

Original Research Article

ASSESSMENT OF KNOWLEDGE, ATTITUDE, AND PRACTICE OF MENSTRUAL HYGIENE IN A TERTIARY CARE CENTRE

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ABSTRACT

Background: Menstrual hygiene is an important but often neglected aspect of adolescent health. Poor knowledge and unhygienic practices can predispose girls to reproductive tract infections, school absenteeism, and long-term health problems.

Materials and Methods: This cross-sectional study was conducted among 75 adolescent girls attending the outpatient department of Vani Vilas Hospital, Bangalore. Data were collected using a pretested structured questionnaire covering sociodemographic profile, knowledge, attitudes, and practices regarding menstruation. Statistical analysis was performed using SPSS version 27.0.

Results: The mean age of participants was 15.49 ± 2.16 years. Most belonged to urban areas (88%) and lower middle socioeconomic class (69.3%). Premenarchial awareness of menstruation was present in 78.7%. While 94.7% recognized sanitary pads as the ideal absorbent, 50.7% reported using cloths. Restrictions during menstruation were reported by 81.3%, mainly avoidance of religious activities (52%). Although 65.3% reported satisfactory genital hygiene, only 64% consistently washed hands before and after changing pads/cloths.

Conclusion: The study highlights that although knowledge about menstruation was adequate in many participants, unhygienic practices and restrictive attitudes remain prevalent. Targeted school-based education, parental guidance, and affordable sanitary products are essential to promote safe menstrual hygiene management.

Keywords: Menstrual hygiene, Knowledge, Attitude, Practice, Adolescents.

INTRODUCTION

Menstruation is a normal biological process, yet menstruation hygiene remains a challenge for adolescent girls worldwide. Poor hygiene practices lead to infections, emotional distress, and reduced school attendance. This study aims to assess the KAP regarding menstrual hygiene among adolescent girls at a tertiary care centre, providing insights into current practices and knowledge gaps. Adolescence

is a transition phase from childhood to adulthood. It is a crucial stage which has an effect on the physical, sexual and psychosocial dimensions.^[1, 2] According to the World Health Organization (WHO), the age group of 10 to 19 years is considered as adolescents,^[3] which marks pubertal development and sexual maturation following hormonal changes, which finally leads to menarche in females.^[2, 4] Menstruation is a periodic monthly physiologic vaginal bleeding, due to shedding of the uterine

mucosa under the control of endocrine hormones of the hypothalamus-pituitary axis.^[5-7]

A good understanding of menstrual hygiene is essential for the health and dignity of girls and women. Long standing taboos and restrictions in the society with respect to menstruation and menstrual hygiene leading to poor personal sanitary practices have made a large section of the society prone to the ill effects of genital tract infections, urinary tract infections and bad odor.^[8,9,10] The adverse effects being rampant in developing countries.

This study evaluates the Knowledge, Attitude, and Practices (KAP) regarding menstrual hygiene among adolescent girls attending a tertiary care center. Despite increased awareness, there remains a gap in knowledge and practices, contributing to various health issues. The study highlights the importance of improving menstrual hygiene practices, which are essential for preventing reproductive tract infections (RTIs) and promoting overall well-being. Findings indicate that adolescent girls have some knowledge gaps, particularly regarding menstrual hygiene materials, and socio-cultural restrictions still play a significant role in shaping attitudes and practices.

Objectives:

1. To assess the level of knowledge regarding menstruation and menstrual hygiene among adolescent girls.
2. To evaluate the attitudes toward menstrual hygiene and restrictions during menstruation.
3. To examine menstrual hygiene practices, including absorbent usage, frequency of change, and disposal methods.
4. To explore the correlation between socio-demographic factors and KAP regarding menstrual hygiene.

MATERIALS AND METHODS

This Cross-sectional study was conducted in department of OBG, Vani Vilas Hospital, BMCRI. Duration of study was April 1st, 2023 to May 1st, 2023.

