

A Narrative Review of Interventions on Menstrual Health for Adolescent Girls in Rural India

Kruti S. Chaliawala, PhD, MS, CHES¹ , Priyanka Dubey, PhD, MSW¹ 

¹ School of Public and Population Health, Boise State University

Keywords: menstrual health and hygiene, menstrual health interventions, narrative review, rural India, adolescent girls

<https://doi.org/10.54111/001c.138060>

Boston Congress of Public Health Review (BCPHR, Formerly HPHR)

Vol. February 2026, Issue 94, 2026

Purpose of review

Menstrual health remains a significant public health challenge in India, particularly among adolescent girls in low- and middle-income communities. Cultural taboos, lack of awareness, and inadequate access to menstrual health knowledge and products contribute to practices that may have adverse health outcomes and social exclusion. Government programs and non-governmental interventions have aimed to address these issues, yet significant barriers persist. This narrative review examined the socio-cultural factors influencing menstrual hygiene practices, existing interventions, and their effectiveness among adolescent girls in rural India. Key sources included peer-reviewed journal articles, government reports, and evaluation reports of interventions. Thematic analysis identified common barriers and facilitators to menstrual health and hygiene (MHH).

Results

Statistics suggest that 24% of adolescent girls in rural India drop out of school post-menarche due to inadequate menstrual hygiene facilities. Social stigma, restrictions on diet and mobility, and misinformation may exacerbate the issue. Government initiatives like the Swachh Bharat Mission and mobile education platforms like SAATHIYA have improved awareness. Yet, their impact remains limited due to persistent cultural attitudes and infrastructure gaps in rural India.

Discussion

Relevant studies suggest that social and behavioral change communication (SBCC) interventions, such as UNICEF's GARIMA program, are more effective in reshaping menstrual health narratives and increasing community-level engagement, while providing comprehensive education to adolescent girls.

Conclusion

Addressing menstrual health requires a multifaceted approach. Community-driven strategies must be integrated with culturally sensitive education involving parents and schools, safe sanitation infrastructure, and policy reforms that span education and health, including menstruation-related knowledge for all. This approach aims to dismantle menstrual taboos. More nuanced approaches to existing and new interventions may offer a viable pathway to normalizing menstrual education and improving adolescent health outcomes in India.

INTRODUCTION

Menstruation is a natural phenomenon that marks the beginning of the female reproductive cycle.^{1,2} Even though it is a natural process, secrecy and myths in Indian society surround the topic. Social and cultural norms have forced females to seclude themselves from various aspects of society during menstruation.^{1,3,4} Effective management of

menstrual flow involves using clean materials for absorption, maintaining hygiene with soap and water, and properly disposing of used products.⁵ Additionally, frequently changing the menstrual product reduces the risk of urinary tract infections, genital rashes, and cervical cancer. Approximately, there are 355 million menstruating females in India, and most of them face barriers to accessing sanitary products.⁶⁻⁹ On average, a woman uses 10,000 sanitary napkins within 30-40 years of her reproductive life. Accord-

ing to this estimate, India should use 58,500 million sanitary napkins per year, but according to the 2012 report, the actual usage is only 2,659 million sanitary napkins per year. Although awareness of menstrual health and hygiene in urban areas of India is around 21-25%, menstrual hygiene and usage of sanitary napkins are virtually absent in rural India.¹⁰ Instead, women wear unhygienic clothes and use other unhygienic products.³ Two initiatives were implemented to provide affordable sanitary napkins to adolescent girls in rural India: “Free Days” and ASMITA Yojana. These initiatives increased the usage of commercial sanitary napkins from 20-30% in 2010 to 50% post-2012.^{11,12} Yet, there are research and literature gaps in understanding different interventions and their effectiveness in increasing menstrual knowledge and providing recommendations to improve the accessibility of resources among rural adolescent girls in India. Hence, the purpose of the current narrative review is to answer the following research questions:

1. *What interventions have been the most effective in improving menstrual health knowledge, access to products to manage menstrual flow, and improving school attendance among adolescent girls in rural Indian settings?*

