



FROM AWARENESS TO ACCEPTANCE: A STUDY ON MENSTRUAL CUP KNOWLEDGE AND ATTITUDES AMONG SCHOOL GIRLS IN DELHI

Obstetrics & Gynaecology Nursing

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ABSTRACT

Menstrual cups are a sustainable, cost-effective, and hygienic alternative to conventional menstrual products; however, their adoption among adolescent girls remains limited due to lack of awareness, misconceptions, and sociocultural barriers. A descriptive cross-sectional study was conducted in February 2025 among 165 adolescent girls aged 12–18 years in a selected school in Delhi to assess knowledge and attitude regarding menstrual cups. Data were collected using a self-structured questionnaire and analyzed using descriptive and inferential statistics, including correlation and Chi-square tests. The findings revealed that 105 (63.6%) participants had good knowledge and 60 (36.4%) had excellent knowledge. Regarding attitude, 110 (66.7%) showed a favourable attitude, while 55 (33.3%) had a neutral attitude. A weak positive correlation was found between knowledge and attitude ($r = 0.020$), which was statistically non-significant ($p = 0.802$). Additionally, no significant association was observed between knowledge or attitude and socio-demographic variables such as age, area of residence, and type of family ($p < 0.05$). Although the majority demonstrated good knowledge and favourable attitudes, gaps in acceptance persist. The findings suggest that knowledge alone may not significantly influence attitude due to prevailing cultural beliefs and taboos. Therefore, comprehensive menstrual health education, including practical demonstrations and awareness programs, is essential to improve acceptance and promote sustainable menstrual hygiene practices among adolescent girls.

KEYWORDS

Assess, Menstrual Cup, Knowledge, Attitude

INTRODUCTION

Menstruation is a natural physiological process marking reproductive maturity, yet it remains surrounded by stigma and inadequate awareness. Menstrual hygiene management is essential for women's health, dignity, and empowerment. Conventional products such as sanitary pads are widely used, but they generate significant environmental waste and recurring financial burden. Menstrual cups, made of medical-grade silicone, offer a reusable, cost-effective, and eco-friendly alternative. Despite their advantages, their adoption remains limited due to misconceptions, cultural taboos, and lack of awareness. Studies in India show that while awareness of menstrual cups ranges from 64% to 83%, actual usage remains extremely low (2.6%–5%) (Ballal et al.; Negi et al). This highlights a substantial gap between knowledge and practice. Therefore, assessing knowledge and attitude regarding menstrual cups among adolescent girls is crucial to promote sustainable menstrual practices.

Need of study

Menstrual cups are a sustainable alternative, yet their uptake is minimal, particularly among adolescents. In India, only 0.3%–5% women reportedly use menstrual cups despite increasing awareness (Negi et al; Priyadarshini et al). Cultural taboos, fear of insertion, and inadequate knowledge remain major barriers. Poor menstrual hygiene practices contribute to infections and reduced quality of life. Educating adolescent girls can bridge the gap between awareness and utilization. This study is needed to evaluate existing knowledge and attitudes and to identify misconceptions, thereby facilitating targeted interventions to improve acceptance and promote safe, eco-friendly menstrual hygiene practices.

Scope of study

The study focuses on adolescent girls to assess their knowledge and attitude regarding menstrual cups as a safe menstrual hygiene product. It explores awareness levels, perceptions, and willingness to adopt sustainable alternatives. Evidence suggests that nearly 62% of non-users are willing to use menstrual cups if properly educated (Negi et al). The findings will help identify gaps in knowledge and sociocultural barriers influencing acceptance. The study will aid healthcare professionals and educators in designing awareness programs and interventions. It also contributes to promoting eco-friendly practices

and improving menstrual health management among adolescents in school settings.

Objectives

- To assess the knowledge regarding menstrual cup among adolescents girls
- To assess the attitude regarding menstrual cup among adolescents girls
- To assess the correlation between knowledge and attitude.
- To determine the association of knowledge and attitude with selected sociodemographic variables.

Materials and Methods

A quantitative, non-experimental descriptive cross-sectional design assessed knowledge and attitude of regarding menstrual cup among adolescent girls of a selected school in Delhi. The sample included 165 participants (adolescent girls aged between 12-18 years), selected using simple random sampling based on Yamane's formula. Adolescent girls aged between 12-18 years were included; unwilling students and those with previous participation in similar research study were excluded.

