

Sanitation Condition and its Association with Menstrual Hygiene of Non-Tribal and Tribal Communities in Selected Districts of West Bengal

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ABSTRACT

Sanitation is described as providing facilities and services to dispose of human urine and faeces safely. Clean water and sanitation facilities during menstruation are essential for women to take care of themselves hygienically and confidently. To achieve the goal, a descriptive cross-sectional study of menstruation women in the selected areas was suggested. First, data on cleanliness and menstrual hygiene were obtained from 435 non-tribal and 353 tribal women who were menstruating. Following that, the data is arranged in a comparative analytical fashion. The data was analysed using the Statistical Package for Social Sciences (SPSS) version 20.0, which included descriptive and inferential statistics. Gender disparity, discriminatory social norms, cultural taboos, poverty, and a lack of basic conveniences such as latrine and sanitary products may cause menstrual health complicated. The shortage of toilet, water, and waste disposal facilities in their homes and workplaces make the situation more complex. Furthermore, women avoid using the public toilet because of its poor condition and often lack running water; as a result, they are only used in extreme instances. The Indian government has a programme to provide toilets to every family, but this issue has received little attention. Menstrual hygiene management is an essential requirement in the country as well. However, the taboos associated with the menstrual cycle and unhygienic sanitation conditions created a barrier.

Key words: Menstruation, Two pit latrine, One pit latrine, Working Women, Non-Working Women

Introduction

Human behaviours, facilities, and services all work together to create a proper sanitary system to battle infections and grow up healthily. On another side women without basic sanitation facilities are forced to use community latrines or practise open defecation, putting their health and livelihoods at risk. The practice of defecating in public can be hazardous to one's health. When combined with poor hygiene standards, exposure to faecal matter remains a primary cause of infant mortality, illness, and under-

nutrition. Open defecation is terrible for community health and well-being, and it can also be bad for individual dignity and safety, especially for women. Women are more vulnerable to assault when forced to go longer distances from home to access proper hygiene facilities. Menstruation and a lack of sanitation play a significant role in this, with the lack of privacy and limited acquire of water facilities in private and public places.

The objective of the study

Environmentally sustainable, culturally relevant,

healthy and adequate hygienic sanitation facility and that M.H.H. services should be built securely and appropriately is essential for every woman. Furthermore, WASH facilities must enable every woman to handle menstruation safely, comfortably and privately. Therefore, in this study, the variables that considered knowing the facilities and services scenario of the community regarding sanitation facility and menstrual hygiene management are:

- Are the community enjoying the facility of a proper accessible toilet?
- What kinds of problems are associated with a toilet in private as well as public spaces?
- What kinds of issues are attached to menstruation and toilet facility?

Methodology and Sample size

Step I: Based on census data from 2011, a descriptive cross-sectional survey considered for the lower quartile value for the lowest concentration of Schedule tribe districts. (Howrah, Purba Medinipur, Coach Bihar, South 24 Pargana). Step II: After that Lowest concentration of Schedule tribe 'Community Development Blocks' are selected. Then the Gram Panchayat is selected on the basis of the pilot survey after those villages are selected random sampling technique. Step III: From the selected Gram Panchayat

- Classification of communities' → based on Ethnicity
↓
Scheduled Tribe Population
Non Schedule Tribe Population
- Classification of communities' → on the basis of Economic Activities
↓
Working Class (a. Organized Sectors b. Un-organized Sector) Non-working class

Significant of the study

Women's access to clean water and proper hygiene can create a lower risk of infection and mortality. Proper sanitation for women, safe water access, and improved hygiene saves their lives during the most sensitive period, i.e. during menstruation. Furthermore, personal care items for women that are used during menstruation need a proper latrine facility. A comparative view between non-working and working sector latrine facilities can portray an ana-

lytical outlook in this regard.

Study area:

- **Howrah District:** According to historical records, the advent of the industrial revolution coincided with the appearance of Howrah as a century-long (Sikdar, 2000). Primarily this district found in a tropical wet climatic zone (Harindranath and Saxena, 1988).
- **Purba Medinipur District:** The district of Purba Medinipur is the administrative entity of the Medinipur division's southernmost district. The Purba Medinipur district is principally attained by the Lower Indo-Gangetic plain and the eastern coastal plains (Mondal, 2012).
- **Coach Bihar District:** This district is geographically part of the Himalayan Tarai region (Sarkar, 2013). The weather in Cooch Behar generally pleasant throughout the year, with a few exceptions (District Industrial Profile 2018-19 Coochbehar, 2019).
- **South 24 of Pargana:** On March 1, 1986, the current District of South 24 Parganas was established. The southern part of the district, mainly in the Sundarban coastal zone, is prone to natural disasters (Mahadevia *et al.*, 2012).
- **Darjeeling:** Darjeeling, often known as the "Queen of the Hills," is a hill station in India is an ideal gateway for those looking to be in tune with nature, nestled among the undulating slopes with the gleaming Mt Kanchenjunga towering above the azure sky. This district is located in eastern India, amid the foothills of the Himalayas, and is the state's northernmost district. The district headquarters are in Darjeeling (Biswas, 2013).
- **Purulia:** The Chota Nagpur Plateau's lowest step is formed by the Purulia district. In general, the landscape is undulating with scattered hills. Under the States Reorganization Act and the Bihar and West Bengal (Transfer of Territories) Act 1956, the Manbhum district was partitioned between Bihar and West Bengal, and the current Purulia district was established on November 1, 1956 (Mahato and Gupta, 2016).

