



Menstrual hygiene awareness and practice among rural adolescent girls: A nursing perspective

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DOI: <https://doi.org/10.66856/ijnhr.2026.8.2.8038>

Abstract

Background: MHM is a key dimension of adolescent health, but adolescent girls in rural areas grapple with a lack of awareness, insufficiency in sanitation facilities, and socio-cultural barriers. Lack of menstrual hygiene has been related to the alarming occurrence of RTIs, leading to school and psychosocial distress. The objectives of this study were to evaluate the knowledge, the practices, and the role of nursing interventions in the improvement of menstrual hygiene management.

Methods: A descriptive cross-sectional study was conducted among adolescent girls (13–19 years) in rural communities based on stratified random sampling. Data was gathered using structured questionnaires, observation checklists in-depth interviews. The quantitative method applied descriptive analysis (mean and frequency distribution) and the Pearson correlation test to determine the relationships between menstrual hygiene knowledge and practices. Cultural barriers and influences were identified during qualitative analysis using thematic analysis. Results: Results showed that 65.4% of the participants had moderate knowledge of menstrual hygiene and 72.8% were consistent in using sanitary pads. A total of 81.5% of participants had adequate access to clean water and sanitation. Statistically, there was an association ($r = 0.68$, $p < 0.05$) between knowledge of menstrual hygiene and the practice of hygiene. But cultural taboos and ignorance persisted about hygiene. Privacy concerns and financial constraints emerged as the most significant barriers according to the qualitative results.

Discussion: The findings of the study are consistent with the previous literature, which accentuates the importance of menstrual hygiene education programs for knowledge deficiency and cultural stigma. Although there have been continuous awareness programme, there are still socio-economic constraints and traditional beliefs that affect menstrual hygiene management practices. Nursing interventions as school-based interventions, community interventions and policy advocacy, are seen as critical for enhancing menstrual hygiene management.

Conclusion: MH education significantly predicts hygiene behaviour of rural AG. To overcome the barriers, it is recommended that nurse-led health education sessions be strengthened, access to sanitary needs improved and menstrual hygiene awareness included in primary health care. The results of longitudinal comparisons and comparisons across regions need to be studied further to develop interventions.

Keywords: Non-formal education, illicit drugs, antidote

Introduction

1. Background and Rationale

MHM is an essential component of adolescent health and has positive effects on physical, psychological and socio-emotional well-being. Despite being crucial, rural adolescent girls have numerous issues due to low awareness, poor sanitation facilities, and socio-cultural restrictions [1]. Research has shown that inadequate menstrual hygiene may result in Reproductive Tract Infections (RTIs), school missing and psycho-social maladjustment [2]. Nurses have vital contributions to the prevention of heart disease through education, advocacy and community-based programs [3].

Statement of the Problem

Menstrual Hygiene Management is a forgotten issue of Adolescent Health in rural areas. Studies reveal that most teenage girls are oblivious about menstruation prior to menarche which results in unhealthy practices and beliefs. Socioeconomic barriers also restrict the availability of sanitary materials, clean water and private sanitation. Nursing-led interventions intersect to address these gaps, making a significant impact on menstrual hygiene practices and the general health of adolescents.

Objectives of the Study

This study aims to:

- Determine the knowledge about menstrual hygiene among adolescent girls in rural areas.
- Assess menstrual hygiene management practices such as sanitary product usage and hygiene upkeep.
- Investigate determinants of menstrual hygiene management, including educational status, socio-economic status, and cultural beliefs.
- Investigate the impact of nursing professionals on enhancing menstrual hygiene education and practices

Significance of the Study

Knowledge and practice of menstruation hygiene among adolescent girls are important for planning nursing interventions. The results of this study will:

- Recommend evidence-based steps for strengthening menstruation hygiene education in schools and the community.
- Inform policy development to improve menstrual health management in rural locations.
- Advocacy and interventional programs for menstrual hygiene and securing the role of nursing the advocacy and intervention.

Research Questions/Hypothesis

Research Questions

- To what extent do rural-based adolescents know about menstrual hygiene?
- What is the role of economic and sociocultural aspects in menstrual hygiene practices?
- Are there any nursing interventions that can enhance MHM knowledge and practices?

