



Empowering Women: Menstrual Hygiene and Sustainable Development Goals in Chandigarh

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Abstract

Introduction: Menstrual hygiene management (MHM) plays a crucial role in advancing Sustainable Development Goals (SDGs) by intersecting with gender equality, education, health, and environmental sustainability. This article explores how good menstrual hygiene practices contribute to sustainable development by analysing the relationship between MHM and the broader SDG framework.

Methodology: Using a descriptive methodology, this study investigates the current menstrual hygiene practices of women in Chandigarh City to understand the challenges they face and the available facilities. Primary data was collected through Google Forms from 120 women of reproductive age, revealing insights into behaviours impacting menstrual hygiene.

Findings: The findings of this research enrich the discourse on how menstrual hygiene supports SDGs 3 and 6 (clean water and sanitation), promotes good health, and advances gender equality. The study proposes recommendations to enhance Chandigarh City's menstrual hygiene practices through legislative and community interventions, aligning with sustainable development objectives. By highlighting women's challenges in Chandigarh, this study connects menstrual hygiene management with SDGs, paving the way for future research and policies that promote gender equality, well-being, and sustainable development in urban areas.

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Introduction

Menstrual hygiene management, or MHM, has been receiving more and more attention lately, especially in light of the Sustainable Development Goals (SDGs). Though it affects half of the world's population, menstruation is a normal occurrence that is sometimes ignored and vilified. An estimated 500 million women lack access to menstruation products and sufficient facilities for managing period hygiene, according to the World Bank. Education, health, safety, and human development can all be adversely affected by poor menstrual health and cleanliness, which can further worsen social and economic disparities (The World Bank, 2022). To achieve the SDGs, especially in the areas of gender equality, education, and health, the UN has acknowledged the significance of menstruation health and cleanliness (Loughnan *et al.*, 2020) ^[1]. However, when it comes to sustainably managing menstrual hygiene, there are still a lot of knowledge and practice gaps. This study is to investigate

the supportive elements for sustainable menstrual hygiene management practices, emphasizing the vital roles of inexpensive and suitable menstrual hygiene products, knowledge of recommended practices, and access to water, sanitation, and hygiene (WASH) facilities (Pednekar *et al.*, 2022) ^[6]. We can work toward accomplishing the SDGs and advancing the welfare and empowerment of women and girls by tackling these issues.

Significance of Addressing Menstrual Hygiene in the Context of Sustainable Development Goals

The importance of menstrual hygiene in the Sustainable Development Goals (SDGs) is complex and linked to several SDGs. Goal 3 (Good Health and Well-Being), Goals 4 (Quality Education), 5 (Gender Equality), 6 (Clean Water and Sanitation), and Goal 12 (Responsible Consumption and Production) are a few of the SDGs that are directly related to managing menstrual hygiene (United Nations, 2018). The

obstacles to education and gender equality may be removed by guaranteeing access to clean water, sanitary facilities, and suitable menstrual hygiene products. This would eventually improve women's and girls' general well-being and give them more power.

Menstrual hygiene issues are also crucial for maintaining women's and girls' dignity, busting misconceptions, and tearing down social barriers-all of which are critical to building resilient and sustainable communities (United Nations, 2018). Moreover, women's empowerment and gender equality-two fundamental SDGs-depend on sustainable menstrual hygiene management practices (Pednekar *et al.*, 2022) [6]. Therefore, it is possible to advance numerous interrelated development objectives and eventually contribute to a more sustainable and inclusive future by recognizing and promoting menstrual hygiene within the SDGs.

Purpose of Research and its Relevance

Research on menstrual hygiene management (MHM) and sustainable development goals (SDGs) is important for several reasons. First of all, as MHM has a direct bearing on women's and girls' empowerment and well-being, which is a major goal of the SDGs, tackling MHM is crucial to attaining gender equality (Sommer *et al.*, 2021) [1]. Second, there are connections between sustainable MHM practices and several SDGs, such as access to clean water and sanitation, health and well-being, and high-quality education (Pednekar *et al.*, 2022) [6]. Thirdly, insufficient MHM might worsen economic and social inequality, impeding the realization of SDGs (Patterson, 2019) [5]. Because of this, research in this field is essential for determining what conditions allow for sustainable MHM practices, which can help achieve several SDGs and ultimately advance the well-being, respect, and socioeconomic integration of menstruating people.