RESULTS

SOCIAL AND CULTURAL BARRIERS TO MENSTRUAL HEALTH AND HYGIENE

Approximately 24% of the girls in India are forced to drop out of school after their menstruation begins.¹³ The monthly menstruation period has also become an obstacle for many teachers because of the lack of adequate menstrual protection alternatives, gender-unfriendly school culture, and clean, safe, and sanitized facilities which are the basic prerequisites for managing menstrual health management for change and disposal of sanitary products, and are violating the right to privacy among menstruating females.^{4,14,15} A study in 2005 reported that 90% of the females in India used unhygienic clothes during their menstrual period.¹⁶ Only 11.2% of females used hygienic sanitary pads, and 3.9% used locally prepared napkins. Another study in 2006 reported that only 30% of adolescent girls used sanitary napkins, even though 80% were aware of the products.^{7,17}

The Indian government implemented an initiative 2011 to promote menstrual hygiene among rural adolescent girls. The intervention aimed to raise awareness about menstrual hygiene, access to and use of high-quality sanitary products, and the safe disposal of sanitary products in an eco-friendly manner.¹⁸ Even after the efforts of the Indian government, over 77% of the females used ragged clothes during menstruation. Additionally, 88% reported using ashes, newspapers, dried leaves, and husk sand to help blood absorption.¹⁴ While addressing this issue, the challenge is not just through socio-cultural aspects but factors such as the knowledge and understanding among adolescent girls regarding puberty, menstruation, and reproductive health, which are relatively low compared to other countries.¹⁹⁻²¹

Most of the adolescent girls in India are unaware of the physiology of menstruation. Hence, their first reaction to menstruation is fear, shame, and disgust, driven by cultural and religious factors. The young girls are scared to break any taboos due to the fear of sinning. The families play a huge role when a girl enters the teenage years. Most adolescent girls in rural India are receptive to using sanitary products, but fail to implement them due to the lack of family support.¹ The older women in these families have the ultimate say in what adolescent females should do or should be taught about menstruation. Hence, all females in a household must be educated about hygiene, menstrual health, and sanitary products.¹

In 2017, a 12-year-old girl in southern India committed suicide when she was humiliated by the teacher for staining her uniform with menstrual blood. Segregating women during menstruation is an ancient practice, but is still followed by people in rural parts of India.²²⁻²⁵ *Rig Veda*, an ancient Hindu holy scripture, describes the taboos that are evident today. A section in the *Rig Veda* says:

“During her period she shall not apply collyrium to her eyes, nor anoint her body, nor bathe in water; she shall sleep on the ground; she shall not sleep in the daytime, nor touch the fire, nor make a rope, nor clean her teeth, nor eat meat, nor look at the planets, nor drink out of a large vessel, or out of joined hands, or out of a copper vessel”.²⁶

There is a belief among scholars that the *Rig Veda* mentions these restrictions to give the body rest during the menstrual cycle. However, conservative religious groups have misinterpreted the sayings in the *Rig Veda* to enforce social taboos. More evidence of gender inequality and lack of sex education observed in Indian culture is through the rules that need to be followed by women in the name of religion. For example, according to Hinduism, females are not allowed to worship God during their periods or hold holy books. Girls are considered impure during menstruation.²⁷ The underlying belief is that menstruating women are unhygienic and impure.

According to a survey, the participating women mentioned that their body leaves a specific odor that can turn food bad during menstruation. Hence, these females are not allowed to go to the kitchen and cook, being forced to live in a separate room away from amenities and spend their 6-7 days in solitude. Some parts of India have dietary restrictions on menstruating girls, such as not allowing them to consume curd, tamarind, or sour foods such as pickles.²⁷ The lack of reproductive health education was discovered through a survey that examined girls’ attitudes toward menstrual hygiene.³ In a report by Nikita Arora,²⁸ she describes horror stories that she encountered during her case studies:

“Sabha is a 16-year-old student who lives in Rani’s area. She likes school and said it makes her happy, as she has many friends. She goes to a government middle school. However, she does not attend school during her periods because there are no proper sanitation facilities or dustbins to dispose of sanitary napkins. Fur-

ther, her parents do not want her to go to school during her periods as she may stain her clothes and bring shame to the family. Sabha complains that her life has changed after her periods started, as she cannot go out and play like she used to. Many of her friends have already dropped out of school after they started menstruating.”

Another case study by Nikita Arora that provides details about the barriers and pain that women face while menstruating:

“Sarita is a 34-year-old working woman and a mother of three kids. Her husband died in an accident in 2010. She lives with her unmarried sister-in-law in a slum settlement under a bridge in Ludhiana. The family survives on Sarita’s meager income from collecting bottles from the garbage and selling them. She has had no access to education or healthcare, and no money to take care of herself during her periods. She and her sister-in-law use the same cloth rags to prevent leakage during their periods. Usually, she fetches water in the morning from two kilometers away, but she cannot walk this distance during her periods. She fears for her young sister-in-law, who goes alone to fetch water when Sarita has her period. She complains that men of the community mock and harass her sister-in-law when she is menstruating.”

