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Bridging the Gap: Sustainable Waste Management in Menstrual Hygiene among Tribal and Rural Adolescent Girls of Andhra Pradesh

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Abstract
Addressing menstrual hygiene management (MHM) in Andhra Pradesh's tribal and rural adolescent girls requires a multi-pronged approach that combines promoting sustainable waste management practices with providing access to safe and affordable menstrual hygiene products. This involves educating girls about proper disposal methods, encouraging the use of eco-friendly products like reusable cloth pads, and ensuring access to clean water, sanitation facilities, and safe disposal mechanisms. Menstrual health has gained increasing attention among public health researchers and policymakers in recent years. The use of hygienic materials during menstruation is essential for safeguarding women's health, dignity and well-being. Poor menstrual health is exacerbating social and economic inequalities. It is linked to a range of health issues, such as urinary and reproductive tract infections, and can also lead to discomfort, psychological stress and irregular school attendance or even dropout. Policy recommendations on menstrual hygiene management often emphasize improving access to sanitary pads for girls and women. While the availability of sanitary pads is undoubtedly essential, attention must also be given to ensuring access to safe water, sanitation and hygiene (WASH) facilities, which are fundamental to effective menstrual hygiene management.

Key Words:
health, hygiene, issues, management, menstrual, products, sanitation, tribal

Introduction
Poor WASH practices are linked to stunting and thinness among adolescent girls. Girls who lack access to improved water sources, sanitation and handwashing facilities within their homes are more likely to be exposed to contaminated water and food, increasing the risk of diarrheal and parasitic diseases that can negatively impact nutritional status. They are exposed to an increasing burden of infections, such as hookworm, which hinder physical growth and intellectual development. Poor menstrual health management may also exacerbate the risk of anemia among adolescent girls.

Menstrual hygiene management
According to the National Family Health Survey (NFHS-5, 2019–21), 78% of young women aged 15–25 in India reported using some form of hygienic menstrual products—sanitary napkins, menstrual cups or tampons, with 64% specifically using sanitary napkins. However, many women still rely on cloth or other unsafe materials for menstrual protection, particularly prevalent in socio-economically disadvantaged states and among marginalized communities. For instance, a large proportion of women in states like Bihar (41%) and Madhya Pradesh

(39%) are not using any hygienic period products. More than one-third (34%) of women from Scheduled Tribe (ST) communities continue to use unsafe menstrual materials.

Access to safe WASH facilities

Although India has implemented the Swachh Bharat Mission (Clean India Mission) and the National Urban Sanitation Policy (NUSP) to eliminate open defecation, improve sanitation and promote better hygiene practices in both rural and urban areas, girls living in impoverished, rural areas continue to face challenges in accessing safe WASH facilities. As per NFHS-5, 69% of households use improved toilet facilities, but the figure drops to 64% in rural areas. Alarmingly, 19% of Indian households still practice open defecation—this rises to 26% in rural regions. Notably, fewer than half (49%) of households have toilet facilities within their own dwellings; even less have toilets in rural areas (37%).

The availability of water and soap is also essential for maintaining hygiene during menstruation. However, access to basic washing facilities remains inadequate. In rural India, over 20% of households lack water at handwashing stations, 32% lack soap, and 33% lack either soap, water or both, posing serious challenges to maintaining menstrual hygiene.

Furthermore, privacy is a significant concern, especially when using sanitary napkins. Girls and women need private spaces to change menstrual materials and dispose of used products to maintain dignity and hygiene. NFHS-5 data reveals that more than 40% of households have three or more people sharing a single bedroom. Since many girls are still using clothes during their periods, cleaning and drying clothes becomes a problem if they lack water, privacy and a drying place.

WASH in schools: persistent gaps

In 2014, India launched the Swachh Bharat Swachh Vidyalaya (SBSV) initiative to ensure that all schools have access to separate functional toilets for boys and girls. The initiative promotes safe and appropriate hygiene practices and behavior among children.

Despite such initiatives, schools are not equipped with adequate WASH facilities, preventing girls from managing menstruation effectively during school hours. In fact, many girls do not change pads in school due to poor sanitation facilities.