Sanitation scenario and World's Perspective

It is estimated that 500 million women do not have

access to basic menstruation hygiene facilities worldwide. Inadequate WASH (water, sanitation, and hygiene) facilities, especially in public spaces such as schools, offices, and health centres, can be a significant barrier for them. One of the main reasons for the inadequate sanitation facilities girls worldwide tries to keep their menstruation. They cannot manage their menstruation properly, hygienically, and with dignity without adequate sanitary facilities. Women encounter difficulty managing their menstrual hygiene in a private, safe, and dignified manner because of the lack of separate bathrooms with closed doors and privacy (Water Aid, 2013). Many women prefer to stay at home during their menstruation rather than manage their period in the public area due to the WASH (Water- Sanitation & Hygiene) related difficulties. Compulsory attendances to workplaces create difficulty concentrating due to leakage, stench, or discomfort (Sommer, 2013). A recent World Bank Group (W.B.G.) study reported that one of the most complicated interactions between water and gender shows how ignoring menstrual hygiene needs contributes to women's inferior status. The World Bank is working to advance the M.H.M. (Menstrual Hygiene Management) agenda to achieve gender equality in society (Das, 2017). Gender discrepancies in WASH are sometimes considered to be solved by providing adequate WASH facilities. However, while technology solutions are necessary, they do not address decision-making power or resource control. Women, who have less power in their homes or communities, such as in the selection and management of WASH services, may be denied access to adequate services for their requirements. Although it is evident that success toward S.D.G. 6: Clean Water and Sanitation are integrally related to progress toward S.D.G. 5: Gender Equality, there is a scarcity of data to track progress toward these targets (United Nations: Sustainable Development GOALS, 2016).

People without basic sanitation facilities are forced to use unhygienic latrines or practise open defecation, putting their health and livelihoods at risk. Defecating in open areas (such as fields, shrubs, or near bodies of water) can be dangerous to one's health and have devastating consequences for one's well-being, dignity, and safety. In India, WASH (Water, Sanitation, and Hygiene) contributes to sanitation in all aspects. WASH (Water Sanitation and Hygiene) in India contributes to sanitation facilities in all aspects. In Swachh Bharat Mission, the Na-

tional Rural Drinking Water Programme (NRDWP), WASH in Schools (including preschools known as "anganwadis"), WASH in Health Facilities, and district-wide WASH interventions supporting planning and implementation, as well as incorporating behaviour change into state and national guidelines in the ground for sanitation hygiene. UNICEF gives aid to lagging states and districts by providing technical assistance, assisting alternative service delivery options, and mobilizing public institutions and partners, including the corporate sector (Gurung *et al.*, 2019). Access to toilets is also linked to people's socioeconomic standing in undeveloped countries. The main goal of excellent sanitation is to offer a healthy living environment for everyone, safeguard natural resources, including surface water, groundwater, and soil, and provide individuals with safety, security, and dignity when defecating or urinating along with proper menstrual provision.

Types of Toilets

Historically, sanitation has been associated with the earliest stages of human civilization. However, many households in developing countries use unhygienic toilets and open defecation and urinate. For that purpose, the United Nations Sustainable Development Goal 6 wants to achieve sufficient sanitation facilities and end open defecation by 2030 (Goal 6: Clean water and sanitation).

Some specific types of a toilet are primarily found in rural and urban areas in private and public places.

Flush Toilet: A standard flush toilet consists of a ceramic bowl (pan) coupled to a cistern (tank) on the "up" side for rapid water filling and a drainpipe on the "down" side for effluent removal.

Vacuum Toilet: A vacuum toilet is a basic flush toilet connected to a vacuum sewage system that suction waste.

Float Toilet: A floating toilet is a toilet that is erected on a platform above or floats on water. Excreta is collected in a tank or barrel rather than being dumped in the ground.

Pit Latrine: A simple pit latrine gathers human excreta in a pit or trench and does not require a water seal. A drop hole allows the excreta to fall directly into the pit. A simple slit trench toilet to more complicated systems with seats or squatting pans and ventilation systems are examples of this toilet style.