Importance of MHM in Achieving Gender Equality and Overall Sustainable Development

The management of menstrual hygiene (MHM) is essential to attaining gender equality and general sustainable development. Many Sustainable Development Goals (SDGs), such as SDG 3 (Good Health and Well-Being), SDG 4 (Quality Education), SDG 5 (Gender Equality), and SDG 6 (Clean Water and Sanitation), can only be attained with proper MHM. Since menstrual health and cleanliness have a direct influence on women's and girls' health, education, and social involvement, addressing these issues is crucial to enable progress toward the SDGs. The objectives of gender equality and sustainable development may be furthered by guaranteeing that all women and girls can control their menstruation without embarrassment or limitation, as well as by giving them access to clean water, sanitary facilities, and menstrual health education. Thus, it is essential to

acknowledge and deal with MHM to advance gender equality and general sustainable development

Review of Literature

Vandana *et al.* (2020) in their study assessed the perception and practices of menstrual hygiene among women of reproductive age group in Shimla city of Himachal Pradesh. A total of 640 participants were selected through stratified random sampling from the 34 wards of Shimla, Municipal Corporation. The study found that 88% of the respondents were using sanitary pads but their disposal practices were not appropriate. The majority are disposing of their menstrual hygiene product in disposable bins. There is not much awareness of disposing of menstrual hygiene products by eco-friendly methods.

Mahajan & Kaushal (2017) [2] in their study assessed menstrual hygiene and knowledge about menstrual hygiene among adolescent girls of Government Girls Senior Secondary School, Lakkar Bazar, Shimla. 100 girls from class 9th to 12th were selected by convenience sampling. The study was descriptive in nature. The study found that 71% of girls had insufficient knowledge about menstrual hygiene. The research found that 19% of girls were poor, 69% of girls were fair and 12% of girls followed good menstrual practices, and there was a significant positive association between good menstrual knowledge and a mother's education. The study concluded that there is a need to encourage safe and hygienic practices among adolescent girls and bring them out of traditional beliefs, misconceptions, and taboos regarding menstruation.

Objectives of the Study

1. To understand the Knowledge attitude and perception of young Women towards menstrual hygiene management in Chandigarh city.
2. To investigate the Impact of Menstrual Hygiene Management (MHM) on Health and Well-being in the Context of Sustainable Development Goals (SDGs).
3. To Assess the Environmental Sustainability of Menstrual Hygiene Products and Disposal Methods.

Research Methodology

In the present study, a cross-sectional descriptive design is employed to investigate menstrual hygiene management among young women in Chandigarh City.

Sampling Strategy and Data Collection Process

Purposive sampling was used in the study and the sample of 120 young women was collected through Google Forms. Google form was distributed among the women of the age group of 15-30 who are studying in any educational institution in Chandigarh city.

Data Analysis and Findings

Table 1: Socio-economics profile of the respondents

S. No.	Variables	Value	Numbers	Percentage
1.	Age	15- 20 years	21	18
		20-25 years	47	39
		25-30 years	52	43
2.	Education	Secondary	21	17
		Graduation Post-graduation & above	91	76
			8	7
3.	Category	General	87	72

		SC	19	16
		ST	1	1
		OBC	13	11
4.	Marital	Married	118	98
	Status	Un-married	2	2
5.	Residential	Rural	19	16
6.	area	Urban	101	84
	Family	Nuclear	87	73
	structure	Joint	33	27
7.	Financial	Above Poverty Line	83	69
	status	(APL)	28	23
		Below Poverty Line	9	8
		(BPL)		
		Antodaya Anna Yojana		
		(AAY)		

The current research study was conducted on a sample of 120 young women, whose ages ranged from 15 to 30 years. The participants are categorized based on their age, with 18% of the women falling between the ages of 15 to 20 years, 39% between 20 to 25 years, and 43% between 25 to 30 years. In terms of educational status, 17% of the respondents are studying in school, 76% are in college, and 7% are pursuing post-graduation. The sample are drawn from various social categories, including general, SC, ST, and OBC, with 72% of

the participants belonging to the general category, 16% to the SC category, 1% to the ST category, and 11% to the OBC category. The majority of the respondents (98%) are unmarried, while only 2% were married. Furthermore, 73% of the women were living in a joint family, while 27% are from a nuclear family. The study also included women from Below Poverty Line (BPL) families, with 23% of the participants falling under this category.