Ethical approval and informed consent was obtained, ensuring confidentiality. Data was collected using a validated, reliable self-administered semi-structured questionnaire comprising three sections: sociodemographic variables, 15 knowledge questions, and 10 questions on attitude. Knowledge questions were multiple-choice with a single correct response, while attitude used a 5-point Likert scale; higher scores indicated better outcomes.

Standardized administration minimized bias. Data was coded, entered into Microsoft Excel, and analyzed using descriptive statistics, including frequency, percentage, mean, and standard deviation, aligned with study objectives. In inferential statistics data was analyzed using SPSS version 29. Frequency and percentage described socio-demographic variables, while mean and standard deviation summarized knowledge scores. Karl Pearson's correlation coefficient was used to correlate between knowledge and attitude regarding menstrual cup among adolescent girls. Chi square test was used to assess association and statistical significance.

RESULTS

The findings show that most participants (66.7%) were aged 12–14 years, followed by 25.5% in the 14–16 years group and 7.9% in the 16–18 years group. A large majority (85.5%) belonged to urban areas, while 7.9% were from semi-urban areas and 6.7% from rural areas. Most participants (71.5%) were from nuclear families, with 18.8% from joint families and 9.7% from extended families.

Regarding menstrual status, 89.7% had attained menarche, while 10.3% had not. Among those who had attained menarche, the majority (84.5%) reported onset between 13–15 years, and 15.5% between 15–17 years. Sanitary pads were the most commonly used menstrual product (83.1%), followed by cloth (16.2%) and tampons (0.7%).

In terms of information sources, most participants (91.9%) learned about menstrual cups from friends, while 8.1% received information from family. Additionally, 91.9% reported heavy menstrual flow, whereas 8.1% reported moderate flow.

Level of knowledge regarding menstrual cup among adolescent girls

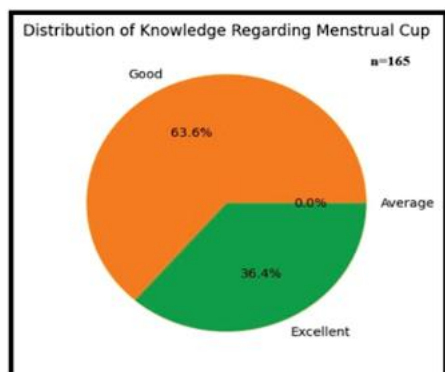


Fig 1: Distribution of level of knowledge regarding menstrual cup among adolescent girls

The majority of participants 105(63.6%) had good knowledge and 60(36.4%) had excellent knowledge with obtained score range between 6(4–10), with median score of 7 and mean knowledge score was 6.75 with standard deviation 1.88.

Attitude regarding menstrual cup among adolescent girls

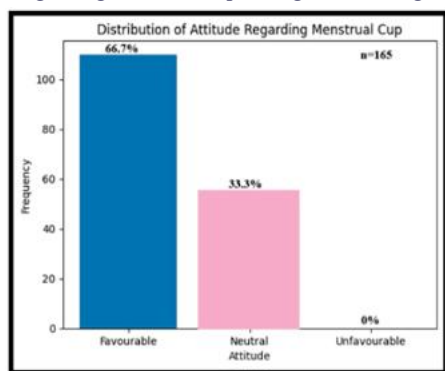


Fig 2: Distribution of attitude regarding menstrual cup among adolescent girls

The majority of participants 110(66.7%) had favourable attitude and 55(33.3%) had neutral attitude with obtained score range between 27(19–46), with median score of 35 and mean attitude score was 34.74 with standard deviation 5.03.

The findings show that the correlation between knowledge and attitude regarding menstrual cup among adolescent girls is very weak and positive ($r = 0.020$). This indicates that an increase in knowledge is associated with only a negligible increase in attitude scores. Further, the result is statistically non-significant ($p = 0.802 > 0.05$), which means that there is no meaningful relationship between knowledge and attitude in this study. Therefore, it can be inferred that knowledge alone does not significantly influence the attitude of adolescent girls toward

menstrual cup usage, and other factors may play a role in shaping their attitudes.