SOCIO-ECONOMIC BARRIERS TO AFFORDABILITY AND ACCESS TO SANITARY NAPKINS

In middle to low-income countries such as India, affordability is considered a crucial determinant of the health and hygiene of adolescent girls in rural areas. Previous research has highlighted that despite the availability of sanitary products, cost may be a significant barrier for low-income households. Food and housing are prioritized over menstrual products, which are often considered a low-priority expense category.^{3,14} Affordability is usually intertwined with education and awareness regarding MHH. Rural families may not recognize the health implications of poor menstrual hygiene and are less likely to invest in sanitary products.²⁹ In recent years, low-cost sanitary napkin manufacturing led by women’s self-help groups has emerged as a sustainable model for providing affordable sanitary napkins to women in rural India and promoting economic empowerment. Yet, challenges such as social acceptability, scalability, and long-term sustainability may require extra funding and effort in terms of support.²⁹⁻³¹

DISCUSSION

PROGRESS MADE, YET CHALLENGES REMAIN

Despite ongoing efforts to improve menstrual health in India, significant gaps remain. A persistent issue is the lack of open discourse due to socio-cultural taboos, which contributes to inadequate knowledge and misconceptions about menstruation.^{1,3,4} This silence often results in ado-

lescent girls experiencing fear, shame, and confusion upon reaching menarche.¹⁸⁻²¹ Furthermore, access to and utilization of menstrual products remain a challenge, particularly in rural areas, where girls and women use/reuse absorbents without proper washing and drying due to social restrictions and taboos.^{1,3,7,15,28} Even when awareness exists, factors such as limited family support and inadequate school facilities, including disposal options, hinder the adoption of managing menstruation practices.^{1,12,32} These gaps have far-reaching consequences, including school absenteeism and girls dropping out of school, thus impeding their education and overall well-being.^{12,32} There is a need for interventions that not only provide access to resources but also address the deep-rooted socio-cultural barriers and knowledge deficits surrounding menstruation in India.

CURRENT INTERVENTIONS IN INDIA

Various educational and governmental interventions, such as Menstrual Hygiene Management (MHM) under the *Swachh Bharat Mission*, fight age-old taboos.* Every school in the southern state of Kerala must provide a sanitary product vending machine as part of Mandatory Hygiene Management (MHM)^{34, 35}. A gender-neutral mobile app, SAATHIYA³³ by the Indian Ministry of Health and Family Welfare, has been active since February 2017, educating boys and girls about puberty and menstruation. The mobile app makers collaborated with the United Nations Population Fund (UNFPA)³⁴ to create content and provide accurate information on menstrual health. Other interventions, such as *Sacchisaheli* (a workshop),³⁵ *Vikalp* (an education website),³⁶ and *Menstrupedia* (an app),³⁷ are circulated and distributed in India to help young adolescent girls learn about menstrual health and make informed choices.

A 2019 study analyzed all the interventions available in India regarding menstrual health and sanitary products.³⁸ A content analysis of the current menstrual health education and training materials used to communicate menstrual health was conducted. The online survey, which consisted of 391 participants, 52 interviews, and two focus groups, indicated that although the current interventions focus on detailed and descriptive information available, there is a disconnect between parents’ and teachers’ expectations regarding introducing the topic to adolescent youth.³⁹ The cultural attitude is a barrier to teaching adolescents about menstrual and puberty health material, and at what stage of life is controversial. During their analysis, the researchers reported adolescent females being educated on menstrual health post-menarche, making them experience complex emotions, confusion, shock, fear, stress, and sadness. These experiences may induce psychological trauma, impacting the self-image, sense of identity, and self-awareness among these adolescent girls. Hence, the researchers recommended forming an intervention with a feminist mindset to ensure that menstrual health and access to sanitary products are respectfully delivered to adolescents so that the adolescents experience this stage of their life in a physically and psychologically safe environment⁴⁰

EFFECTIVENESS OF INTERVENTIONS

The current interventions have their challenges. For example, the *SAATHIYA* app under the Indian government is only available in Hindi, which restricts its reach. On average, 60% of the people in India do not speak Hindi.³³⁻³⁷ So, disseminating the information in English, Hindi, and Gujarati will have a far greater reach than just in Hindi. Another app, *Menstrupedia*, designed a pop-up "Ask me" prompt for open communication between the users, but failed because of the topic's cultural taboos, and the user's background was ignored. Instead, learners and educators should feel safe when browsing or reading material on a sensitive topic.³⁹

