

Sanitation and Health-Seeking Behaviour among Adolescent Girls

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ABSTRACT

Background: Menstrual health is influenced not only by individual knowledge but also by school sanitation, privacy, product availability and access to appropriate health care. This study assessed school sanitation, menstrual health problems and health-seeking behaviour among adolescent girls in coastal Kozhikode, Kerala.

Methods: A descriptive cross-sectional study was conducted among 400 girls aged 13–19 years studying in Classes IX–XII in nine government schools. Stratified random sampling with proportional allocation was used. Data were collected using a structured interview schedule, non-participant observation and focused group discussions. Descriptive and inferential analyses were conducted using SPSS version 18 and MS Excel.

Results: The mean school sanitation score was 6.77 ± 2.05 out of 15 (45.17% of maximum), while the menstrual health score was 6.07 ± 2.45 out of 18 (33.73%). Only 7.5% reported that school toilets were cleaned at least once daily, while 52.8% reported weekly cleaning. Nearly one-third (29%) missed school during menstruation, 84% did not change menstrual pads at school, and 63.8% felt uncomfortable changing pads at school. Although 58% reported sanitary-pad vending machines, functionality was problematic. Only 16.3% reported functional incinerators, while 31% reported non-functional incinerators. Menstrual pain was reported by 84.5%, irregular periods by 27.5%, and only 3.0% visited a health worker for menstrual pain. Overall, 81.8% did not seek medical assistance for reported menstrual health problems because they considered them normal.

Conclusion: School sanitation and menstrual health remain important equity concerns even in a relatively developed state context. Functional WASH infrastructure, privacy, product availability, waste management and adolescent-responsive health services should be integrated into school menstrual health programmes.

Keywords: school sanitation; menstrual health; adolescent girls; health-seeking behaviour; menstrual hygiene; WASH; Kerala

1. Introduction

Menstrual health is a multidimensional issue involving physical symptoms, emotional well-being, social participation, access to materials and the conditions in which girls manage menstruation. School environments are especially important because adolescents spend a substantial proportion of their daily lives at school and may need to change menstrual materials, access water and toilets, manage pain and dispose of used products while maintaining privacy.

The dissertation setting in coastal Kozhikode is characterized by dense settlements, marine livelihoods, economic fluctuations and environmental vulnerability. The source document notes that coastal communities may experience constraints in sanitation, waste management and privacy even within Kerala's broader context of strong literacy and public-health infrastructure. These structural conditions make school-level sanitation and menstrual-health support important components of adolescent well-being.

This paper examines the school environment, menstrual symptoms, absenteeism, access to menstrual products, disposal infrastructure and health-seeking behaviour. The objective is to frame menstrual health not simply as an individual hygiene behaviour but as an issue of school infrastructure, social norms and health-system responsiveness.

2. Objectives

1. To assess sanitation facilities available to adolescent girls in schools.
2. To examine menstrual health problems and symptoms.
3. To assess school participation, menstrual product access and disposal arrangements.
4. To examine health-seeking behaviour for menstrual health problems.
5. To identify socio-demographic differences in school sanitation and menstrual health scores.

3. Materials and Methods

Study design and participants. The study used a descriptive cross-sectional design among 400 school-going girls aged 13–19 years in Classes IX–XII.

Study setting. Nine government schools in the coastal belt of Kozhikode district, Kerala, constituted the school setting. **Sampling.** Stratified random sampling with proportional allocation was employed from a sampling frame of 4,977 girls.

Data collection and measures. A structured interview schedule, non-participant observation and focused group discussions were used. The dissertation generated composite scores for school sanitation and menstrual health. The school sanitation score had a maximum of 15 and the menstrual health score a maximum of 18.

Statistical analysis. SPSS version 18 and MS Excel were used. Chi-square, t-test, F-test and correlation analysis were employed, with $p < 0.05$ considered statistically significant.

Ethical note. Before journal submission, insert the exact institutional ethics approval, consent/assent and permission information from the original dissertation record.

Table 1. Methodological profile

Methodological element	Description
Design	Descriptive cross-sectional
Population	School-going girls aged 13–19 years
Classes	IX–XII
Schools	9 government schools
Sampling frame	4,977 girls
Sample	400 respondents
Sampling	Stratified random sampling with proportional allocation
Tools	Structured interview, non-participant observation, focused group discussions
Analysis	SPSS 18, MS Excel; chi-square, t-test, F-test, correlation

4. Results

School sanitation. The mean school sanitation score was 6.77 ± 2.05 out of 15, representing 45.17% of the maximum score. Only 7.5% reported that school toilets were cleaned at least once a day, while 52.8% reported weekly cleaning. These findings indicate substantial room for improvement in routine maintenance.

Menstrual management in school. Twenty-nine percent of respondents reported missing school during menstruation. A very large proportion (84%) did not change menstrual pads at school, and 63.8% reported feeling uncomfortable changing pads at school. These results point to a privacy and facility gap rather than merely an individual behavioural issue.