Vault Toilet: A vault toilet is constructed as a non-flush toilet with a sealed container (or vault) sunk in

the ground to collect the waste, which is kept underground until it is pumped out.

Urine-diverting Toilet: Urine diversion toilets have two compartments, one for urine and one for faeces.

Portable toilet: The portable toilet contained typically self-contained units that are made to be easily moved.

Chemical toilet: Chemical toilets collect human waste in a holding tank and treat it with chemicals to reduce odour (Shaw, 2014).

Results and Discussion

In this research, specific variables are selected to determine the sanitation condition of the targeted population and mention its relation with menstrual hygiene management of non-working and working women categories of selected non-tribal and tribal districts.

The United Nations creates a deadline of 2025 to end open defecation. The Sustainable Development Goals (S.D.G.s) aims to achieve accessible, adequate and equitable sanitation and hygiene for all (Target 6.2). Eradicate open defecation by 2030 is the main aim of the U.N. (United Nations: Sustainable Development GOALS). In Table 1a, it is seen that among the 208 non-working women respondents, 150 households have toilet facilities. However, the stunning fact is that 58 respondents are still practising open defecation. The reasons for open defecation are

varying. It is sometimes voluntary, semi-voluntary or involuntary. The reasons for this practice among the respondents are i) 16% respondents were considered open defecation as a personal activity that made them feel independent as they could choose different venues, as they wanted regularly. ii) 48% of respondents said that open defecation was perceived to be deeply influenced by the prevailing societal practice since historical times. Women expressed open defecation as a regular habit for which they had never felt the need for alternatives; iii) 36% said that they were compelled to go for open defecation due to the absence of a latrine at home. Table 1a also revealed that in the case of the working field, 51 respondents' still practising open defecation. Among them, 51% replied that insufficient and lack of separate ladies toilet bound them to go outside because they were not comfortable to share the toilet with the male member because of a lack of privacy. 24% forced to do open defecation due to the poor quality of the toilet in working place. Whereas 20% of respondents reply that they were forced to do in open defecation because of the insufficient water flow in the toilet. 5% of women were practising open defecation because there was no toilet in working place. On the other hand, among the tribal community (Table 1b), 13 among the non-working women choose open defecation whereas, in the non-working community, the scenario is completely reversed. Among the 296 respondents, 239 women

Table 1a. Showing the Latrine facility among Non-working and Working for Non-Tribal communities n=435

Total no. of Respondents Non-working Respondents	Total number of House Hold Latrine (H.H.L.)/Total no. of working place latrine	Use of H.H.L./Working place Latrine	Number of respondents comfortable with open defecation at home/at workplace
208	150	150	58
working Respondents 227	47	47	51

Source of Data: Primary data surveyed (2018-2019)

Table 1b. Showing the Latrine facility among Non-working and Working for Tribal communities n=353

Total no. of Respondents Non-working Respondents	Total number of House Hold Latrine (H.H.L.)/Total no. of working place latrine	Use of H.H.L./ Working place Latrine	Number of respondents comfortable with open defecation at home/at workplace
57	44	44	13
working Respondents 296	22	22	239

Source of Data: Primary data surveyed (2018-2019)

forced to use open defecation. The reason that was emerged for this activity was the unavailability of latrine facilities in the workplaces. This condition is mainly predominated among the tea garden workers in Darjeeling districts and wood collectors from Purulia districts. Women who are practising open defecation are not willing to use constructed latrine because i) they thought that latrine facility might be

creating some restriction for their movements ii) since the water availability is not sufficient so women thought that in the constructed latrine that will be dirty iii) if latrine is constructed on the workplace then men and other visitors maybe also use it, and that will not be secure for them.

Table 2(a, b, c & d) represents a relationship with open defecation among the non-working and work-

Table 2a. Showing the relationship between educational status and income level with open defecation of Non-tribal non-working community n=58

Open defecation at home	No.	Condition of House Hold Latrine					
Yes	58	Education level		Income level			
		Illiterate to class 5	Class 6 to class 10	> class 10	< 70,000	70,000-273000	> 273000
		37	12	9	52	6	-

Source of Data: Primary data surveyed (2018-2019)

Table 2b. showing the relationship between educational status and income level with open defecation of Tribal non-working community n=13

Open defecation at workplace	No.	Condition of House Hold Latrine					
Yes	13	Education level		Income level			
		Illiterate to class 5	Class 6 to class 10	> class 10	< 70,000	70,000-273000	> 273000
		11	2	-	9	4	-

Source of Data: Primary data surveyed (2018-2019)

Table 2c. Showing the relationship between educational status and income level with open defecation of Non-tribal working community n=58