A successful intervention should demonstrate improvement in the menstrual health and hygiene (MHH) knowledge and practices among adolescent rural girls. A previous study evaluated the effectiveness of a comprehensive approach using handbooks, PowerPoint presentations, and interactive sessions. It concluded that the education intervention may significantly improve knowledge and practices.^{40,41} Furthermore, the impact of a single educational session providing education on menstrual health and best hygiene practices, resulted in substantial increase in knowledge (88.8%) and healthy menstrual hygiene practices (such as using sanitary napkins as compared to unhygienic clothes) scores (44.6%) demonstrated the effectiveness of health education based interventions.^{42,43} Another research study assessed the efficacy of an intervention in Odisha (a state in India) implemented a three-month program providing menstrual health education to the adolescent girls, and the results showcased the benefits of long-term reinforcement and education can help combat the stigma, taboo and misconceptions surrounding MHH.⁴⁴ A similar study aimed at enhancing the knowledge of adolescent schoolgirls and integrating education with capacity building and creating supportive school environments, yielded identical results where knowledge level significantly increased over time and the understanding of MHH was achieved through healthy practices such as consistent use of sanitary napkins.³⁸ As the research suggests, comprehensive models that address various aspects of MHH are most effective in promoting MHH and increasing knowledge about it.

Several studies emphasized the importance of school infrastructure and support systems in enhancing MHH. A research study found that model schools with enhanced MHH programs had significantly better disposal facilities (55% v 29%, $p < 0.001$), correlated with lower school absenteeism.⁵² Research also suggests that infrastructure should be incorporated by establishing dedicated spaces and support structures, promoting the use of sanitary products, and reducing absenteeism.⁴⁵ A previous study noted the positive impact of government initiatives, such as the 'Khushi scheme,' on school attendance.⁴⁶ Khushi scheme is an initiative by the Department of Health and Family Welfare of Odisha, which provides free sanitary napkins in Government and aided schools to girls in grades 6 to 12. This scheme aims to promote menstrual health and reduce

school dropout rates.⁴⁶ These findings underscore the critical role of creating enabling environments through improved facilities, dedicated spaces, and supportive policies.

According to previous research studies, several key factors contributed to the successful implementation of interventions. Tailored content, addressing the specific needs of the target population, was crucial.^{41,45-47} Combining education with improved product access and infrastructure, multi-component interventions yielded the most comprehensive improvements.^{45,48} Capacity building of local stakeholders, such as teachers and health workers, was a significant factor, including community engagement, policy support, continuous reinforcement, and addressing cultural barriers.⁴⁷ These findings suggest that effective menstrual health interventions should be comprehensive, culturally sensitive, and supported by broader policy and community engagement initiatives.

EVIDENCE-BASED PRACTICE

Scientific literature highlights the pivotal role of social and behavioral change communication (SBCC) interventions in influencing health behaviors and driving social change.⁴⁹ SBCC campaigns leverage targeted communication strategies to encourage individuals to adopt and sustain healthier practices, often addressing deep-seated cultural and social norms.⁵⁰ One notable example is the *GARIMA* program, an SBCC intervention designed and funded by UNICEF to normalize menstruation as a typical experience for adolescent girls in India. *GARIMA* utilized a multifaceted approach, incorporating audio-visual tools, print media, and skill-based activities to engage the target audience. By allowing participants to choose topics of interest aligned with local customs and cultural contexts, the program ensured relevance and resonance with the adolescents it sought to impact.³⁸ Its overarching aim was to challenge menstrual taboos by fostering open discussions and empowering adolescent girls to ask questions and seek clarity on this sensitive subject. The outcomes of the *GARIMA* intervention were significant, demonstrating the effectiveness of SBCC techniques in achieving both individual and societal change. Adolescent girls who participated in the program showed a marked increase in knowledge about puberty and reproductive health. Additionally, the intervention fostered positive attitudes toward gender roles and encouraged interpersonal communication on topics previously shrouded in stigma. *GARIMA* also succeeded in improving menstruation-related health management and reducing restrictive practices rooted in cultural taboos.⁴⁹ These findings emphasize the potential of SBCC interventions to address sensitive health issues like menstruation by creating safe and engaging spaces for learning and dialogue. As evidenced by *GARIMA*, such programs can dismantle stigmas, enhance knowledge, and promote sustainable behavior change, serving as a model for future initiatives in similar contexts.^{51,52}

