

Breaking Invisible Barriers: Sanitation, Menstrual Health, and Cultural Stigmas in Schools – A Case Study from Jharkhand

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ABSTRACT: The research aims to provide a comprehensive assessment of the current state of sanitation facilities in educational institutions, with a focus on the availability and condition of toilets, hand washing stations, and menstrual hygiene management (MHM) facilities. This includes evaluating the physical infrastructure, accessibility, and maintenance of these facilities to ensure they meet the needs of all students. The research also explores the influence of socio-cultural beliefs and economic conditions on students' hygiene habits and attitudes towards sanitation. It investigates how cultural norms, traditions, and economic constraints impact students' access to sanitation facilities. Special attention is given to gender disparities, recognizing that female students often face unique challenges related to menstrual hygiene management and may encounter additional barriers to accessing adequate sanitation facilities. By identifying these barriers, the study seeks to provide insights into the factors that hinder inclusive school ecosystem, especially for female students. The goal is to understand how these challenges affect students' overall well-being and academic performance.

KEYWORDS: Sanitation in Schools, Menstrual Hygiene Management (MHM), Hygiene Practices, School Infrastructure

INTRODUCTION

Access to adequate sanitation facilities in educational institutions is fundamental to ensuring students' health, dignity, and academic success. Despite global efforts, significant challenges persist, particularly in developing countries like India. As of 2022, approximately 3.5 billion people worldwide lacked safely managed sanitation services, with 494 million still practicing open defecation (UNICEF & WHO, 2023). This widespread lack of proper sanitation contributes to the transmission of diseases such as diarrhea, cholera, and dysentery, posing significant public health challenges. The World Health Organization (WHO) estimates that poor sanitation accounts for 432,000 diarrheal deaths annually, many of which are preventable through improved sanitation and hygiene practices (WHO, 2022). In India, the Swachh Bharat Abhiyan, launched in 2014, aimed to eliminate open defecation and improve sanitation facilities. While the initiative has made notable progress, challenges remain, especially within educational institutions. According to data from the Unified District Information System for Education (UDISE) for 2018-19, over 42,000 government schools lacked drinking water facilities, and more than 15,000 had no toilets (The Times of India, 2021). Furthermore, a 2020 audit by the Comptroller and Auditor General (CAG) revealed that of the toilets constructed by Central Public Sector Enterprises (CPSEs) under the Swachh Vidyalaya Abhiyan, almost 40% were non-existent, partially constructed, or unused. Additionally, 72% lacked running water, and 75% were not maintained hygienically (The Hindu, 2020).

The inadequacy of sanitation facilities disproportionately affects female students. Lack of proper menstrual hygiene management (MHM) facilities leads to increased absenteeism and higher dropout rates among adolescent girls. A UNICEF study found that nearly 23% of girls in India drop out of school due to the lack of proper menstrual hygiene facilities (UNICEF, 2018). Cultural stigmas surrounding menstruation, coupled with inadequate facilities, force many girls to miss school during their menstrual cycles, hindering their educational attainment and personal development. Socio-cultural beliefs and economic conditions further shape students' hygiene habits and access to sanitation. In many communities, menstruation remains a taboo subject, limiting open discussions and access to necessary resources. Economic constraints exacerbate the situation, as families may be unable to afford sanitary products, leading to the use of unhygienic alternatives.

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This research aims to provide a comprehensive assessment of the current state of sanitation facilities in schools, focusing on evaluating the availability and condition of toilets, handwashing stations, and MHM facilities, assessing the accessibility and maintenance of these facilities to ensure they meet all students' needs, exploring the influence of socio-cultural beliefs and economic conditions on students' hygiene habits and attitudes toward sanitation, identifying gender disparities, particularly challenges faced by female students concerning MHM, and investigating how these challenges affect students' overall well-being and academic performance. By identifying the barriers to adequate sanitation in schools, this study seeks to offer insights into creating an inclusive school ecosystem. Addressing these challenges requires a multi-faceted approach, including infrastructure improvements, hygiene education, and policy interventions, to ensure sustainable and equitable access to sanitation for all students, particularly females.

Aim & Objectives:

1. To assess the availability and physical condition of toilets, handwashing stations, and Menstrual Hygiene Management (MHM) facilities in Schools
2. To evaluate the accessibility of sanitation facilities for students in Namkum and Ratu blocks Ranchi, Jharkhand
3. To explore the influence of cultural norms and traditions on students' hygiene habits and attitudes towards sanitation.