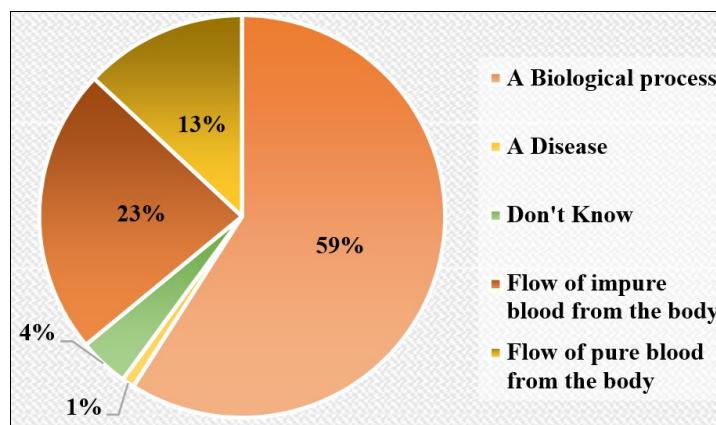


Fig 1: Knowledge about Menstruation

The above figure shows the percentage of respondents' knowledge about menstruation. The present study shows that 72% of respondents know that menstruation is a biological process and it is the flow of pure blood from the body, 23% of

respondents believe that menstruation is the flow of impure blood from the body, 1% of the respondents consider it a disease. Additionally, 4% of respondents don't know anything about it.

Table 2: Information regarding menstruation

S. No.	Variable	Value	Number	Percentage
1.	Age of Menarche	11-13 years	37	31
		13-15 years	41	34
		15-17 years	35	29
		Above 17 years	7	6
2.	Were you aware of menstruation before it started?	Yes	99	83
		No	21	17
3.	Source of Information	Mother	58	59
		Teacher	17	17
		Friend	14	14
		Sister	5	5
		Others	5	5
4.	Reaction to menarche	Afraid	20	17
		Anxious	16	13
		Embarrassing	14	12
		Shocking	14	12

		I did not feel anything	44	37
		unusual	7	6
		Happy		

The above table presents demographic and attitudinal data concerning the age of menarche, pre-awareness of menstruation, sources of information regarding menstruation, and reactions to menarche among the surveyed population. In terms of the age of menarche, the majority of respondents experienced it between the ages of 13 to 15 years (34%), followed by those within the 11 to 13 years bracket (31%), with smaller proportions in the 15 to 17 years range (29%) and above 17 years (6%). Regarding awareness of menstruation prior to its onset, the vast majority (83%) reported being informed beforehand, primarily by their mothers (59%), followed by teachers (17%), friends (14%), sisters (5%), and other sources (5%) including father, brother, social media etc. Concerning reactions to menarche, the most prevalent response was feeling nothing unusual (37%), followed by happiness (6%), while smaller proportions reported feeling afraid (17%), anxious (13%), embarrassed (12%), or shocked (12%). These findings shed light on the demographic and psychological dimensions surrounding the onset of menstruation within the studied population.