Open defecation at home	No.	Condition of House Hold Latrine					
Yes	51	Education level		Income level			
		Illiterate to class 5	Class 6 to class 10	> class 10	< 70,000	70,000-273000	> 273000
		16	30	5	37	14	-

Source of Data: Primary data surveyed (2018-2019)

Table 2d. Showing the relationship between educational status and income level with open defecation of Tribal working community n=239

Open defecation at workplace	No.	Condition of House Hold Latrine					
Yes	239	Education level		Income level			
		Illiterate to class 5	Class 6 to class 10	> class 10	< 70,000	70,000-273000	> 273000
		159	52	28	235	4	-

Source of Data: Primary data surveyed (2018-2019)

ing respondents of the non-tribal and tribal communities. In the case of non-working non-tribal and tribal communities (2a and b), the common fact is that the number of open defections is adversely correlated with the education level of the respondents and their income status among the non-tribal category. In both cases, the number of open defection respondents was highest in the illiterate to class 5 education groups and surprisingly decreased. In the case of the highest income level, the number of open defection rates was nil. Both the sections (i.e. non-tribal and tribal) results reflect in the same manner (Table 2c and 2d). It is mainly seen that families of low-income groups, on average, do not spend more than 2–5% of their income on excreta disposal. The respondents blamed the inability to own a toilet facility in their households. Due to a lack of financial resources, they cannot construct a household latrine due to lack of funds, and on the other side, it also reflects that construction of toilets is not on their priority list. Families are not receiving government assistance in the majority of situations due to faulty or missing papers. According to the findings, education and income, cultural values and beliefs, and possession of a toilet facility substantially impact open defecation in both the home and the workplace of the respondents for a decay. A higher education degree may increase a respondent's and their family's revenue-generating potential, allowing them to build a toilet facility and even adopt superior technology, but the section is a handful. As expected, income has a negative correlation with open defecation; the higher a household head's income, the less likely his or her family members are to practise open defecation. It shows that those with a higher income are more likely to have toilet facilities. This finding is consistent with the prior hypothesis that increasing income will allow households to cover the expense of fundamental requirements such as sanitation. According to the findings, education is also a great redeemer: it is one way to find the final solution to open defecation practises, particularly in improving understanding and implementation of rural environmental sanitation and health bye-laws eliminating negative traditional attitudinal prejudices.

(Fig 1a & b) Most of the respondents, who are engaged in open defecation, worked in the unorganized sector because of no toilet facility in the working ground. For that reason, women are forced to perform open defecation. Women working as a

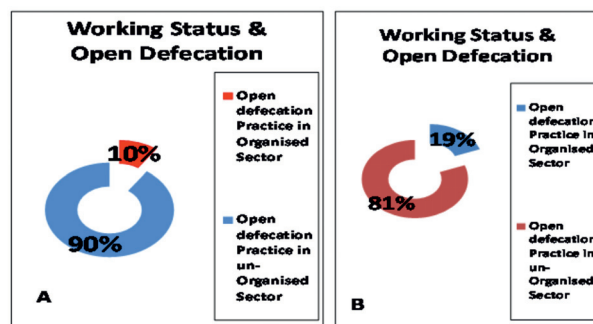


Fig 1a. showing the relation between working category and open defecation practice Non-tribal communities n= 13 & Fig 1b showing the relation between working category and open defecation practice Tribal community n=239

Source of Data: Primary data surveyed (2018-2019)

maid or hawker and travelling long distance in public transport have no proper facility in the latrine. Most public and community toilets are unhygienic and unfavourable to use, which indulgent open defecation. On the other hand, women engaged in the organized sector still practice open defecation, primarily due to no separate ladies toilet. Sanitation presents various reasons for the failure of interventions, motives to build latrines, and the continuation of open defecation in the unstructured sector of the studied locations. Women defecated at a distance from their homes as part of their daily livelihood and household routines while collecting fodder, wood, water, grazing livestock, or working in agricultural fields. Women performed O.D. (Open Def-

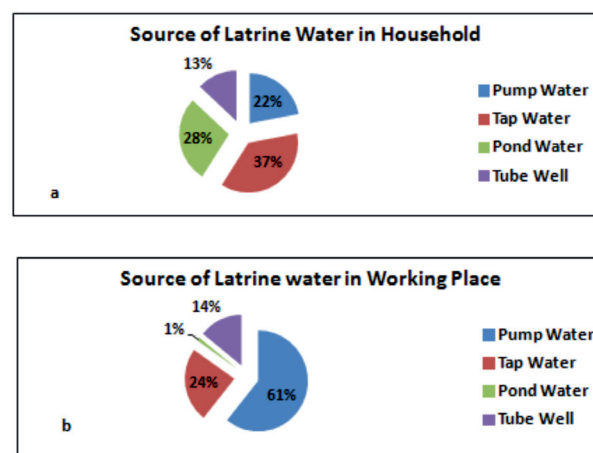


Fig. 2a&b. Showing the Source of Latrine Water in Household and working place of Non-tribal communities n=435