This research examines sanitation facilities in schools, focusing on accessibility, menstrual sanitation practices, socio-cultural influences, and gender disparities, particularly in menstrual hygiene management.

LITERATURE REVIEW

Access to adequate sanitation facilities is recognized as a fundamental human right and is essential to ensuring health, dignity, and educational attainment, particularly among school-going children (UNICEF & WHO, 2023). Globally, poor sanitation in schools contributes to high dropout rates, especially among adolescent girls, and exacerbates health risks, including urinary tract infections and reproductive health issues (Sommer et al., 2016). The World Health Organization (2022) has emphasized that the lack of safe, private, and hygienic sanitation in educational institutions disproportionately affects girls during menstruation, reinforcing gender disparities in education.

In India, the **Swachh Bharat Abhiyan** and its school-level initiative, **Swachh Vidyalaya Abhiyan**, aimed to construct separate toilets for boys and girls in every school. Although the mission has led to substantial infrastructure development, several studies have shown that many of these facilities remain non-functional or poorly maintained (CAG, 2020; The Hindu, 2020). A report by the Comptroller and Auditor General (2020) found that nearly 40% of school toilets constructed under the program were either non-existent, unusable, or lacked water supply and cleanliness, particularly in government schools.

Menstrual Hygiene Management (MHM) is a critical component of school sanitation. However, it continues to be neglected due to socio-cultural taboos and inadequate institutional support. Studies have shown that lack of menstrual hygiene facilities, including access to sanitary products, private changing spaces, and safe disposal mechanisms, significantly impacts girls' school attendance and participation (UNICEF, 2018; Caruso et al., 2020). According to a report by Dasra (2015), nearly 23% of girls drop out of school in India once they begin menstruating, primarily due to inadequate MHM infrastructure and prevailing social stigmas. Research conducted by Mahon and Fernandes (2010) highlights how cultural norms and misinformation perpetuate myths around menstruation, limiting girls' mobility, dietary intake, and access to education. These socio-cultural constraints are compounded by economic limitations, particularly in rural areas, where families may be unable to afford sanitary products or prioritize girls' health needs (Garg & Anand, 2015). Consequently, many adolescent girls rely on cloth or unhygienic alternatives, increasing their risk of infections and health complications.

The absence of gender-sensitive hygiene education further exacerbates the issue. Studies show that both male and female students often lack accurate knowledge about menstruation, leading to stigma, bullying, and psychological stress (Sommer et al., 2015). Teachers' discomfort in addressing MHM topics, particularly in co-educational settings, reinforces silence and misinformation (Peters et al., 2016). Even in schools where MHM training has been conducted for teachers, the knowledge is seldom passed on effectively to students due to cultural hesitation or lack of formal platforms for discussion.

Furthermore, literature emphasizes the need for integrated approaches that combine infrastructure development with awareness-building, policy implementation, and monitoring mechanisms. According to Patkar (2011), improving school sanitation requires not only the construction of toilets but also their regular maintenance, provision of water and waste management systems, and behavioral interventions that challenge cultural taboos.

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In Jharkhand, studies by WaterAid (2019) and Pratham (2020) corroborate these findings, showing that rural government schools often lack functional toilets, soap for handwashing, and disposal systems for menstrual waste. These infrastructural deficits, combined with social stigma and limited healthcare access, severely hinder girls' ability to manage menstruation with dignity. This body of literature underscores the urgent need for holistic and context-specific interventions that address both the infrastructural and socio-cultural dimensions of sanitation and menstrual hygiene management. The present study contributes to this discourse by examining sanitation facilities, menstrual hygiene practices, and cultural beliefs among schoolgirls in Ranchi's Namkum and Ratu blocks, highlighting barriers to inclusive education and proposing evidence-based solutions.

METHODOLOGY

This study employed a mixed-methods approach to assess sanitation facilities and hygiene practices among female students in schools across two blocks of Ranchi, Jharkhand - Namkum and Ratu. By integrating qualitative and quantitative data, the research provided a comprehensive understanding of infrastructural conditions alongside students' experiences. The study focused on the availability, condition, and accessibility of sanitation facilities, as well as socio-cultural taboos and Menstrual Hygiene Management (MHM) provisions. Multiple data collection methods were employed to ensure a thorough analysis. A structured questionnaire was used to collect quantitative data from 80 students regarding sanitation facilities, hygiene behaviors, and accessibility. On-site inspections utilized a standardized checklist to document infrastructure conditions. Additionally, Focus Group Discussions (FGDs) with 35 students provided qualitative insights into socio-cultural perceptions of hygiene and MHM.