Sample size: Based on previous study conducted by Dr. Mitali G. Patel, Dr. Darshan K. Mahyavanshi.^[15], the proportion of people having adequate knowledge about menstruation was 84%. Considering the same proportion in the present study, the Sample size can be calculated using the formula,

$$n = \frac{Z\alpha \cdot 2pq}{d^2}$$

Where $Z\alpha$ = Standard table value for 95% confidence interval

p = proportion of cases having adequate knowledge = 84%

q = 100 - p = 16%

d = relative precision = 10% of p = 10% of 84 = 8.4

$n = \frac{Z\alpha \cdot 2pq}{d^2}$

$n = \frac{(1.96)^2 \times 84 \times 16}{8.4^2} = 73.17$

$n \sim 75$

Total Sample Size: 75

Inclusion Criteria

1. Adolescent girls, i.e. aged between 10 and 19 attending Vanivilas OPD who have attained menarche.
2. Adolescent girls and guardians who are willing to give informed consent.

Exclusion Criteria

1. Adolescent girls and/or the parents who refused to give consent were excluded from the study
2. Adolescent girls who did not attain menarche.

Data Collection Tool: Structured Questionnaire
Socio demographic features and maternal characteristics.

This is a cross sectional type of study done from 1st April 2023 to 1st May 2023 in the department of Obstetrics and Gynaecology, BMCRI, Bangalore. In this study 75 girls were taken who attended gynaecology OPD. Girls belongs to the Adolescent age group of 10 to 19 years with any menstrual related complaints were selected by simple random sampling (lottery method). Written and informed consent was taken from all participants and their guardians, parents. Correlation of knowledge, attitude and practice with socio-demographic characters was assessed.

Sampling Method: The participants were selected using simple random sampling from the gynecology outpatient department.

Data Collection: A pre-structured questionnaire was used to collect data on socio-demographic details, menstrual history, and practices related to menstrual hygiene. The questionnaire covered knowledge about menstruation, attitudes towards menstrual hygiene, and actual practices such as the frequency of changing absorbents and disposal methods

Data Analysis: Data were analysed using SPSS version 27.0. Descriptive statistics (mean, standard deviation) were used for continuous variables, and frequencies for categorical variables. Chi-square tests were used to analyse the relationship between socio-demographic factors and KAP. Chi-square test was applied, with $p < 0.05$ considered statistically significant.

RESULTS

A total of 75 participants were included in the study. The mean age was 15.49 ± 2.16 years. Most participants were Hindus (68%), lived in urban areas (88%), and belonged to lower middle socioeconomic class (69.3%). Half of the families were joint (50.7%) and the remainder nuclear (49.3%). Parental literacy showed that 40% of mothers and 14.7% of fathers were graduates, while primary education was the highest level attained by 21.3% of mothers and 4% of fathers. A total of 75 participants were included in the study. The mean age was 15.49 ± 2.16 years. Most participants were Hindus (68%), lived in urban areas (88%), and belonged to lower middle socioeconomic class (69.3%). Half of the families were joint (50.7%) and the remainder nuclear (49.3%). Parental literacy showed that 40% of mothers and 14.7% of fathers

were graduates, while primary education was the highest level attained by 21.3% of mothers and 4% of fathers.

Religion: The distribution of participants by religion, with Hindus forming the majority (68%), followed by Muslims (28%) and Christians (4%).

Age at Menarche: Figure 1 illustrates that most girls (50.7%) attained menarche at 12 years, followed by 26.7% at 11 years, 17.3% at 13 years, and only 5.3% at 14 years.

Absorbent Knowledge and Use: Knowledge regarding absorbents was encouraging (Figure 2), with 94.7% recognizing sanitary pads as the best material. However, practices did not always align with knowledge, since 50.7% reported still using cloths.

Restrictions: The most common was restriction from religious activities (52%), followed by food restrictions (13.3%) and household chores (10.7%). Four participants (5.3%) reported school absenteeism during menstruation, while 18.7% reported no restrictions at all.