Source of Data: Primary data surveyed (2018-2019)

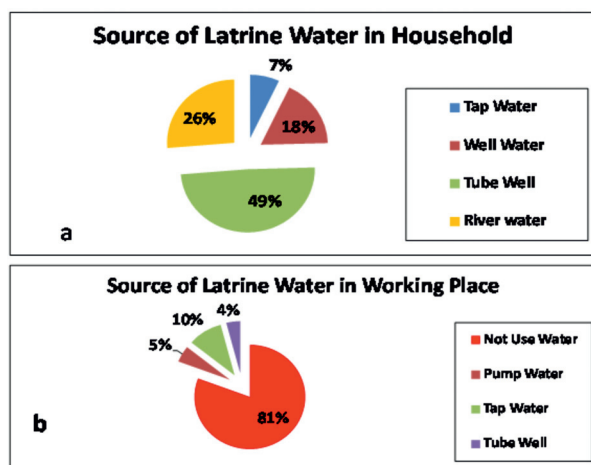


Fig. 3a&b. Showing the Source of Latrine Water in Household & in working place of Tribal communities n=353

Source of Data: Primary data surveyed (2018-2019)

ecation) to save time rather than returning home to use the latrine, regardless of whether they had latrines at home or not. Proper sanitation-related information does not reach all social groups. Open defecation reflects social inequities in various ways and locations; distance captures these socio-spatial linkages.

Adequate and affordable water in toilets is needed to clean the toilet, offer handwashing facilities with soap regularly, and manage menstrual hygiene properly. Among the non-working respondent

of the non-tribal community (Fig 2a), 37% use tap water, 28% used pond water, 22% used tube well water and only 13% use pump water in the latrine. In the case of working women (2b), 61% of respondent used to pump water in the organized sector, but in un-organized sector tap water (24%) and tube well water (14%) is mainly used. Only 1% of respondents used pond water. In the research among the tribal women (Fig 3a), 7% use tap water, 28% used pond water, 18% used healthy water and only 26% use river water and 49% use tube well water in the household latrine. In working women in the tribal community (3b), 4% used tube well water, 5% of respondents used to pump water, and 10% used tap water. In the case of open defecation, 81% were not using water in the field. However, among the non-working and working sectors, the respondents who practice open defecation did not use water before or after open defecation. However, in all cases, the quality of water is neglected. Water tasting by personal or by the authority is not considered as a prime factor. So the bacterial loading and its effect on the women's health, especially during the most sensitive time, i.e. during menstruation, cannot judge. Availability, Accessibility, Acceptability and Quality of water is the prime concern but primarily neglected in the household and the unorganized and organized working sector. This condition makes a toilet use too in latrine flushing, post-defecation anal washing and washing hand and anal vagina during menstruation.

Table 3a. Condition of household latrine among the non-working community of Non-tribal population n=150

House Hold Latrine Constructed by	Number of H.H.L.	Condition of House Hold Latrine					
		Water-logging problem	Security problem	Fetor problem	Air & light problem	Insect fear	Space problem
Own	99	89	8	53	90	83	96
Government	46	46	46	43	46	43	46
Community	5	5	5	5	5	4	5

Source of Data: Primary data surveyed (2018-2019)

Table 3b. Condition of working place latrine among the working community of non-Tribal population n=47

House Hold Latrine Constructed by	Number of Working Place Latrine	Condition of Working place Latrine					
		Water-logging problem	Security problem	Fetor problem	Air & light problem	Insect fear	Space problem
Own	15	12	2	15	11	13	15
Government	27	27	23	27	27	24	26
Community	5	5	4	5	5	5	5

Source of Data: Primary data surveyed (2018-2019)

Table no 3a and 3b give a scenario of latrine condition of a household as well as working ground where water logging problem, security problem, fetor problem, air and light problem, insect fear problem and space problem are considered in respect of own constructed toilet, the government constructed toilet and community toilets among the non-tribal respondents. The above research reflects that household latrines that the respondents construct are more secure than government constructed toilets and community toilets. Various hygiene-related problems are associated with respondents' own constructed toilets and government-constructed toilets, but community toilet conditions are more vulnerable. In the case of working place toilet respondents own constructed toilets give more security to the women. However, government constructed toilets are not secure a hygienic position, and community toilets are most unhygienic for use in both cases. However, in both the cases, i.e. in-household latrine and in working place sanitation water logging problem, security problem, fetor problem, air and light problem, insect fear problem and space problem are the common factors. This negative situation created an obstacle for the state free from open defecation. Therefore, the unhygienic situation is not only associated with health-related issues but is also associated with women's dignity and safety.