According to the Annual Status of Education Report (ASER) 2024, while there has been improvement over the past 15 years, WASH infrastructure in schools remains inadequate, particularly in rural areas. In 2024, 28% of schools across rural India lacked functional or usable toilets for girls. In some states, the situation is even more concerning—69% of schools in Meghalaya and 41% in Madhya Pradesh did not have functional toilet facilities for girls.

A way forward

Ensuring menstrual health requires more than just distributing sanitary napkins. A comprehensive approach must integrate access to safe and functional WASH facilities at the household and institutional levels. More efforts are needed to improve WASH infrastructure in marginalized and resource-poor settings, where girls and women are disproportionately affected by inadequate sanitation and hygiene facilities.

WASH interventions in schools have proven effective in curbing the spread of infections and promoting health-conscious behaviors among children. Investing in such infrastructure is vital for enabling girls to manage menstruation with dignity, safety and confidence, both at home and in school.

Women and girls constitute half of India's population.1 Yet, gender disparities remain a critical issue in India impacting women and girls' education, health, and workforce participation. Data shows that girls are largely on par with boys up to adolescence, but with the onset of puberty, outcomes for girls begin to diverge and girls face increasing restrictions to their mobility and agency.2,3 There are over 355 million menstruating women and girls in India, 4 but millions of women across the country still face significant barriers to a comfortable and dignified experience with menstrual hygiene management (MHM). A study found that 71% of girls in India5 report having no knowledge of menstruation before their first period.6 At menarche, schoolgirls in Jaipur, Rajasthan report their dominant feelings to be shock (25%), fear (30%), anxiety (69%), guilt (22%), and frustration (22%).7 Further, 70% of women in India say their family cannot afford to buy sanitary pads.8 And in 2012, 40% of all government schools lacked a functioning common toilet, and another 40% lacked a separate toilet for girls.9 Although there is evidence in India illustrating the problem, the evidence linking the impact of poor menstrual health, an encompassing term for menarche and MHM, on critical outcomes is limited. Current studies have small sample sizes and rely on qualitative, self-reported, or anecdotal data making it difficult to generalize findings across different types of adolescent populations and diverse regions with different cultural and socio-economic contexts. Yet, in some cases menstrual health programs are designed assuming these linkages. There is need for further research to understand the impact of menstrual health interventions on life outcomes.

The Role and Influence of Gender Disparities and Discriminatory Social Norms
Discriminatory gendered social norms which are rooted in the collective beliefs, perceptions, and attitudes about what it means to be male and female perpetuate the perceived inferior status of women and girls vis-àvis men and boys. In India, preference for sons starts at birth with child mortality being 61% higher for girls than boys.19 These social norms become more pronounced when the adolescent girl reaches puberty and menarche. 20 Data shows that girls are often on par with boys up to adolescents, but with the onset of puberty, outcomes for girls begin to diverge. For example, the percentage of out-of-school boys and girls in the age group 6–10 years was 5.51% and 6.87%, respectively; however, for the adolescent age group 11–13 years, the percentage of out-of-school children was much higher among girls (10.03%) than boys (6.46%).21 Studies show that lack of enrollment or withdrawal from school takes place for various reasons, including economic barriers, parental concerns about safety of the girls, poor quality of teaching, and community expectations.22 In several communities, there are expectations that girls will help with domestic chores, learn to undertake household responsibilities, and get prepared for marriage. Community members often do not perceive any alternative roles for girls and prioritize these gendered expectations over sending girls to school, especially beyond the primary level.23 Girls are also more likely than boys to be married at an early age. Almost 50% of young women aged 20–24 were married as children, i.e., before age 18 (vs. 10% of young men).24 Early marriage is more common among rural adolescent girls as compared to girls in urban areas, and more common among poorer households.25,26 Adolescents also experience early childbearing and parenting, with one in five young women aged 20–24 having her first birth before age 18.27 Menstrual Health.