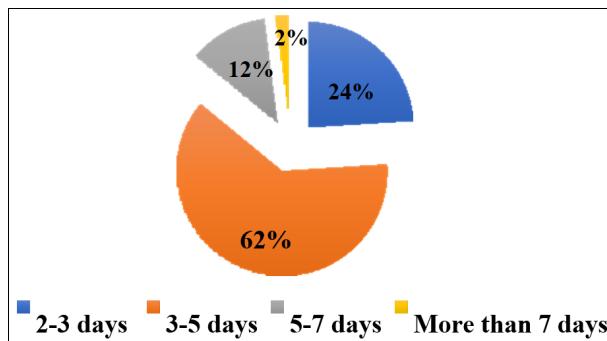


Fig 2: Duration of menstruation

The above figure reflects the duration of menstruation among the surveyed population, categorized into four distinct intervals: 2-3 days, 3-5 days, 5-7 days, and more than 7 days. Among the respondents, the most prevalent duration of menstruation was reported to be between 3 to 5 days, accounting for 62% of the total sample. This suggests that a significant majority experience menstruation for this duration, which is consistent with typical menstrual cycles reported in medical literature.

Following this, 24% of the respondents reported a menstruation duration of 2 to 3 days. While this duration is shorter than the average menstrual cycle, it is not uncommon, and variations in menstrual duration are considered normal within the population.

A smaller proportion of the surveyed population, constituting 12%, reported menstruation lasting between 5 to 7 days. Although this duration is slightly longer than the average, it still falls within the range of normal menstruation duration.

Lastly, only 2% of the respondents reported experiencing menstruation lasting more than 7 days. This duration, termed menorrhagia, is considered abnormal and may indicate underlying health concerns such as hormonal imbalances, uterine fibroids, or other reproductive health issues. However, given the small percentage in this category, it appears to be relatively uncommon within the studied population.

All things considered, the information sheds light on the variation in menstrual length within the sample. Most people

who menstruate experience it for periods of time that fall within the usual range; very few report shorter or longer periods. It is imperative that healthcare providers comprehend these variances in order to provide appropriate information and solutions for patients who are suffering from menstrual abnormalities. To address menstrual health issues and enhance overall reproductive well-being, more studies might explore the variables influencing menstruation length, such as hormonal variations, lifestyle factors, and underlying health disorders.

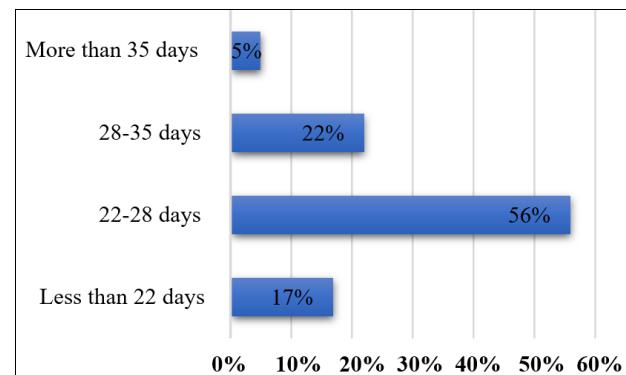


Fig 3: Interval of Menstruation

The above figure presents frequency distributions related to menstruation duration amongst the 120 female participants in the study.

These results indicate that the majority of the women experienced menstruation durations ranging from 22 to 28 days (approximately 56%). Conversely, shorter cycles (less than 22 days) occurred less frequently (17%). Longer cycles (over 35 days) were relatively rare, accounting for about 5%. These observations suggest that the average length of menstruation periods for this particular cohort falls within the typical range observed globally.

Table 3: Sanitary material used by the Young Women

S. No.	Variables	Number	Percentage
1.	Sanitary Pads	96	80%
2.	Only cloth	2	2%
3.	Both sanitary pads and cloth	19	16%
4.	Menstrual Cup	3	3%
	Total	120	100%

The data provided presents the percentage distribution of different menstrual materials used by a group of individuals. The table indicates that out of the total sample, 80% use sanitary pads, 2% use only cloth, 16% use both sanitary pads and cloth, and 3% use menstrual cups as their primary menstrual material.

Sanitary pads are the most widely used menstrual material in the sample, with 80% of individuals relying on them for menstrual hygiene. This high percentage suggests that sanitary pads are the preferred choice for the majority of the individuals surveyed. Sanitary pads are popular due to their convenience, accessibility, and ease of use.

Only 2% of the sample exclusively use cloth for menstrual hygiene. This low percentage indicates that cloth is not a commonly preferred option among the individuals surveyed.