Table no 4a and b give a scenario of latrine condition of a household as well as working ground where water logging problem, security problem, fetor

problem, air and light problem, insect fear problem and space problem are considered in respect of own constructed toilet, the government constructed toilet and community toilets among the tribal respondents. The respondents' constructed household latrines are more secure than government-built toilets and community toilets. Various hygiene-related issues are also linked to respondents' home built toilets and government-built toilets; however, community toilet conditions are more vulnerable (4a). Respondents' own designed toilets provide higher security to women in workplace toilets (4b). On the other hand, government-built toilets do not provide a proper sanitary environment, and community toilets are particularly unsanitary. Community toilets, on the other hand, are in more susceptible areas (4a). In workplace toilets, respondents' own constructed restrooms provide more security to women (4b). On the other side, government-built toilets do not provide a sanitary environment, and community toilets are especially unclean. The waterlogging problem, security problem, fetor problem, air and light problem, insect fear problem, and space problem are common factors in both scenarios, i.e. in-house latrine and in-workplace toilet. This lousy scenario posed a barrier to the creation of a state free of open defecation. As a result, the unsanitary situation is linked to health-related issues and women's dignity and safety.

Fig 3a shows that 71% of latrines are two pits with a proper roof and closed-door system in the

Table 4a. Condition of household latrine among the non-working community of Tribal population n=44

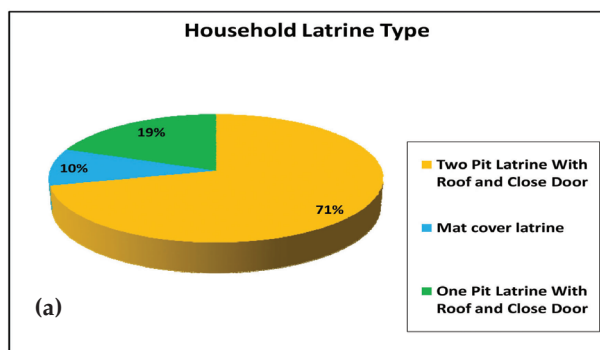
House Hold Latrine Constructed by	Number of H.H.L.	Condition of House Hold Latrine					
		Water-logging problem	Security problem	Fetor problem	Air & light problem	Insect fear	Space problem
Own	12	12	6	12	11	12	12
Government	29	29	26	29	29	28	29
Community	3	3	3	3	3	3	3

Source of Data: Primary data surveyed (2018-2019)

Table 4b. Condition of working place latrine among the working community of Tribal population n=44

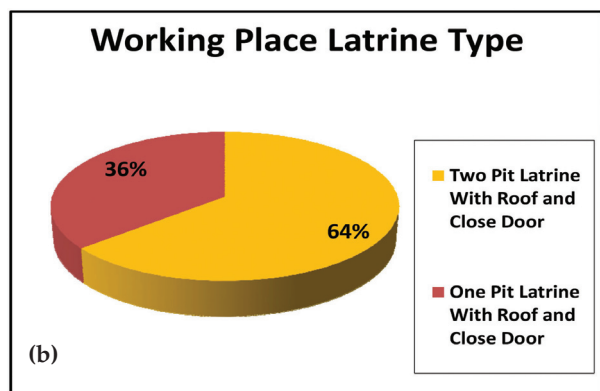
House Hold Latrine Constructed by	Number of Working Place Latrine	Condition of Working place Latrine					
		Water-logging problem	Security problem	Fetor problem	Air & light problem	Insect fear	Space problem
Own	-	-	-	-	-	-	-
Government	40	34	40	40	40	40	40
Community	4	4	4	4	3	3	4

Source of Data: Primary data surveyed (2018-2019)



Source of Data: Primary data surveyed (2018-2019)

Fig. 3a. Showing the type of latrine in household



Source of Data: Primary data surveyed (2018-2019)

Fig. 3b. Showing the type of latrine in Working Place

household, whereas 19% are one pit with a proper roof and closed-door system, but 10% of household latrine is still mat cover. These mat cover toilets have no security and also not hygienic. The conditions of water facilities are very much disappointing. In monsoon, these latrines are mostly unable for use. Insect fear and odour related issues are predominant in these mat cover latrines. Women are not comfortable using this type of toilet, but they do not have an alternative. Mostly they are finding more security in mat cover latrine in comparison to open

defecation. However, these problems are ignored, and conditions are not improved over the year. Fig 3b shows that 64% of latrines are two pits with a proper roof and closed-door system in the household, whereas 36% are one pit with a proper roof and closed-door system. Though one and two pits close door latrine are used in working place security-related problem is still there, and that situation obstructs the dignity of women. After the fulfilment of one pit latrine, in 3% of cases, the reservoirs are not clean, making the toilet miserable. In that case, women are a force to choose open defecation without finding alternatives.