Product access and disposal. Fifty-eight percent reported the presence of sanitary-pad vending machines, but the dissertation notes that many were non-functional or lacked pads. Sanitary pads were generally available when required, with teachers playing an important role in access. Regarding disposal infrastructure, 47.3% reported an incinerator, but only 16.3% reported it as functional and 31% reported it as non-functional.

Menstrual health. Irregular periods were reported by 27.5% of respondents. Menstrual pain was highly prevalent at 84.5%. Only 3.0% visited a health worker for menstrual pain. A total of 35.5% reported health problems during menstruation, while 81.8% did not seek medical assistance because they considered the problems normal.

Socio-demographic differences. School sanitation scores differed significantly by zone ($p=0.005$), caste/category ($p=0.027$), mother's education ($p=0.035$) and father's occupation ($p<0.001$). Menstrual health scores differed significantly by zone ($p=0.014$) and economic condition ($p=0.042$).

Table 2. School sanitation and menstrual management indicators

Indicator	Finding
School sanitation score	6.77 ± 2.05 / 15
Toilets cleaned at least daily	7.5%
Toilets cleaned weekly	52.8%
Missed school during menstruation	29%
Did not change pads at school	84%
Uncomfortable changing pads at school	63.8%
Reported vending machine availability	58%
Reported incinerator availability	47.3%
Reported functional incinerator	16.3%
Reported non-functional incinerator	31%

Table 3. Menstrual health and health-seeking indicators

Menstrual-health indicator	Finding
Irregular periods	27.5%
Experienced menstrual pain	84.5%
Visited health worker for pain	3.0%
Reported health problems during menstruation	35.5%
Did not seek medical assistance because problems were considered normal	81.8%
Menstrual health score	6.07 ± 2.45 / 18

Table 4. Significant socio-demographic differences in composite scores

Variable	Test/result	p-value	Significance
School sanitation vs zone	t-test	0.005	Significant
School sanitation vs caste/category	F-test	0.027	Significant
School sanitation vs mother's education	F-test	0.035	Significant
School sanitation vs father's occupation	F-test	<0.001	Significant
Menstrual health vs zone	t-test	0.014	Significant
Menstrual health vs economic condition	t-test	0.042	Significant

5. Discussion

The low mean school sanitation score indicates that the physical school environment may not consistently support menstrual management. The reported pattern of infrequent toilet cleaning, reluctance to change pads at school and discomfort with changing menstrual materials suggests that infrastructure and privacy are central components of menstrual health equity.

The 29% prevalence of menstrual-related school absence is also important. Absenteeism may reflect a combination of pain, fear of leakage, inadequate facilities, lack of privacy, discomfort and social norms. Because the present study is cross-sectional, it cannot determine the independent contribution of each factor. Nevertheless, the findings demonstrate that school participation during menstruation remains an operational concern.

The contrast between reported product availability and low functionality of vending machines/incinerators is particularly relevant. Availability on paper is not equivalent to reliable access. Menstrual health programmes should therefore monitor functionality, replenishment, privacy and maintenance rather than only counting installed facilities.

The high prevalence of menstrual pain, combined with very low use of health services, suggests normalization of potentially burdensome symptoms. The finding that many girls did not seek medical assistance because they considered their problems normal indicates a need for health literacy that helps adolescents distinguish common menstrual experiences from symptoms requiring professional assessment. School health personnel and adolescent-friendly services can provide a low-threshold route for advice and referral.

6. Policy and Practice Implications

- Adopt minimum menstrual-health standards for school toilets, including cleaning, water, soap, privacy and functional changing arrangements.
- Monitor vending machines and other product-distribution mechanisms for actual functionality and replenishment.
- Provide safe, practical and environmentally appropriate menstrual-waste disposal systems and routine maintenance.
- Integrate menstrual-health screening and referral into school health services, especially for persistent pain and irregular menstruation.
- Train teachers to provide confidential support and reduce embarrassment around menstruation.
- Track menstrual-related absenteeism as a school-health indicator and use student feedback to improve facilities.
- Prioritize economically and geographically vulnerable school populations when allocating sanitation resources.

7. Limitations

The cross-sectional design limits causal interpretation. The study covers nine government schools in the specified coastal setting and therefore should not be generalized automatically to all schools or adolescent girls in Kerala. Several indicators are self-reported. The manuscript uses the composite scores and categories developed in the source dissertation and does not add new psychometric validation or multivariable modelling.

8. Conclusion

Menstrual health equity among adolescent girls requires more than menstrual products or health education alone. In coastal Kozhikode, inadequate school sanitation, limited privacy for changing menstrual materials, non-functional disposal infrastructure, menstrual pain and low health-service utilization coexist. The findings support an integrated school menstrual-health model combining WASH infrastructure, reliable product access, waste management, health education, confidential support and referral mechanisms.

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