A notable proportion (16%) of individuals use both sanitary pads and cloth during their menstrual cycle. This suggests that some individuals prefer to combine different menstrual materials, possibly to address specific needs or to have a backup option. The use of both sanitary pads and cloth reflects a diverse approach to menstrual hygiene within the sample.

The data also shows that 3% of the individuals surveyed use menstrual cups as their preferred menstrual product. While this percentage is relatively low, it indicates that there is a minority within the sample who opt for this alternative and sustainable menstrual material.

These preferences are likely influenced by a range of factors including convenience, cultural norms, sustainability considerations, and individual comfort. Understanding these preferences is important for ensuring access to a variety of menstrual materials that meet the diverse needs and preferences of individuals.

Table 4: Duration of using a sanitary material

S. No.	Variables	Numbers	Percentage
1.	After 6 hours	75	62%
2.	After 8 hours	30	25%
3.	After 12 hours	6	5%
4.	In a day	1	1%
5	Only when the pad gets soaked with blood	8	7%
	Total	120	100%

The data provided presents the percentage distribution of the duration of using the same menstrual material among a group of young women. The table indicates that out of the total sample, 62% change their menstrual absorbent every 6 hours, 25% change every 8 hours, 5% change every 12 hours, 7% change only when the pad gets soaked with blood, and 1% change once a day.

The majority of individuals, accounting for 62% of the sample, change their menstrual absorbent every 6 hours. This is a recommended practice to maintain proper menstrual hygiene and prevent the risk of infection. Changing the absorbent every 6 hours ensures that the menstrual material does not become saturated with blood, reducing the risk of bacterial growth and unpleasant odours.

A significant proportion (25%) of individuals change their menstrual absorbent every 8 hours, it is still within the acceptable range for maintaining proper menstrual hygiene. However, it is important to note that the duration of use may vary depending on the individual's menstrual flow and the absorbency of the menstrual material.

A small percentage (5%) of respondents change their

menstrual absorbent every 12 hours. This duration is longer than the recommended duration for changing menstrual absorbents, and it may increase the risk of infection and unpleasant odours. It is important to educate individuals about the importance of changing menstrual absorbents frequently to maintain proper menstrual hygiene.

A minority (7%) of respondents change their menstrual absorbent only when the pad gets soaked with blood. This practice is not recommended as it may lead to prolonged use of the same menstrual absorbent, increasing the risk of infection and unpleasant odours.

Only 1% of respondents change their menstrual absorbent once a day. This duration is significantly longer than the recommended duration for changing menstrual absorbents and may increase the risk of infection and unpleasant odours.

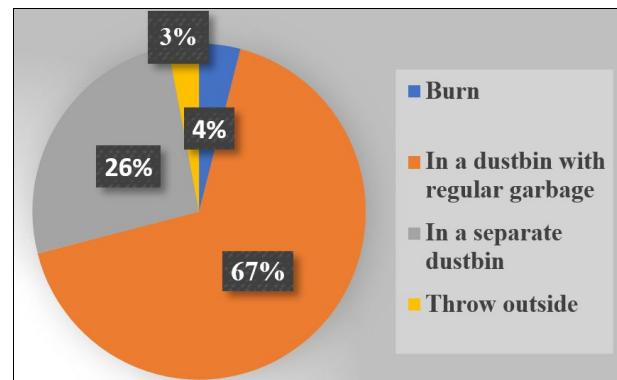


Fig 4: Sanitary material disposal practices

The data provided presents the percentage distribution of different disposal practices of menstrual materials. The figure indicates that out of the total sample, 67% dispose of menstrual materials in a dustbin with regular garbage and 26% use a separate dustbin for disposal, which are common practices and are often the most convenient method of disposal for many individuals. A small percentage (4%) of individual's burn menstrual materials for disposal. While this practice may be intended to reduce the volume of waste, it is important to note that burning menstrual materials can release harmful toxins into the environment and is not considered a safe or environmentally friendly disposal method.