The Problem There are over 355 million menstruating women and girls in India, 28 yet millions of women across the country still face significant barriers to comfortable and dignified experience with menstrual health. Girls do not consistently have access to education on puberty and menstrual health. In India, 71% of girls report having no knowledge of menstruation before their first period.29,30 Girls often turn to their mothers for information and support, but 70% of mothers consider menstruation "dirty," further perpetuating taboos. 31 Girls do not have consistent access to preferred, high-quality MHM products. Almost 88% of women and girls in India use homemade alternatives, such as an old cloth, rags, hay, sand, or ash.32 Qualitative studies and an analysis of the product market indicate that premium commercial products are unaffordable or not consistently accessible for women and girls in low-income communities. Women and girls lack access to appropriate sanitation facilities. There are 63 million adolescent girls living in homes without toilets. 33 Despite national efforts to improve sanitation, women and girls lack appropriate facilities and community support to manage their menstruation privately and in a safe manner.

Menstrual Health and Links to Life Outcomes The evidence in India showing the impact of menarche and poor MHM on critical outcomes is limited, not statistically significant, and largely inconclusive. Current studies in India have small sample sizes, and they rely on qualitative, self-reported, or anecdotal data making it difficult to generalize findings across different types of adolescent populations and diverse regions which have different cultural and socio-economic contexts. Table 2 below provides an overview of the current evidence linking menstrual health to empowerment, education, health, environment, or economic outcomes.

The study "Bridging the Gap: Sustainable Waste Management in Menstrual Hygiene Among Tribal and Rural Adolescent Girls of Andhra Pradesh" likely explores the challenges and solutions for managing menstrual hygiene waste, particularly among adolescent girls in tribal and rural communities of Andhra Pradesh. It focuses on promoting sustainable practices and addressing the lack of proper waste disposal methods, often exacerbated by cultural taboos and limited access to resources.

Key Areas

- **Awareness and Knowledge**

The study likely investigates the level of awareness and understanding among tribal and rural adolescent girls regarding menstrual hygiene management (MHM), including proper disposal methods.

- **Hygiene Practices**

It probably examines the actual hygiene practices followed by these girls during menstruation, including the types of menstrual products used and how they are disposed of.

- **Waste Management Infrastructure**

The study likely assesses the availability and accessibility of waste management infrastructure, such as toilets, incinerators, and designated disposal sites, in their communities.

- **Cultural Taboos and Stigma**

It would address the cultural beliefs and social stigmas surrounding menstruation that affect hygiene practices and waste disposal.

- **Sustainable Solutions**

The study likely explores and promotes sustainable solutions, such as reusable cloth pads, eco-friendly disposal methods, and community-based waste management initiatives.

- **Educational Interventions**

It might involve educational interventions, such as workshops and awareness campaigns, to improve knowledge and practices related to menstrual hygiene and waste management.

POSSIBLE RECOMMENDATIONS

- **Promote Reusable Products:**

Encouraging the use of reusable menstrual products like cloth pads can significantly reduce waste.

- **Improve Disposal Infrastructure**

Ensuring access to clean and safe toilets, incinerators, and designated disposal sites is crucial.

- **Address Cultural Taboos**

Educational initiatives should focus on dispelling myths and misconceptions surrounding menstruation and promoting open discussions.

- **Empower Women**

Involving women and adolescent girls in designing and implementing MHM programs can ensure their effectiveness.

- **Community Engagement**

Engaging the entire community, including men and boys, in promoting menstrual hygiene and sustainable waste management is vital.

- **Partnerships**

Collaboration between government agencies, NGOs, and local communities is essential for successful implementation of MHM programs.

By addressing these key areas and implementing sustainable solutions, the study aims to bridge the gap in menstrual hygiene management among tribal and rural adolescent girls in Andhra Pradesh, improving their health and well-being while promoting environmental sustainability.

Most girls do not consistently have access to education on puberty and menstruation in part because it is not mandated by the Government. Even when schools do have programs, teachers find the topic embarrassing to discuss in a classroom, they are rarely trained, and consequently, they rarely teach it.87,88,89 Schools are increasingly outsourcing MHM education to NGOs with specialized MHM programs (e.g., international NGOs like WASH United, UNICEF, and local NGOs such as Khel in Uttar Pradesh and Pasand in Karnataka). In both in-school and out-of-school programming, the curriculum focuses more on the practical