Genital Hygiene: Figure 3 highlights hygiene practices, showing that 65.3% practiced satisfactory cleaning while 34.7% did not.

Hand Hygiene: Figure 4 shows that only 64% consistently washed hands before and after changing pads or cloths, while 26.7% washed sometimes and 9.3% never practiced handwashing

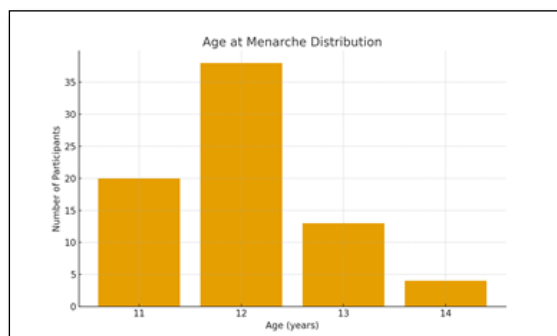


Figure 1: Distribution of participants by age at menarche.

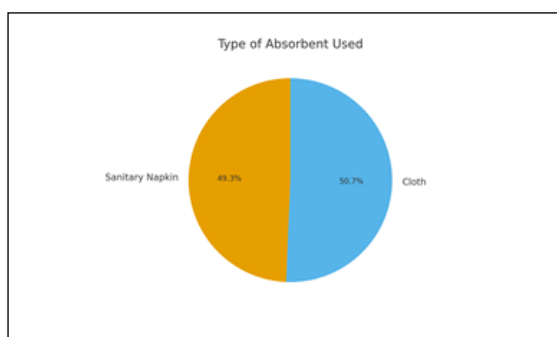


Figure 2: Type of absorbent used during menstruation.

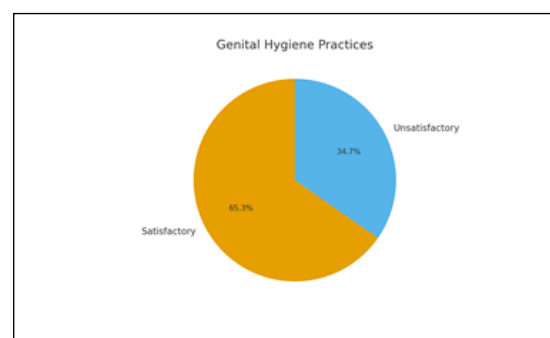


Figure 3: Genital hygiene practices among participants.

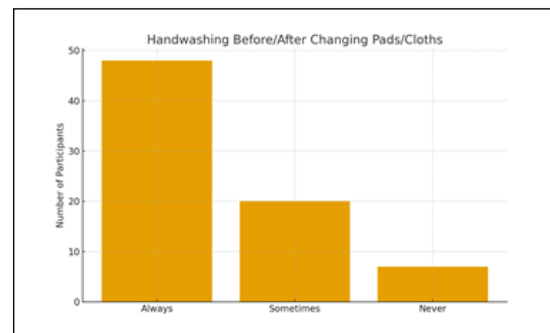


Figure 4: Handwashing practices during menstruation.

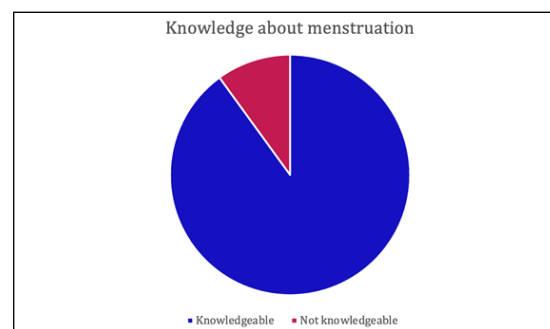


Figure 5: Knowledge about menstruation.