Figure 4a shows that 88 per cent of family latrines are two pits with a proper roof and closed-door system, 9% are one pit with a proper roof and closed-door system, and 3% of household latrines are still mat cover. These mat-covered toilets are both unsafe and unsanitary. The water supply is inadequate. During the rains, these latrines are generally inaccessible. Insect phobia and stink problems are com-

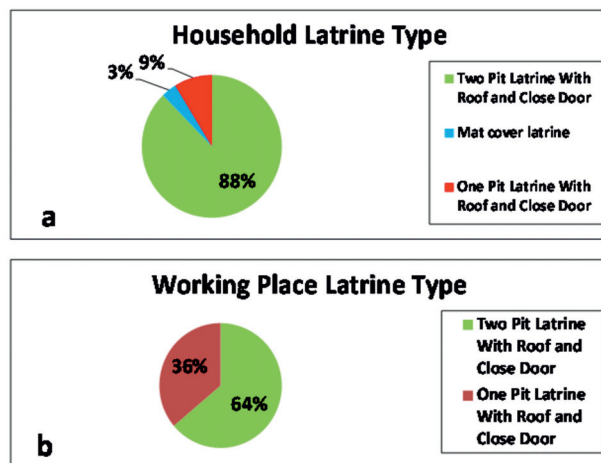


Fig 4a. showing the type of latrine in the household, and 4b showing the type of latrine in the Working Place of the Tribal population

Source of Data: Primary data surveyed (2018-2019)

Table 4a. showing the correlation between the number of families and the number of the toilet in the household of Non-tribal population

Correlations		Family type	Number of Household Latrine
Family type	Pearson Correlation	1	-.063
	Sig. (2-tailed)		.191
Number of Household Latrine	Pearson Correlation	-.063	1
	Sig. (2-tailed)	.191	

**. Correlation is significant at the 0.01 level (2-tailed).

Source of Data: Primary data surveyed (2018-2019)

Table 4b. Showing the correlation between the number of respondents and the number of the toilet in working for place Non-tribal population

Correlations		Number of the toilet in working place	Number of people using the latrine
Number of the toilet in working place	Pearson Correlation	1	-.638**
	Sig. (2-tailed)		.000
	N		353
Number of people using the latrine	Pearson Correlation	-.638**	1
	Sig. (2-tailed)	.000	
	N		353

** . Correlation is significant at the 0.01 level (2-tailed).

Source of Data: Primary data surveyed (2018-2019)

mon in these mat cover latrines. This sort of toilet is unsuitable for females. However, these issues go un-addressed, and the situation does not improve. In the tribal family, 64 per cent of latrines are two pits with a proper roof and closed-door system, while 36 per cent are one pit with a proper roof and closed-door system, as shown in Figure 4b. Even when one and two pits near door latrines are utilized in the workplace, there is still a security issue, and this condition undermines women's dignity.

Correlation analysis determines the correlation coefficient, which indicates how much one variable changes when the other does. Correlation analysis can reveal a linear relationship between two variables (Senthilnathan, 2019). Table 4a showing the correlation between the number of families and the number of the toilet in a household where the value

(-.063) indicates a negative correlation between the two variables, i.e. number of family members and the number of the household latrine is negatively correlated. In respect of several family members, the number of toilets in the household is less. In table 4b, the correlation value (-.638) also indicate a negative correlation between the working women who used latrine and the number of toilets. These two tables (4a and 4b) depict that responders are facing insufficient latrine facilities in the household and the working ground. Unisex latrines in working places create discomfort, and gender inequality in toilets makes the situation more complicated.

Table 5a depicts the relation between the number of families and the number of toilets in a home, with a value of (-.279) indicating a negative correlation between the two variables, i.e. the number of family

Table 5a. Showing the correlation between the number of families and the number of the toilet in the household of Tribal population

Correlations		Family type	Number of Household Latrine
Family type	Pearson Correlation	1	-.279**
	Sig. (2-tailed)		.000
	N	353	353
Number of Household Latrine	Pearson Correlation	-.279**	1
	Sig. (2-tailed)	.000	
	N		353

** . Correlation is significant at the 0.01 level (2-tailed).

Source of Data: Primary data surveyed (2018-2019)

Table 5b. Showing the correlation between the number of respondents and the number of the toilet in working for place Tribal population

Correlations		Number of latrine in working place	Number of people using the latrine
Number of latrine in working place	Pearson Correlation	1	.660**
	Sig. (2-tailed)		.000
	N	353	353
Number of people using the latrine	Pearson Correlation	.660**	1
	Sig. (2-tailed)	.000	
	N		353

** . Correlation is significant at the 0.01 level (2-tailed).

Source of Data: Primary data surveyed (2018-2019)