aspects of managing menstruation (e.g., product use), rarely includes biological aspects, and ignores psycho-social changes. Menstruation is closely linked to reproductive health, and therefore considered a taboo subject in India along with sex-education. This could be a driving factor for NGO workers and teachers to prioritize teaching the practical elements of MHM over other aspects of menstruation and what it signals. 90,91,92 Community and influencer support: Until recently, out-of-school girls were largely left out of menstrual health programming; existing programs that do target out-of-school girls rely on government health workers who have limited capacity. NGOs target girls in school as a way to reach the maximum number of girls efficiently. Recently, the National Health Adolescent Program (Rashtriya Kishor Swasthya Karyakram (RKSK))93 has explicitly called out the treatment of menstrual problems and menstrual health education as part of a larger package of health services for all adolescents. However, for out-of-school girls, menstrual health education is meant to be provided by government health workers (e.g., counselors, ASHA, or Anganwadi workers). Although such programs have significant opportunity for scale, health workers not only lack the capacity and comfort to talk about menstruation, but out-of-school girls rarely see them as a "resource" to discuss menstruation. 94, 95 Most adolescent girls in India rely heavily on their female influencers, particularly mothers for information on menstruation. However, mothers do not know or feel comfortable discussing menstruation; their advice is often limited to period management and tends to reinforce negative beliefs.96,97,98 Figure 3: Factors Influencing Menstrual Health Education and Awareness Menstrual Health in India |

Conclusion

Currently, MHM curriculums focus on period management, and do not provide the time or space to discuss psycho-social changes. They miss providing sustained mentorship for girls to cope with changes. Facilitator quality for in-school and out-of-school programming also remains weak. Few interventions target influencers. Although research consistently confirms that mothers are the most critical influencers for adolescent girls in India, 112 ongoing interventions rarely target them. Similarly, although there is evidence to show that a change in the perception of boys and men towards menstruation can help reduce embarrassment associated with menstruation,113 there are few programs for boys and men.

References

1. Bachloo T, Kumar R, Goyal A, Singh P, Yadav SS, Bhardwaj A, Mittal A. A study on perception and prac-tice of menstruation among school going adolescent girls in dwastrict Ambala Haryana, India. Int J Community Med Public Health 2016; 3:931-7.
2. Bobhate PS, Shrivastava SR. A cross sectional study of knowledge and practices about reproductive health among female adolescents in an Urban Slum of Mumbai. J Fam Reprod Health 2011;5:117-24.
3. Dhingra R, Kumar A, Kour M. Knowledge and Practices Related to Menstruation among Tribal (Gujjar) Adoles-cent Girls. Ethno Med 2009; 3(1): 43-48.
4. Dasgupta A, Sarkar M. Menstrual hygiene: How hygienic was the adolescent girl?. Ind J Com Med 2008;33:77-80
5. Datta A, Manna N, Datta M, Sarkar J, Baur B, Datta S. Menstruation and menstrual hygiene among adolescent girls of West Bengal, India: A school based comparative study. Glo J Med Pub Hea 2012; 1 (5): 50-57.
6. Kamath R, Ghosh D, Lena A, Chandrasekaran. A study on knowledge and practices regarding menstrual hygiene among rural and urban adolescent girls in Udupi Taluk, Manipal, India. Glo J Med Pub Hea 2013; 2 (4): 1-9.

7. Kansal S, Singh S, Kumar A. Menstrual hygiene practices in context of schooling: A community study among rural adolescent girls in Varanasi. Indian J Community Med 2016;41:39-44.
8. Sharma, S. R., & Sharma, M. (2025). Environmental justice in hydropower development: Voices of the marginalized in Nepal. Open Journal of Social Sciences, 13(5), 300–324. https://doi.org/10.4236/jss.2025.135018
9. Rana B, Prajapati A, Sonaliya K N, Shah V, Patel M, Solanki A. An Assessment of Menstrual Hygiene Practic-es amongst Adolescent Females at Kheda Dwastrict of Gujarat State, India. Hea J 2015 Jan-Jun; 6 (1): 23-29.
10. Solanki H et al. A Study of Menstrual Problems & Prac-tices among Girls of Mahila College. NJIRM 2012; 3(4): 24-27
11. Singh AJ. The place of menstruation in the reproductive lives of women of rural north India. Indian J of Com Med 2006; 31(1):10-14.
12. Subhash B T et al. Menstrual Hygiene: Knowledge and Practice among Adolescent School Girls of Saoner, Nag-pur Dwastrict. J Cli and Dia Res. 2011 October; 5 (5): 1027-1033.