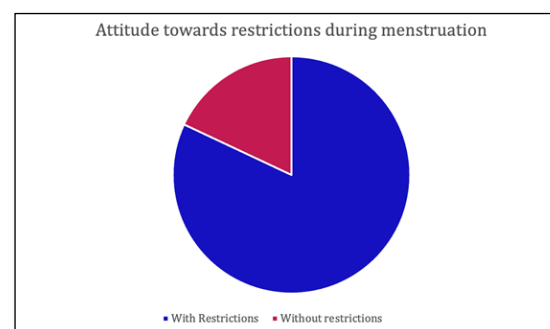


Figure 6: Attitude towards Menstruation Restrictions.

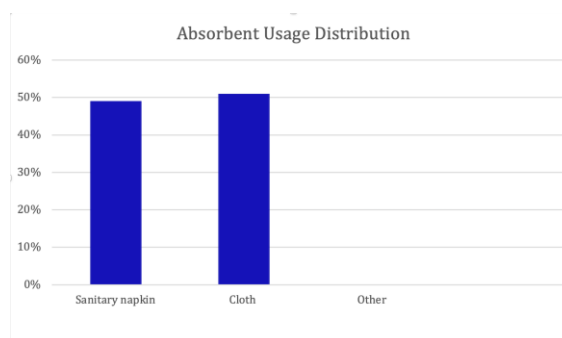


Figure 7: Absorbent Usage Distribution

Knowledge about Menstruation: Based on the data provided, the assessment reveals a generally high level of knowledge regarding menstruation among the 75 participants, though several key gaps and misconceptions persist. The vast majority (78.7%) had received premenarchial knowledge about menstruation, and an overwhelming 89.3% correctly identified it as a natural process. Furthermore, most participants (70.7%) accurately identified the uterus as the source of menstrual blood, demonstrating a good understanding of basic physiology. Hygienic practices also show positive trends, with an overwhelming 94.7% correctly identifying disposable sanitary pads as the ideal absorbent. However, knowledge about the frequency of changing pads is lacking, as 40% of participants were not aware that pads should be changed at least three times a day. Personal hygiene practices are nearly split, with just over half (50.7%) correctly affirming that genitalia should be washed every time a pad or cloth is changed.

Attitudes towards Menstruation Restrictions

Based on the data provided, the assessment of attitudes reveals a complex picture where positive perceptions of sanitary products coexist with the pervasive practice of menstrual restrictions. The most significant finding pertains to sociocultural restrictions, which remain highly prevalent. While 18.7% of participants reported facing no restrictions, the vast majority (81.3%) were subject to various limitations. The most common restriction, reported by over half of the participants (52.0%), was being barred from religious activities. Restrictions involving household chores, either alone or in combination with other prohibitions, were also frequently reported. Attitudes toward sanitary napkins were overwhelmingly positive regarding their utility and comfort. A significant majority (73.4%) found them comfortable, and an even larger majority (88.0%) perceived advertisements for them as useful rather than embarrassing. However, a notable knowledge gap exists, as 72.0% of participants reported not knowing of any disadvantages associated with sanitary napkins, and the primary identified drawback among the remainder was cost (28.0%).

Menstrual Hygiene Practices: Based on the data provided, the assessment of menstrual hygiene practices reveals a mixed picture with several positive

behaviours alongside significant areas requiring improvement. The use of absorbents is nearly evenly split, with 50.7% using cloth and 49.3% using sanitary napkins, indicating no strong consensus on the preferred method. While a majority (61.3%) change their absorbent 2-4 times a day, a concerning 38.6% change it only once daily, which poses a risk for infections. Disposal practices are moderately good, with 61.3% disposing of absorbents in domestic waste and 73.3% wrapping them in plastic, though 30.7% still dispose of them in bathrooms/toilets, which is unhygienic.