A minority (3%) of individuals dispose of menstrual materials by throwing them outside. This practice can lead to environmental pollution and is not in line with proper waste management practices. It is important to educate individuals about the potential negative impact of this disposal method and encourage the adoption of more responsible practices.

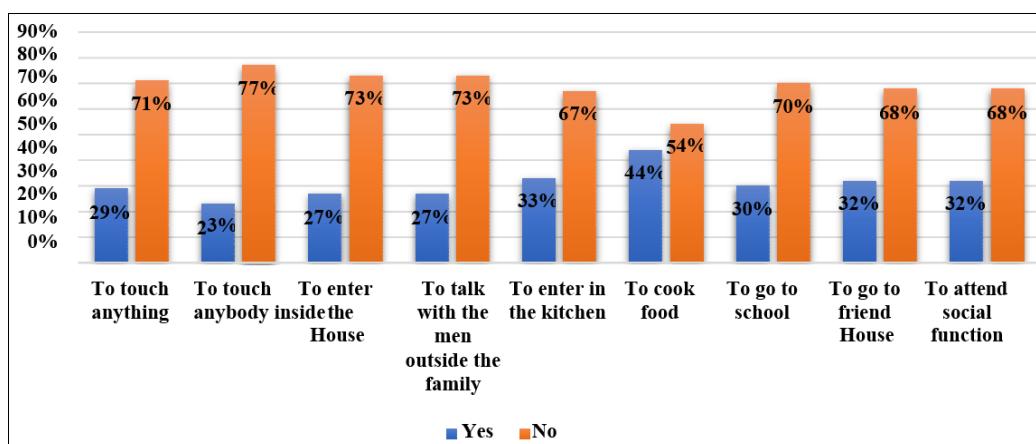


Fig 5: Social restrictions followed by women

The above data shows a glimpse into the socio-cultural practices related to menstruation within a specific community. By examining the percentages of acceptance and rejection for various behaviours, the researchers gain valuable insights into the cultural norms and attitudes surrounding this natural biological process.

Physical and Social Restrictions

The figures reveal that a significant portion of the community holds reservations about engaging in regular activities during menstruation. For instance, 71% of respondents express reluctance to touch anything, while 77% are averse to physical contact with others. Additionally, 73% are hesitant to enter homes or have conversations with men outside their families during this time. These statistics indicate the presence of widespread taboos and restrictions associated with menstruation, leading to limitations on daily interactions and movements.

Domestic and Culinary Practices

The data also sheds light on the impact of menstruation on domestic and culinary activities. Approximately two-thirds of the community (67%) are disinclined to allow individuals menstruating to enter the kitchen, while 54% discourage them from cooking food. These findings suggest that there are specific spaces and tasks within the household that are considered off-limits during menstruation, reflecting deeply ingrained cultural beliefs and practices.

Educational and Social Participation

In terms of education and social engagement, the data indicates that 70% of the community is hesitant about allowing individuals to attend school or educational institutes while menstruating. Similarly, 68% are reluctant to have them visit friends' houses or attend social functions during this time. These numbers highlight the existence of social barriers that may impede the full participation of menstruating individuals in educational and social activities, potentially leading to feelings of exclusion and stigma.

Discussion

The findings of a study on menstrual hygiene management (MHM) underscore its critical role in achieving Sustainable Development Goals (SDGs). Improved MHM practices directly impact SDG 3 by enhancing women's health and well-being, SDG 4 through increased school attendance and performance, and SDG 5 by challenging gender inequalities. Furthermore, access to proper MHM aligns with SDG 6 by ensuring clean water and sanitation, contributing to SDG 8 by promoting decent work opportunities and supporting SDG 12 by encouraging responsible consumption and production. These connections highlight the multifaceted impact of MHM practices on advancing the broader agenda of sustainable development goals.