A stratified random sampling technique was adopted to ensure representation. Ten schools from Namkum and Ratu blocks were selected, comprising eight government day schools, one Kasturba Gandhi Balika Vidyalaya (KGBV) cum School of Excellence (SOE), and one Jharkhand Balika Awasiya Vidyalaya (JBAV). The study included students from grades 6 to 12, ensuring diverse participation. Quantitative data from surveys were analyzed using descriptive and comparative analysis in Excel to identify trends in sanitation infrastructure and hygiene practices. Qualitative data from interviews and FGDs underwent thematic analysis to highlight recurring patterns and key challenges.

The study adhered to strict ethical considerations to safeguard participants' rights and dignity. Informed consent was obtained verbally, with clear communication regarding the study's purpose and participants' right to withdraw. To maintain confidentiality, the names of respondents were changed in all recorded data and reports. A gender-sensitive approach was adopted, particularly in MHM discussions, to create a comfortable environment for female students to share their experiences. These measures ensured integrity, respect, and sensitivity throughout the research.

RESULTS AND DISCUSSION

A. Safety, Social, and Environmental Conditions

The infrastructural and maintenance quality of schools varies significantly based on their category. Kasturba Gandhi Balika Vidyalaya (KGBV) and Jharkhand Balika Awasiya Vidyalaya (JBAV) exhibit comparatively better infrastructure than government day schools. Among the ten schools surveyed, only KGBV and JBAV have designated Menstrual Hygiene Management (MHM) rooms. In contrast, only one out of eight government day schools possess a manual menstrual waste burner, which students are responsible for cleaning and maintaining due to a critical human resource shortage.

Across all surveyed institutions, there is no designated staff for daily cleaning of toilets or overall campus maintenance. Students are often compelled to clean toilets using hazardous cleaning agents without protective gloves or safety measures. Raj, a student, expressed concern over this practice: *"I always wonder why I have to do this at school when my friends from private schools do not clean their campuses and washrooms, but now I am used to it."* Furthermore, five schools have overgrown vegetation surrounding toilets, raising serious safety concerns. Privacy doors are absent in several schools, exacerbating security risks for students.

Menstruation remains a taboo subject, particularly in Namkum and Ratu blocks of Ranchi district. Teachers avoid conducting awareness sessions on MHM due to their own entrenched beliefs. A student, Nisha, reported: *"The principal herself asks us to wash our sanitary pads before disposal, stating that no one should see menstrual blood."* Although at least one teacher in each school has attended training on MHM and the School Health and Wellness Program (SHWP), no structured awareness sessions have been conducted for students. In KGBV and JBAV, informal conversations on menstruation occur under the initiative of the wardens, but these efforts lack systematic documentation and structured guidance.

No formal platforms exist for students to discuss menstrual hygiene or sanitation issues. As a result, misinformation and adherence to cultural taboos persist. Survey data indicate that 79% of students believe menstruating individuals should avoid religious spaces, while only 77% recognize menstruation as a natural process. Furthermore, only 53% feel comfortable discussing menstruation,

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highlighting significant stigma. Economic barriers also impact menstrual hygiene, with 20% of students relying on cloth instead of sanitary pads. Awareness regarding alternative menstrual products is low, as only 19% of students are familiar with tampons and menstrual cups, but they lack knowledge on proper usage and necessary precautions.

B. Accessibility to Nutritious Food

Cultural beliefs influence dietary restrictions during menstruation. Among the surveyed students, 36% adhere to dietary restrictions, refraining from consuming salty or tangy foods due to the belief that such foods increase menstrual flow. Rani, a student, reported: ***"We do not bathe during periods because it leads to heavy flow; eating salty or tangy food has the same effect."***

These misconceptions contribute to inadequate nutrition during menstruation, potentially exacerbating health issues such as iron deficiency and fatigue. Additionally, 78% of students come from agrarian families, and 8% belong to daily wage laborer households, making access to diverse, nutrient-rich diets a challenge. Household-level awareness about balanced nutrition during menstruation remains critically low. Among surveyed mothers, only 22% had received any formal education, influencing their ability to provide adequate menstrual health guidance to their children.

