products can help young women make safe, informed and sustainable choices regarding menstrual hygiene. The results showed that 47 (64%) participants had adequate knowledge, 16 (25%) had moderate knowledge and 12 (11%) had inadequate knowledge. Regarding attitude, 45 (60%) had a positive attitude, 26 (34.67%) had a neutral attitude and 4 (5.33%) had a negative attitude. A strong positive correlation was found between knowledge and attitude ($r = 0.898$, $p < 0.001$). However, the majority, 64 (85.33%), continued to use commercial sanitary pads. The findings of the study have several implications in the fields of nursing practice, education, administration and research, particularly in promoting menstrual health education and informed use of alternative menstrual products.

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