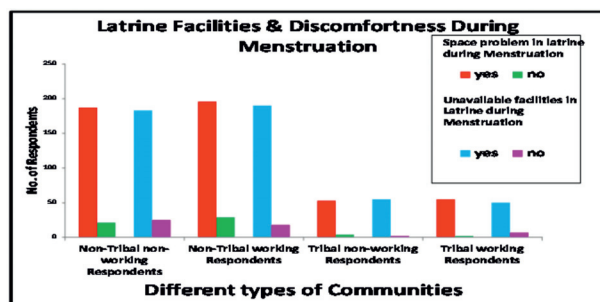


Fig. 5. showing the condition of the latrine and problems associated with menstruation in different types of communities (i.e. Non-tribal & Tribal communities) n=788

Source of Data: Primary data surveyed (2018-2019)

members and toilets in toilets negatively connected. The number of toilets in the household appears to be inversely connected to the number of family members. The correlation value is (.660) in table 5b demonstrates a positive relationship between the numbers of toilets and the number of working women who utilized them.

The above table shows that space problems and available facilities in the latrine (i.e. dustbin facility, water accessibility, and shelf availability) create a barrier for menstruating women in household conditions and workplace conditions. Among the non-tribal as well as in the tribal community, women are facing difficulty to manage their menstruation in latrine facilities. The first stunning fact that comes out is the space problem in the toilet. During menstruation, women required more space in changing times. However, on the other hand, disposal of menstrual waste and shelf to store menstruation kits are essential requirements in the toilet. Moreover, in respective of non-working and working status, menstruating women faced obstacles in various aspects.

Discussion: Most developing countries are dealing with open defecation, which is a severe sanitation issue. Poverty, cultural attitudes, social practices, and economic variables may hinder people as toilet facilities become available and create gender discrimination. As a result, any approach must be considering the following factors, i.e. the socio-cultural and economic elements that contribute to open defecation, intended to end the practice. The above study represented Knowledge, Attitude and Practice (K.A.P.) of latrine facilities and its association with menstrual hygiene among women non-working and working stages in the organized and unorganized sectors. However, in the case of WASH-re-

lated attitudes, society is still in the dark phase. Qualitative and quantitative data on sanitation facilities and their relation to menstruation in the different socio-economical communities represented unsatisfactory results. Space shortage and other problems like water logging problems, security problems, odour, air and light, and insect fear problems make toilets filthy, breeding ground for insects like fleas and mosquitoes, and unsanitary for other toilet users and cleaners during menstruation. Sanitation is a system for society, but it reflects dignity and humanity for the people. For three primary reasons, the availability or lack of a safe and sufficient water supply and improved sanitation facilities has a disproportionate impact on the lives of women and girls. To begin with, women and girls are typically responsible for collecting water, which is often a time-consuming and exhausting task. Second, while walking to and using a bathroom or open defecation site, women and girls are more vulnerable to abuse and attack during menstruation also. So safe and secure sanitary is the symbol of women empowerment in society.

Recommendation: There is silence around the subject matter related to sanitation facilities and menstrual hygiene.

- Researches need to be carried out as many as possible.
- Issues faced due to menstruation must be addressed, and inclusive policy targeting women's menstrual health comes up through an integrated approach.
- Provision for hygiene management facilities regarding basic needs of menstruating women such as a proper separate toilet in public and private places must be introduced urgently.
- The toilet must be designed and constructed in a way that is welcoming to girls and women. There should be enough space for washing, cleansing private parts and hands, as well as changing or dealing with clothes. In order to meet these standards, water, toilet paper, and trash must be available.
- Moreover, a sink where menstruation products can be washed should be designed. Bins should be covered with a lid and emptied from time to time.
- From time to time, to keep the sanitation free of filth, mosquitoes and a foul odour.

Conclusion

Menstrual health and sanitation facilities mostly neglected due to gender inequity, discriminatory social norms, cultural taboos, poverty, and a lack of basic amenities such as water availability and sanitary products. Lack of substitutes and poor financial conditions primarily determined observance of taboos during menstruation sanitation facilities among the women non-workers and workers section. Women also do not access public toilets wherever available for fear of attracting infections and leaving evidence of menstrual blood after use. Furthermore, the public toilets are usually in deplorable conditions and often without running water; thus, women avoid using them in extreme cases. Numerous obstacles that women and adolescent girls encounter, it is clear that encouraging menstrual hygiene management (M.H.M.) is not merely a sanitation issue; it is also a critical step in ensuring women and girls' dignity, bodily integrity, and overall life opportunities. Furthermore, it strives to better understand and address M.H.M. challenges through various technological and analytical activities, thereby elevating the discussion on the importance of this concept with the association of sanitation facilities are required.

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