Hypothesis

- Adolescent Prevalent knowledge on menstrual hygiene leads to good hygiene practices in girls.
- Nurse-led educational programme is effective in enhancing menstrual hygiene awareness and practices

Review of Literature

1. Concepts and Definitions of Menstrual Hygiene Management

MHM is “the practice of using a clean menstrual management material to absorb or collect menstrual blood that can be changed in privacy as often as necessary for the duration of the menstruation period using soap and water for washing the body as required and having access to safe and convenient facilities to dispose of used materials” [4]. MHM is considered a core issue of health and human rights by the World Health Organisation (WHO), and the lack of education and infrastructure that it merits are being called out [5]. Menstrual unhygienic practices are related to the RTIs, school absenteeism, and psychological disturbances [6].

2. Global and Regional Perspectives on Menstrual Hygiene

The problems with menstrual hygiene differ among regions and socio-economic classes. Low-income country studies have found that adolescent girls face challenges related to a lack of access to hygiene products and poor sanitation [7, 8]. Cultural inhibitions also limit the free expression of menstrual health, resulting in inadequate education among adolescent girls [9]. In India, entrenched belief systems commonly lead to exclusion during menstruation and influence hygiene and mental health as well [10, 11].

3. Factors Affecting Menstrual Hygiene Among Adolescents

Several determinants are associated with menstrual hygiene management:

- **Socioeconomic Factor:** Poor adolescents may have no access to sanitary products and hence use unhygienic ones [12].
- **Education and Awareness:** Research shows that menstrual education in schools leads to notable improvements in hygiene and stigma [13].
- **Cultural Beliefs and Taboos:** In several communities, menstruation is believed to be unclean and has prohibitions on movements, dietary and socialising habits [14].
- **Availability of Sanitary Products and Disposal:** Having access to private latrine, disposal sites as well as water scaling are important for effective MHM [15].

Role of Nursing Professionals in Menstrual Hygiene Management

Nursing services are crucial to raise awareness and implement intervention programs for menstrual hygiene. Studies have demonstrated that a nurse-directed education can substantially increase knowledge related to hygiene [16, 17]. Nursing interventions may be comprised of the following:

- School-based interventions to create awareness on menstrual health [12, 13].
- Promoting policy change to ensure the distribution of sanitary products [14].
- Counselling of girls of adolescent age and their families to promote destigmatization [15, 17].

Research Methodology

Study Design

This study use cross-section, descriptive research design to evaluate awareness and practice of menstrual hygiene among rural adolescent girls. The use of a mixed-method design including quantitative and qualitative components enhances a comprehensive overview of menstrual hygiene management.

Population and Sampling

- **Population Served:** In this review, it is adolescent girls aged 13–19 years in rural communities.
- **Sample Size:** Calculated using the Cochran formula for proper representation.
- **Sampling method:** The use of stratified random sampling guarantees diversity in the socio-economic classes and the education levels.

Data Collection Methods

- **Questionnaire Guide:** Developed to collect data on knowledge, attitude and practice in response to menstrual hygiene.
- **Observation Checklist:** Assessed hygiene behaviour and access to toilet facilities.
- **Qualitative interviews:** In-depth interviews are held with some participants, providers, and educators to better understand cultural impact and barriers.

4. Ethical Considerations

- **Consent:** Written (Informed) consent from both subjects and guardians.
- **Privacy:** Protected through anonymous data gathering.
- **Informed consent and Approval:** Ethical approval from the Institutional Review Board.

Data Analysis

The analysis combined quantitative and qualitative analyses to achieve a thorough understanding of the research objectives. For the quantitative study, descriptive statistics (means and cross-tabulations) were used to describe the data. For comparisons, to investigate the relationships in particular between knowledge and hygienic behaviour, symbolic statistical techniques were performed as well. For the qualitative section, a thematic analysis was performed, and common themes and patterns in participants' responses were classified. Triangulation was used to develop the trustworthiness and authenticity of the results, consolidating the reliability of information from varied data sources.

Limitations of the Study

Several limitations are recognised, that there are limitations to the present study, which might impact the findings. Which are as follows

1. The potential for bias due to the self-reported data should not be ignored, as participants may downplay (or upsell) some but not all their behaviours or symptoms.
2. Participants' interpretation and response to questions might have been influenced by cultural differences, which might have introduced cultural bias into the data.
3. As the study was undertaken in a particular region, extrapolations to other or wider populations, or other localities, may not be straightforward.