IMPLICATIONS FOR FUTURE RESEARCH

Including boys and men in intervention research related to menstrual health is the key.^{53,54} Most of the research conducted in the region has concentrated on the hardware aspects of menstrual health, specifically providing products to manage menstrual flow. While addressing the physical aspects of menstruation is essential, focusing solely on this area perpetuates the invisibility and silence surrounding menstruation. Consequently, it does not effectively eliminate the stigma and taboo associated with it. Therefore, conducting intervention research that includes boys and men in menstrual health education is crucial.

India is a diverse country where various cultures and traditions coexist. In some communities, menstruation is acknowledged and celebrated as a natural and empowering phase of life.⁵⁵ By researching to capture and document these unique experiences, we can bring to light the positive narratives surrounding menstruation. Amplifying these stories can play a crucial role in challenging and ultimately eliminating the stigma that often shrouds this vital aspect of transition in one's life.

Incorporating menstrual education into the school curriculum is essential. Schools play a significant role in the social and academic development of adolescents. Teaching students about menarche, menstruation, and how to manage it can help reduce stigma, fear, embarrassment, and discomfort. This education can also positively influence attitude and behavior, improving outcomes such as increased school attendance and class participation.⁵⁶

CONCLUSION

Addressing menstrual health in India requires a nuanced, inclusive, and culturally sensitive approach. The challenges faced by current interventions, such as limited language options and cultural taboos, underscore the need for tools that are both accessible and relatable to diverse populations. Future interventions can bridge critical gaps in menstrual health education by integrating multiple languages, creating safe spaces for open communication, and customizing content to reflect local contexts. A user-centric learning tool that accommodates diverse interaction models, user roles, and media environments has the potential to empower adolescents with knowledge and confidence

while challenging the stigma surrounding menstruation. This approach promotes awareness and aligns with India's broader goals of improving health equity and justice by fostering open dialogue about sensitive topics such as menstrual health. An environment needs to be created where menstrual health is normalized, understood, and supported across all levels of society through collaboration on inclusive interventions.

DISCLOSURE STATEMENT

The authors have no relevant financial disclosures or conflicts of interest.

ABOUT THE AUTHORS

DR. KRUTI S. CHALIAWALA, PHD, CHES®

Dr. Kruti S. Chaliawala is an Assistant Professor at the School of Public and Population Health at Boise State University. Her research areas include sexual and mental health among adolescents, international student health disparities, and minority health. As an early career professional, Dr. Chaliawala intends to start a conversation on sexual health among various demographics to ensure that overall health needs are addressed through resources and interventions.

DR. PRIYANKA DUBEY, PHD, MSW

Dr. Priyanka Dubey is an Assistant Professor at the School of Public and Population Health at Boise State University. Her research areas include sexual and reproductive health and menstrual health among transgender and non-binary populations in India and the US. As an early-career professional, Dr. Dubey's research focuses on understanding social and structural barriers to achieving menstrual, sexual, and reproductive health and on informing programs to promote health equity.

Submitted: April 07, 2025 EDT. Accepted: April 23, 2025 EDT.

Published: May 16, 2025 EDT.



This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CCBY-4.0). View this license's legal deed at <http://creativecommons.org/licenses/by/4.0> and legal code at <http://creativecommons.org/licenses/by/4.0/legalcode> for more information.