C. Access to Healthcare Facilities

Despite being residential institutions, KGBV and JBAV lack healthcare professionals such as counselors or nurses. Students experiencing menstrual discomfort often rely on peer support or self-management due to the absence of immediate medical assistance. In cases of severe health issues, students must travel to the nearest community health center, which is often at a considerable distance from the school. Priya, a student, stated: ***"Ma'am sends us back home for treatment if we report menstrual issues since there is no nurse or doctor inside the campus."***

The situation is more severe in government day schools, where menstrual health remains an unaddressed concern. Teachers avoid discussing menstruation in the presence of male students, leading to misinformation among boys. When asked about his understanding of menstruation, a male student, Manish, responded: ***"Dirty blood comes out of a woman's body; that is what menstruation means."***

D. Hygiene Conditions in Schools

Despite 100% of schools reporting daily toilet cleaning, 42% of students face difficulties managing menstruation due to inadequate facilities. Only KGBV and JBAV provide sanitary pads, and only four schools have covered disposal bins, while six schools lack any formal menstrual waste disposal mechanism. Inadequate waste disposal facilities contribute to unsafe practices, with 2% of students dumping used pads into toilets.

Survey data also indicate that 88% of students wash their vaginal area with water, whereas only 11.4% use soap, increasing the risk of infections. Handwashing facilities remain inadequate, with only 40% of schools providing soap near toilets, and 42% of students reporting difficulty accessing proper handwashing amenities.

Cultural norms further hinder hygiene practices, with 39% of students discouraged from bathing during menstruation. Mitali, a student, shared: ***"I tear the used pad, dispose of the blood-soaked cotton into the toilet, and then throw the plastic into the dustbin because senior didis say that burning the blood-soaked pad increases period cramps."*** Similarly, another student, Smita, stated: ***"We wash pads before disposal because it is believed that if someone burns them with black magic or red chili, the girl will never conceive a baby in the future."***

The findings highlight critical gaps in menstrual hygiene management, infrastructural maintenance, and health awareness in government schools of Jharkhand. Despite awareness efforts, systemic issues such as human resource shortages, cultural stigmas, and inadequate health infrastructure persist. The absence of healthcare professionals in schools further exacerbates students' vulnerability to untreated health complications. Addressing these challenges requires multi-faceted interventions, including structured menstrual health education, improved sanitary waste disposal mechanisms, and increased financial investment in menstrual hygiene products and school maintenance. The incorporation of these measures is essential to fostering a dignified, safe, and healthy learning environment for menstruating students.

CONCLUSION

The study highlights significant gaps in sanitation infrastructure, menstrual hygiene management, and health awareness in schools across Ranchi's Namkum and Ratu blocks. Despite government initiatives like the Swachh Vidyalaya Abhiyan, many schools still lack adequate toilets, proper waste disposal mechanisms, and essential hygiene facilities, disproportionately affecting female students. The absence of dedicated cleaning staff further exacerbates sanitation challenges, often forcing students to take on maintenance responsibilities in unsafe conditions.

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Menstrual hygiene management remains a critical issue, with limited access to sanitary products, inadequate disposal mechanisms, and deep-rooted socio-cultural taboos restricting open discussions. Many students still rely on unsafe menstrual hygiene practices due to misinformation and economic constraints. Cultural beliefs, such as dietary restrictions and avoidance of bathing during menstruation, further impact students' health and well-being. The lack of healthcare professionals in residential schools leaves students without necessary medical support, forcing them to manage menstrual discomfort and related health issues on their own.

To create a more inclusive and supportive school environment, a multi-pronged approach is needed. This includes infrastructural improvements, such as the construction and maintenance of gender-sensitive sanitation facilities, the provision of essential menstrual hygiene products, and the establishment of structured awareness programs to dismantle cultural stigmas. Furthermore, schools must integrate comprehensive menstrual health education into their curriculum to foster awareness among both male and female students. Policy interventions should also focus on appointing dedicated sanitation staff, ensuring regular maintenance, and strengthening partnerships with healthcare providers to offer necessary medical support.

By addressing these systemic issues, schools can foster a hygienic and dignified learning environment where students, especially adolescent girls, are not forced to choose between their education and managing their hygiene needs.

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