Correlation between knowledge and attitude regarding menstrual cup among adolescents girls

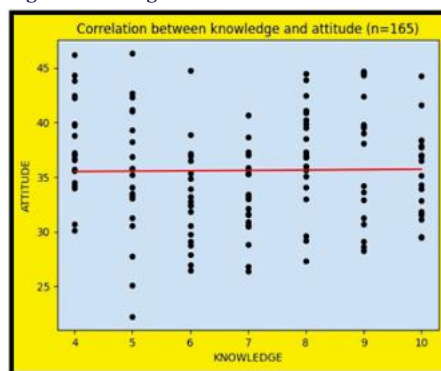


Fig 3: Correlation between knowledge and attitude regarding menstrual cup among adolescent girls

Association between knowledge and attitude regarding menstrual cup among adolescents girls

The association between knowledge regarding menstrual cup among adolescent girls and demographic variables was tested using chi-square/Fisher's exact test. The findings indicated that age, area of residence, type of family, and attainment of menarche were not significantly associated with knowledge ($p < 0.05$).

Similarly, the association between attitude regarding menstrual cup among adolescent girls and demographic variables was tested using chi-square/Fisher's exact test. The results showed that age, area of residence, type of family, and attainment of menarche were not significantly associated with attitude ($p < 0.05$).

DISCUSSION

The present study included 165 adolescent girls, most of whom were aged 12–14 years and resided in urban areas. Similar socio-demographic patterns were reported by Negi et al., where participants largely belonged to early adolescence and school-based populations. A high proportion of girls had attained menarche, and sanitary pads were the predominant menstrual product used. These findings align with Priyadarshini et al. and Ballal et al., indicating continued reliance on conventional products and limited use of menstrual cups.

In terms of knowledge, 63.6% of participants demonstrated good knowledge and 36.4% had excellent knowledge, with a mean score of 6.75 ± 1.88 . These findings are comparable with Priyadarshini et al., who reported moderate to good knowledge levels, though awareness of practical aspects remained limited. Similarly, Ballal et al. found that while general awareness existed, in-depth knowledge was insufficient among many participants.

Regarding attitude, 66.7% of participants had a favorable attitude, while 33.3% had a neutral attitude. These results are consistent with studies by Negi et al. and Ballal et al., which reported generally positive attitudes toward menstrual cups despite low usage, suggesting improving acceptance but limited behavioural change.

The study found a weak positive, statistically non-significant correlation between knowledge and attitude. In contrast, Priyadarshini et al. reported a stronger positive relationship, indicating that increased awareness may influence attitudes, though not consistently across settings.

No significant association was observed between knowledge or attitude and demographic variables such as age, area of residence, family type, and menarche status, similar to findings by Negi et al.

Overall, consistent with Negi et al., Priyadarshini et al., and Ballal et al., the study highlights that while knowledge and attitudes toward menstrual cups are improving, actual usage remains low, emphasizing the need for targeted educational interventions.

Strengths- Simple Random Sampling, Use of validated tools.

Limitations- Single- institution study, small sample size.

Implications for Practice and Recommendations

The study highlights menstrual cups as a safe, effective, and sustainable alternative to traditional menstrual products, offering benefits such as reduced risk of infections, improved comfort, and better hygiene. The study underscores the role of nursing research in generating evidence on effectiveness and user acceptance, identifying knowledge gaps, and guiding policy development. In nursing practice and education, the focus is on increasing awareness, training nurses, addressing myths and misconceptions, and promoting accessibility and affordability. Nurses play a crucial role in educating and empowering women, especially adolescents, to make informed choices. Promoting menstrual cups can help reduce healthcare disparities and support health equity. Overall, the study suggests that integrating menstrual cup education into healthcare systems and curricula can improve menstrual health outcomes and encourage sustainable hygiene practices.

CONCLUSION

The findings suggest that there is a weak positive correlation between knowledge and attitude regarding menstrual cup which is statistically nonsignificant. Majority (63.6%) of the respondents had good knowledge, and remaining had (36.4%) excellent knowledge. The distribution of attitude towards menstrual cup among adolescents' girls that maximum (66.7%) had favourable attitude. The study also revealed that there is no correlation between knowledge and adolescent girls who have attained menarche. The study revealed that 1/4th of the population has not heard about menstrual cup.

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