REFERENCES

1. Garg R, Goyal S, Gupta S. India moves towards menstrual hygiene: subsidized sanitary napkins for rural adolescent girls issues and challenges. *Matern Child Health J*. 2012;16(4):767-774. doi:[10.1007/s10995-011-0798-5](https://doi.org/10.1007/s10995-011-0798-5)
2. WaterAid. Module one: Menstrual Hygiene Basics. 2012. http://www.wateraid.org/~media/Files/Global/MHM%20files/Module1_HR.pdf
3. Garg S, Anand T. Menstruation-related myths in India: strategies for combating it. *J Family Med Prim Care*. 2015;4(2):184-186. doi:[10.4103/2249-4863.154627](https://doi.org/10.4103/2249-4863.154627)
4. Kaiser S. Menstrual Hygiene Management. 2008. <http://www.sswm.info/content/menstrual-hygiene-management>
5. Sommer M, Sahin M. Overcoming the taboo: advancing the global agenda for menstrual hygiene management for schoolgirls. *Am J Public Health*. 2013;103(9):1556-1559. doi:[10.2105/AJPH.2013.301374](https://doi.org/10.2105/AJPH.2013.301374). PMID:23865645
6. Alexandra G, Iyer L, Kasen P, Mazzola F, Peterson K. Menstrual Health in India: Country Landscape Analysis. 2016. https://menstrualhygieneday.org/wp-content/uploads/2016/04/FSG-Menstrual-Health-Landscape_India.pdf
7. Anand E, Singh J, Unisa S. Menstrual hygiene practices and its association with reproductive tract infections and abnormal vaginal discharge among women in India. *Sex Reprod Healthc*. 2015;6(4):249-254. doi:[10.1016/j.srhc.2015.06.001](https://doi.org/10.1016/j.srhc.2015.06.001)
8. Bayo S, Bosch FX, de Sanjose S, et al. Risk factors of invasive cervical cancer in Mali. *Int J Epidemiol*. 2002;31(1):202-209. doi:[10.1093/ije/31.1.202](https://doi.org/10.1093/ije/31.1.202)
9. Das P, Baker KK, Dutta A, et al. Menstrual hygiene practices, WASH access and the risk of urogenital infection in women from Odisha, India. *PLoS One*. 2015;10(6):e0130777. doi:[10.1371/journal.pone.0130777](https://doi.org/10.1371/journal.pone.0130777). PMID:26125184
10. Sharma S, Mehra D, Brusselaers N, Mehra S. Menstrual hygiene preparedness among schools in India: a systematic review and meta-analysis of system- and policy-level actions. *Int J Environ Res Public Health*. 2020;17(2):647. doi:[10.3390/ijerph17020647](https://doi.org/10.3390/ijerph17020647). PMID:31963862
11. Joshi P, Sharma R, Jain G, Kaur G, Jelly P. Status, gaps and challenges in menstrual health in India: a systematic review. *Prev Med Res Rev*. 2025;2(3):129-137. doi:[10.4103/PMRR.PMRR_74_24](https://doi.org/10.4103/PMRR.PMRR_74_24)
12. Kailasraj KH, Basavaraju V, Kumar J, Manjunatha S. A study of knowledge and practice of menstrual hygiene among adolescent school girls in rural and urban field practice area of RajaRajeswari Medical College and Hospital, Bangalore, India. *Int J Community Med Public Health*. 2020;7:665. doi:[10.18203/2394-6040.ijcmph20200446](https://doi.org/10.18203/2394-6040.ijcmph20200446)
13. Hindustan Latex Family Planning Promotion Trust (HLFPPT). Sakhi. <http://www.hlfppt.org/images/sakhi.pdf>
14. van Eijk AM, Sivakami M, Thakkar M, et al. Menstrual hygiene management among adolescent girls in India: a systematic review and meta-analysis. *BMJ Open*. 2016;6:e010290. doi:[10.1136/bmjopen-2015-010290](https://doi.org/10.1136/bmjopen-2015-010290)
15. SOS Children's Village. Social taboos damage the health of girls and women. 2014. <http://www.soschildrensvillages.org.uk/news/blog/social-taboos-damage-the-health-of-girls-and-women>
16. Ten VT. Menstrual hygiene: A neglected condition for achieving several millennium development goals. Europe External Policy Advisors. 2007. http://www.eepa.be/wcm/component?option=com_remository&func=startdown/id/26/
17. Khanna A. Menstrual practices and reproductive problems: a study of adolescent girls in Rajasthan. *J Health Manag*. 2005;7(1):91-107. doi:[10.1177/097206340400700103](https://doi.org/10.1177/097206340400700103)
18. Bhattacharya S, Singh A. How effective is the Menstrual Hygiene Scheme? An evaluation study from North India. *Int J Community Med Public Health*. 2016;3(9):2584-2586. doi:[10.18203/2394-6040.ijcmph20163077](https://doi.org/10.18203/2394-6040.ijcmph20163077)
19. National Health Mission (NHM). Menstrual Hygiene Scheme (MHS). 2016. <https://nhm.gov.in/showfile.php?lid=393>
20. Kaur K, Arora B, Singh GK, Neki NS. Social beliefs and practices associated with menstrual hygiene among adolescent girls of Amritsar, Punjab, India. *J Int Med Sci Acad*. 2012;25:69-70.
21. Kirk J, Sommer M. Menstruation and body awareness: linking girls' health with girls' education. Published online 2006.