Hygiene practices are generally satisfactory; 65.3% wash their genitalia more than twice a day, and 65.3% have satisfactory cleaning methods. However, 34.7% exhibit unsatisfactory practices. About half (52%) use only water for cleaning, while 48% use water and soap. Most participants (81.3%) bathe during menstruation, and 64% wash hands before and after changing absorbents, though 36% do not, indicating a need for better hand hygiene awareness. Cloth users show good drying practices, with 49.3% drying absorbents outside in sunlight. Overall, while many adhere to safe hygiene practices, there is a substantial need for education on frequency of changing absorbents, disposal methods, and hand hygiene to mitigate health risks.

Correlation with Socio-Demographic Factors: A correlation was observed between education levels and knowledge about menstruation. Participants from higher socio-economic backgrounds were more likely to use sanitary napkins and adopt hygienic practices.

KAP Results Summary: The chart above summarizes the findings of the KAP analysis.

KAP Results: Graphical Representation

The above graphs illustrate the distribution of menstrual hygiene practices and attitudes.

DISCUSSION

The findings of this study show that although awareness about menstruation was relatively high (78.7% had premenarchial knowledge), misconceptions regarding physiology and poor hygiene practices remain. Nearly one-third of the participants believed that menstrual blood originates from the abdomen rather than the uterus, highlighting gaps in biological understanding. This aligns with earlier studies by Meena et al. (2018) and Patel et al. (2019), which reported similar misconceptions among adolescents. In terms of practices, although sanitary pad use was reported by 94.7%, half the participants still relied on cloth, and only 65.3% practiced satisfactory genital hygiene. Similar findings were observed by Mathiyalagen et al. (2017) in Puducherry, where poor menstrual hygiene was linked with high rates of reproductive morbidity. Restrictive attitudes were also prevalent, particularly avoidance of religious activities (52%), which reflects deep-rooted cultural taboos. Siabani et al.

(2018) reported similar results from Iran, indicating that these challenges are not unique to India but are a global concern. Restrictions during menstruation were widespread, with 81.3% reporting at least one form of restriction. Avoidance of religious activities was the most common (52%), followed by dietary and household restrictions. This reflects deep-rooted cultural taboos and stigma. Mathiyalagen et al. (2017) documented similar findings in Puducherry, where 75% of girls faced restrictions, particularly in participating in religious events. Such practices perpetuate the culture of silence around menstruation and may negatively affect self-esteem and psychosocial health. Hygiene practices were also suboptimal. Although 65.3% practiced satisfactory genital cleaning, over one-third did not maintain adequate hygiene. Furthermore, only 64% consistently washed hands before and after changing pads or cloths. These findings are concerning, as poor menstrual hygiene has been strongly linked to reproductive tract infections (RTIs), pelvic inflammatory disease, and adverse pregnancy outcomes later in life. Siabani et al. (2018) in Iran also reported that while attitudes toward menstruation were positive, hygiene practices were inadequate, indicating that the problem transcends geographical boundaries. The implications for public health are substantial. Educational interventions targeting both adolescent girls and their parents are needed, along with efforts to normalize menstruation in school curricula and media. Access to affordable sanitary products remains critical, particularly for lower socioeconomic groups. Policy makers must prioritize adolescent reproductive health as part of broader women's health initiatives. Limitations of the study include its small sample size and single-centre design, which may limit generalizability. Nevertheless, the results provide valuable insights into existing gaps and can inform future interventions.

CONCLUSION

This study concludes that while knowledge of menstruation was relatively adequate, significant gaps in practice and persistent restrictive attitudes remain. School-based health education, parental involvement, and provision of affordable sanitary materials are essential to improve menstrual hygiene management. Taken together, the results highlight the need for multi-pronged interventions. School-based health education programs should begin before menarche to ensure accurate knowledge. Parents, especially mothers, should be empowered with correct information to guide their daughters. Policy makers must ensure equitable access to affordable

sanitary products, particularly for girls from lower socioeconomic backgrounds. Finally, sociocultural barriers must be addressed through community-level awareness campaigns to dismantle stigma and normalize menstruation as a healthy process.

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