Menstrual hygiene: a 'silent' need during disaster recovery

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Post-disaster relief and recovery operations seldom focus on women's priorities regarding menstrual hygiene. There is an increasing awareness to incorporate inclusive, participatory, and gender-sensitive strategies for implementation of response programmes. This article presents empirical findings related to menstrual hygiene management (MHM), demonstrating it is integral to women's privacy and safety during recovery. Using case studies from India, the 2012 Assam floods and 2013 Cyclone Phailin in Odisha, this article explores menstrual hygiene practices in a post-disaster context. The data were collected through participatory learning and action tools such as focus group discussions, household interviews, priority ranking, and observations. It emerged that menstrual hygiene was overlooked at the household level during recovery; women and adolescent girls faced seclusion and isolation, exacerbating privacy and security concerns post-disasters. Some humanitarian agencies have an ad hoc approach towards MHM, which is limited to distribution of sanitary pads and does not address the socio-cultural practices around MHM. There is a need for strategic planning to address MHM with a gender-sensitive and inclusive approach. This article draws practical and policy inferences from the research for stronger approaches towards initiating behaviour change in MHM, and addressing attitudes and knowledge regarding menstrual hygiene.

Keywords: menstrual hygiene management, disaster recovery, inclusive WASH, community resilience

THE LEVEL OF RESILIENCE and preparedness within a society, its infrastructure, and its government determine the impact of a disaster (Bosher and Dainty, 2011). However, socio-cultural aspects, including women's experiences of managing menstruation in a post-disaster setting, influence recovery and resilience. Recovery provides opportunities to influence changes in hygiene behaviour and practices by addressing the pre-existing attitudes (Krishnan et al., 2015). Studies on water, sanitation and hygiene (WASH) emphasize holistic humanitarian programme interventions for achieving resilience (King et al., 2013). Ignoring women and girl's menstrual management needs may not only impact their health but also their usual daily activities, including education, income, and domestic duties (Parker et al., 2014). Addressing menstrual hygiene needs remains a critical gap in recovery programming, however. This paper

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adopts Sommer's (2012) definition of menstrual hygiene management (MHM) as 'the spectrum of interventions deemed necessary and appropriate to assure adolescent girls and women in various contexts can privately and safely manage their monthly menstrual flow' (Sommer, 2012: 83). Nawaz et al. (2010) argue that in sanitation, gender seclusion presents a number of challenges, whereby gender inequalities result in women being left out of planning processes. This article explores the menstrual hygiene interventions by a humanitarian agency and its efforts to influence practices, behaviour, and attitudes towards MHM through WASH programming. It focuses on post-disaster changes experienced by women and girls in their perceptions, attitudes, and practices related to MHM.

Literature on MHM during disaster recovery

Emergency water and sanitation interventions should be combined with effective hygiene promotion to prevent outbreak of diseases (Parkinson, 2009). A review of WASH programme approaches and technologies found that provisioning of safe water, safe excreta disposal, and basic hygiene measures, such as hand washing with soap, were key in emergencies and long-term development (Connolly et al., 2004). Parker et al. (2014) state that research on menstrual management focuses on school girls, and only four studies have been published on menstrual management in mature women in low-income countries. Despite increasing evidence and interest in taking action to improve school conditions for girls, there has not been a systematic mapping of MHM priorities or coordination of relevant sectors and disciplines to catalyse change, with a need to develop country-level expertise (Sommer et al., 2016). Sommer (2012) highlights the need for more case study evaluations. Brown et al. (2012) found that there was a lack of peer-reviewed studies on emergency MHM, associated hygiene 'hardware', such as hand-washing stations or hygiene kits, and their implications on menstrual health post-disasters.

During recovery the emphasis is on restoration and rebuilding. Hygiene interventions, especially MHM, post-disasters are seldom investigated, researched, and documented. Menstrual hygiene as a key area of concern for women's needs during post-disaster recovery lacks effective programming strategies to address post-disaster needs holistically. Nawaz et al. (2010) suggest that inclusive approaches to WASH programming are key towards addressing menstrual hygiene needs for women and adolescent girls. It is argued that active participation and empowerment of women through interventions such as water provision, water quality improvement, and hygiene promotion in an emergency setting is possible by focusing on women and girls' menstrual needs and preferences in response strategies (Nawaz et al., 2010). Atuyambe et al. (2011) recognize that it is important to be cognizant of the safety concerns of women and girls while implementing emergency sanitation, mainly because females are responsible for managing water, protecting water quality, and maintaining domestic hygiene. Parker et al. (2014) found that women and girls living in internally displaced people camps, neighbouring villages, and schools in Katakwi district of Uganda were not sufficiently consulted about their menstrual needs, which reflected in their poor MHM practices.