22. Bheenaveni R. Beliefs and practices in women health. *Promote Healthy Life*. Published online 2010.
23. Bhartiya A. Menstruation, religion, and society. *Int J Soc Sci Humanit*. 2013;3(6):523. doi:[10.7763/IJSSH.2013.V3.296](https://doi.org/10.7763/IJSSH.2013.V3.296)
24. India Times. 12-year-old girl commits suicide after teacher scolds her over period blood stain on uniform. 2017. <https://www.indiatimes.com/news/india/12-year-old-girl-commits-suicide-after-teacher-scolds-her-over-period-blood-stain-on-uniform-328834.html>
25. Tan DA, Haththotuwa R, Fraser IS. Cultural aspects and mythologies surrounding menstruation and abnormal uterine bleeding. *Best Pract Res Clin Obstet Gynaecol*. 2017;40:121-133. doi:[10.1016/j.bpobgyn.2016.09.015](https://doi.org/10.1016/j.bpobgyn.2016.09.015)
26. Chawla J. Mythic origins of menstrual taboo in Rig Veda. *Econ Polit Wkly*. 1994;29(43):2817-2827.
27. Puri S, Kapoor S. Taboos and myths associated with women's health among rural and urban adolescent girls in Punjab. *Indian J Community Med*. 2006;31(3):168-170.
28. Kumar A, Srivastava K. Cultural and social practices regarding menstruation among adolescent girls. *Soc Work Public Health*. 2011;26:596-604. doi:[10.1080/19371918.2010.525144](https://doi.org/10.1080/19371918.2010.525144)
29. United Nations Children's Fund (UNICEF). *Guidance on Menstrual Health and Hygiene*. UNICEF; 2021. <https://www.unicef.org/documents/guidance-menstrual-health-and-hygiene>
30. Aakar Innovations. Affordable Sanitary Pads: Aakar. Aakar Social Ventures. 2023. <https://aakarinnovations.com>
31. Sumpter C, Torondel B. A systematic review of the health and social effects of menstrual hygiene management. *PLoS One*. 2013;8(4):e62004. doi:[10.1371/journal.pone.0062004](https://doi.org/10.1371/journal.pone.0062004)
32. Arora N. Menstruation in India: Ideology, politics, and capitalism. *Asian J Women's Stud*. 2017;23(4):528-537. doi:[10.1080/12259276.2017.1386817](https://doi.org/10.1080/12259276.2017.1386817)
33. United Nations Population Fund. *Kishore Kishori Kaun, Kya hota hai yaun.*; 2013.
34. Sachhisaheli. 2017. <http://sachhisaheli.org/>
35. Vikalpdesign. Communication is Serious Business – It Is a Process. 2017. http://www.vikalpdesign.com/seedhi_satchi_baath.html
36. Menstrupedia. Friendly Guide to Healthy Periods. 2017. <https://www.menstrupedia.com/>
37. Ministry of Drinking Water and Sanitation. *Menstrual Hygiene Management: National Guidelines*. Published online 2015.
38. Tuli A, Dalvi S, Kumar N, Singh P. "It's a girl thing": Examining challenges and opportunities around menstrual health education in India. *ACM Trans Comput Hum Interact*. 2019;26(5). doi:[10.1145/3325282](https://doi.org/10.1145/3325282)
39. Alekhya G, Parida SP, Giri PP, et al. Effectiveness of school-based sexual and reproductive health education among adolescent girls in urban areas of Odisha, India: A cluster randomized trial. *Reprod Health*. 2023;20(105). doi:[10.1186/s12978-023-01643-7](https://doi.org/10.1186/s12978-023-01643-7)
40. Khan N, Mahishale A. An educational intervention on situational awareness and understanding of menstrual hygiene, knowledge, taboo, and its practices among school-going adolescent girls in rural areas of Belagavi, Karnataka. *Arch Med Health Sci*. 2024;12(2):214-222. doi:[10.4103/amhs.amhs_13_24](https://doi.org/10.4103/amhs.amhs_13_24)
41. Government of India. Khushi Scheme. MyScheme. Accessed April 21, 2025. <https://www.myscheme.gov.in/schemes/ks>
42. UNICEF. *Breaking Silence... A Communication Strategy for Menstrual Health and Hygiene Management*. UNICEF; 2014.
43. UNICEF. *A Communication Framework: Menstrual Management*. UNICEF; 2015.
44. Ghimire S, Gahatraj NR, Shrestha N, Manandhar S, Dhital SR. Effects of health education intervention on menstrual hygiene knowledge and practices among the adolescent girls of Pokhara Metropolitan, Nepal. *PLoS One*. 2024;19(9):e0291884. doi:[10.1371/journal.pone.0291884](https://doi.org/10.1371/journal.pone.0291884)
45. Sivakami M, van Eijk AM, Thakur H, et al. Effect of menstruation on girls and their schooling, and facilitators of menstrual hygiene management in schools: Surveys in government schools in three states in India, 2015. *J Glob Health*. 2018;8(2). doi:[10.7189/jogh.09.010408](https://doi.org/10.7189/jogh.09.010408)
46. Nagar S, Mathur A, Chaudhary S. School-based intervention and its effect on menstrual awareness of rural and tribal adolescent girls. *Int J Agric Extens Soc Dev*. 2024;7(4S):24-29. doi:[10.33545/26180723.2024.v7.i4Sa.519](https://doi.org/10.33545/26180723.2024.v7.i4Sa.519)