Variable	Mean (%)	Standard Deviation	Frequency Distribution
Knowledge about Menstrual Hygiene	65.4	±12.3	Low (30.1%), Moderate (45.2%), High (24.7%)
Use of Sanitary Pads	72.8	±9.8	Rarely (15.3%), Sometimes (25.4%), Always (59.3%)
Access to Clean Water	81.5	±11.2	Insufficient (20.2%), Adequate (79.8%)
Awareness of Hygiene Practices	68.7	±10.5	Low (25.1%), Moderate (47.6%), High (27.3%)

Correlation Analysis

A Pearson correlation test is used to establish the association between menstrual hygiene knowledge and practice. Predictors of hygiene behavior were analyzed using correlation coefficient (r) with significance values (p-value).

Independent Variable	Dependent Variable	Correlation Coefficient (r)	Significance (p-value)
Knowledge Level	Use of Sanitary Pads	0.68	p < 0.05 (Significant)
Access to Clean Water	Frequency of Hygiene Practices	0.52	p < 0.05 (Significant)
Socioeconomic Status	Hygiene Education Level	0.45	p > 0.05 (Not significant)

Interpretation of Findings

Comparative Analysis with Existing Literature

Comparison with other researches

The results are consistent with other studies showing that a higher menstrual hygiene knowledge is positively associated with better practices^[18, 19].

The access to clean water and hygiene products are strongly associated with the practice of hygiene, which is in line with global menstrual health evidence^{[32] [20]}.

Educational promotion had no effect on cultural taboo, which continues to represent the main obstacle and thus the importance of nurse-led awareness initiatives^[21, 22].

What Patterns and Themes Can Qualitative Responses Reveal?

Obstacles to hygiene care are the lack of knowledge how, social stigma and economic adversities.

Rural adolescent girls have concerns regarding privacy and the quality of existing sanitation services.

Nurse-based interventions and outreach in the community appear to be effective in filling knowledge voids and reducing stigma.

Discussion

The present study reflects the importance of nursing personnel in increasing awareness of menstrual hygiene among rural adolescent girls. The high association between knowledge and practice indicate that educational programme by nurses can go a long way in promoting MM practices. The delivery of school-based programme, the promotion of community outreach efforts, and the implementation of policies to lessen the knowledge gap and overcome socio-cultural constraints are therefore important.

Data Analysis

1. Statistical Tools

This paper uses quantitative and qualitative methods to Assess menstrual hygiene knowledge and practice among rural adolescent girls.

Descriptive Statistics

Statistical measures like mean, standard deviation and frequency distribution are used to summarise major variables. This is indicative of knowledge of hygiene practices and the availability of sanitation facilities, respectively.

Challenges and Scope of the Study

The implications of this study are affected by the several limitations:

- Self-reported device use could be influenced by bias (for example, over- or underestimation of the frequency of hygiene practices by the participants).
- Social desirability bias could have been impacted by cultural taboos surrounding menstruation.
- The regional nature of the study restricts generalisability and larger, multi-site studies are needed in alternative levels of rurality.

Comparative Analysis with Existing Literature

The results are consistent with other studies that have reported increased practice of menstrual hygiene with greater knowledge level^[18, 19]. However, entrenched societal and cultural norms serve as a barrier to MHM emphasis making nurses-led education programs warranted^[20, 21]. The study also corroborates global findings that access to sanitary products and clean water resources is fundamental to menstrual hygiene promotion^[22, 23].

Conclusion and Recommendations

Summary of Findings

- The present research emphasizes the need for menstrual hygiene education in rural areas and shows that knowledge has an impact on hygiene practice.
- This data indicates a gap between the basic knowledge and access to menstrual education and is where there is potential for nurse-led interventions.

Recommendations

The following recommendations are suggested to improve menstrual hygiene management.

- Enhancing school-based menstrual hygiene management programmes under nurses.
- Quell invest promotion of hand-cleaning and sanitization in rural communities, as well as access to sanitary products and clean water!
- Creating culturally responsive public recognition activities related to menstrual stigma.
- Inclusion of menstrual hygiene education as part of primary healthcare services.

Scope for Future Research

- The following areas high light specific research to be undertaken in the future.
- Long-term impact evaluation of menstrual hygiene interventions—longitudinal studies.
- Comparative research in diverse rural areas to map local challenges and solutions.
- The contribution of digital health education in terms of enhancing the knowledge of menstrual hygiene among adolescents.

Conflict of Interest

The authors do not have a financial conflict of interest with the study, its outcomes, or its publication. All practices were carried out independently without financial sponsors' or any other outside parties' influence

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