Goal 3: Good Health and Well-Being

In the present study, A substantial proportion (majority or 72%) of respondents knew menstruation as a normal biological process involving the expulsion of unadulterated blood from the vaginal canal. This comprehension of menstruation as a natural phenomenon is pivotal in fostering optimal female health, aligning with Sustainable Development Goal 3's focus on "good health and well-being". Notably, approximately one-fourth of the respondents, espoused misconceptions regarding menstruation, perceiving

it as the discharge of impure bodily fluids. To counter such misperceptions and bolster accurate health literacy, interventions aimed at disseminating precise health information and nurturing comprehensive well-being are imperative (Sommer *et al*, 2021^[9]; Shah *et al*, 2023).

The data concerning the duration of sanitary material usage underscores the necessity of adhering to proper menstrual hygiene practices, such as regular changing of menstrual absorbents, to mitigate infection risks and uphold health. While 62% of respondents conform to the recommended interval of changing sanitary material every six hours, a concerning 48% of women exhibit a tendency to overuse the same sanitary product, heightening susceptibility to urinary tract infections (UTIs) and related ailments. This observation aligns with Goal 3 of the Sustainable Development Goals (SDGs), advocating for practices that foster overall well-being and health through the promotion of sound menstrual hygiene behaviours.

Goal 4: Quality Education

Awareness about menstruation before its onset is crucial for promoting good health among girls. In the present study, 83% of the women reported being informed beforehand, primarily by their mothers and teachers, suggesting that education about menstruation reaching young girls, contributes positively to SDG 3 and SDG 4. Ensuring comprehensive and inclusive education about reproductive health, including menstruation, is essential for achieving gender equality and empowering individuals to make informed decisions about their health. Lack of awareness about menstruation and adequate facilities such as clean toilets in schools and other educational institutions can impact the educational experiences of girls and female teachers, hindering their ability to engage effectively in the learning process (Sommer *et al*, 2021)^[9].

Goal 5: Gender Equality

The study reveals socio-cultural practices and taboos surrounding menstruation, which often restrict women's participation in daily activities, including education and social engagement, during menstruation. Addressing these taboos and promoting gender-inclusive practices is crucial for advancing gender equality and ensuring that menstruating individuals have equal opportunities and rights.

Goal 6: Clean water and Sanitation

Ensuring that everyone has access to water and sanitation is goal 6 of the sustainable development goals. Ensuring menstrual health management for all individuals who experience menstruation, along with maintaining hygiene and safeguarding the health and welfare of menstruators and their families, depends critically on the availability and accessibility of water, sanitation, and hygiene (WASH) services.

Water, sanitation, and hygiene are all related to menstrual health. All persons who menstruate, including women and girls, require access to clean, safe, and culturally appropriate facilities where they can discreetly and safely dispose of their menstrual products. In order to preserve their dignity and adequately clean their menstrual products, they also need access to enough water.

Goal 7: Responsible Consumption and Production

The data on the use and disposal of menstrual materials reflects consumption patterns and waste management practices. In the study, 80% of the women are using non-

biodegradable sanitary pads which are the thread for the environment if are not disposed of in sustainable ways. Promoting sustainable menstrual products, such as menstrual cups, and encouraging proper disposal methods aligns with the goal of responsible consumption and production by reducing waste and minimizing environmental impact.

Overall, addressing menstrual health and challenging socio-cultural taboos surrounding menstruation are essential steps towards achieving multiple Sustainable Development Goals, including those related to health, gender equality, education, and sustainable consumption and production. By promoting awareness, education, and access to resources, societies can work towards creating more inclusive and equitable environments for all individuals, regardless of their menstrual status.

Conclusion

The study's findings highlight the crucial connection between menstrual hygiene management (MHM) and the Sustainable Development Goals (SDGs), highlighting the significance of treating MHM as a cornerstone of sustainable development. By looking at the many problems and effects of insufficient MHM, including those related to gender equality, education, and health, we have brought attention to the necessity of using inclusive and comprehensive strategies to address these problems.

Moving forward, it is imperative to integrate MHM into broader development agendas, allocate resources for MHM programs, and prioritize research to better understand the barriers and opportunities for advancing menstrual hygiene within the context of sustainable development. By doing so, we can create a world where every individual, regardless of gender, can manage their menstruation safely, hygienically, and with dignity, thereby contributing to a more equitable and sustainable future for all.

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