47. Vayeda M, Ghanghar V, Desai S, et al. Improving menstrual hygiene management among adolescent girls in tribal areas of Gujarat: an evaluation of an implementation model integrating the government service delivery system. *Sex Reprod Health Matters*. 2021;29(2). doi:[10.1080/26410397.2021.1992199](https://doi.org/10.1080/26410397.2021.1992199)
48. Ramaiya A et al. How does a social and behavioral change communication intervention predict menstrual health and hygiene management: A cross-sectional study. *BMC Public Health*. 2019;19(1039):1-12. doi:[10.1186/s12889-019-7359-z](https://doi.org/10.1186/s12889-019-7359-z). PMID:31375074
49. Sood S, Shefner-Rogers C, Skinner J. Health communication campaigns in developing countries. *J Creat Commun*. 2014;9(1):67-84. doi:[10.1177/0973258613517440](https://doi.org/10.1177/0973258613517440)
50. Phulambrikar RM, Kharde AL, Mahavarakar VN, Phalke DB, Phalke VD. Effectiveness of interventional reproductive and sexual health education among school-going adolescent girls in rural areas. *Indian J Community Med*. 2019;44(4):378-382. doi:[10.4103/ijcm.IJCM_155_19](https://doi.org/10.4103/ijcm.IJCM_155_19)
51. Majeed J, Sharma P, Ajmera P, Dalal K. Menstrual hygiene practices and associated factors among Indian adolescent girls: A meta-analysis. *Reprod Health*. 2022;19(148). doi:[10.1186/s12978-022-01453-3](https://doi.org/10.1186/s12978-022-01453-3)
52. Dalai S, Malini DS, Satapathy D, Patro S, Jena D. Menstrual health empowerment in adolescent girls: Assessing the impact of school-based health education on menstrual hygiene practice. *Int J Sci Res*. 2024;13(2). doi:[10.36106/ijsr/7808950](https://doi.org/10.36106/ijsr/7808950)
53. Dubey P, Sivakami M. Open and inclusive communication is key to managing menstrual health. *Nat Hum Behav*. 2024;8(11):2077-2078. doi:[10.1038/s41562-024-02054-9](https://doi.org/10.1038/s41562-024-02054-9)
54. Mason L, Sivakami M, Thakur H, et al. 'We do not know': a qualitative study exploring boys perceptions of menstruation in India. *Reprod Health*. 2017;14:174. doi:[10.1186/s12978-017-0435-x](https://doi.org/10.1186/s12978-017-0435-x)
55. Sarkar B. 4 festivals in India that celebrate women and menstruation. In Sync Blog by Nua. September 29, 2020. Accessed April 22, 2025. <https://nuawoman.com/blog/menstruation-festival-in-india/>
56. Hennegan J, Montgomery P. Do Menstrual Hygiene Management Interventions Improve Education and Psychosocial Outcomes for Women and Girls in Low and Middle Income Countries? A Systematic Review. *PLOS ONE*. 2016;11(2):e0146985. doi:[10.1371/journal.pone.0146985](https://doi.org/10.1371/journal.pone.0146985)

SUPPLEMENTARY MATERIALS

Author Biographies

Download: <https://www.bcpheview.org/article/138060-a-narrative-review-of-interventions-on-menstrual-health-for-adolescent-girls-in-rural-india/attachment/283004.docx>