The existing guidelines on assessment, design, and sectoral programme planning relevant to menstrual hygiene are listed under the WASH chapter of the Sphere Standards (Sommer, 2012). These include consultation with local women about their preferred menstrual sanitary materials (with one cloth recommended per woman); the promotion of women's involvement in water supply and sanitation approaches; the provision of underwear and a washing basin as additional items; the need for basins and laundry areas for women (for washing of sanitary materials and underwear); the availability of disposal mechanisms for used sanitary materials; and attention to schoolgirls' menstrual-related needs.

However, consensus on the most effective and culturally appropriate responses to provide for girls and women remains insufficiently documented for widespread sharing of lessons learned (Sommer, 2012). Such a consensus is difficult to achieve because cultures are diverse, as are preferences – responses must be contextualized. Sommer (2012) argues for a multifaceted approach, including provision of adequate numbers of safe and private latrines (including separate latrines for girls and women with locks inside the doors); easily accessible water (ideally inside a latrine facility); culturally appropriate sanitary materials (cloth, pad); socially and environmentally appropriate means of disposal of used sanitary materials (e.g. burning, burying or private washing/drying of cloths); and pragmatic information on hygienic menstrual management for pubescent girls who are reaching menarche or newly menstruating.

Background and methodology

This paper draws upon empirical evidence gathered during doctoral research using two case studies in Eastern India – Assam and Odisha – in a post-disaster context. The research studied community recovery from the 2012 floods and erosion in Assam and 2013 Cyclone Phailin and floods in Odisha. In June 2012, a 28 per cent increase in rainfall was reported, leading to a rise in water level and around 43 reported breaches of embankments on the Brahmaputra and 14 of its tributaries, affecting 4 million people (IFRC, 2012). The empirical findings presented here were gathered over three field visits starting in June 2012 when the floods occurred, and the first author had the opportunity to engage in an emergency needs assessment. This was followed by a scoping study during January and February 2013 to participate in and learn from the humanitarian response programme. The final visit was undertaken as an independent extensive study conducted in two village communities (in Solmari in Sonitpur district and Boramari villages in Morigaon district) between August and October 2013 with the objective of understanding their recovery processes from the floods. In Morigaon, women belonged to ethnic tribes such as Ahoms and Bodos, while in Sonitpur they were primarily Muslim. The main occupation was farming and fishing, supported by daily wage labour.

In Odisha, Cyclone Phailin – classified as a very severe cyclonic storm – made landfall on 12 October 2013, followed by floods in various districts. A six-month study was undertaken from October 2013 to March 2014. The cyclone left 44 people dead, damaged 256,633 homes, and affected 13 million lives, 44,806 fishermen

households, and 1,564 artisan households (World Bank, 2013). The study included Puri and Balasore districts, where the humanitarian situation worsened with continuous rainfall, subsequent floods, and disease outbreaks. In Odisha, the women belonged to the fishing communities that lived in the coastal villages along the Chilikha in Puri district, while few others were engaged as daily wage labourers. The women who participated in the focus group discussions (FGDs) belonged to the fishing communities called Noliyas (mainly landless households), upper caste Brahmins, and Khandayats.

Data were gathered using semi-structured interviews and participatory learning and action tools. Unstructured interviews were used to collect data from women-headed households, six in Assam and 10 in Odisha, which were selected on the basis of gender, ethnicity, and age, and followed up in subsequent visits. Specific consideration was given to trace families living near rivers and lakes and on the embankments. Besides FGDs, transect walks and priority ranking exercises with women and adolescent girls were undertaken in Assam and Odisha. Seven FGDs each in Assam and Odisha were held with rural women aged 19–35. The discussions with women's groups revolved around menstrual hygiene practices and changes post-disasters, preparedness prior to disaster, and challenges faced by women during disasters. Data on the use and availability of sanitary materials, provision of sanitary support through aid agencies, knowledge and traditional practices of washing and drying sanitary cloths, and customs surrounding seclusion of women during menstruation were also gathered. The data were manually coded and thematic analysis was undertaken to understand the changes and challenges in menstrual hygiene practices post-disasters. A further 39 semi-structured interviews were undertaken with NGO staff and experts, and humanitarian and government officials in Assam using a topic guide to understand how disaster recovery programmes incorporated diverse needs of the communities, especially those related to menstrual hygiene management.

The data collection and analysis adhered to ethical principles of doing no harm to research participants, gaining informed consent, and respecting privacy of the participants (Bryman, 2008: 118). It followed official (and necessary) procedures as per the ethical guidelines of University College London and compliance with the Data Protection Act 1998, Part II. This research was sensitive to the ethical issues of working with participants who were disaster-affected, so efforts were made to ensure that their participation did not exacerbate their vulnerability or pose further difficulties. Considering that the participants had suffered from losses due to disasters and were in despair, they were not probed for further information or details if they did not wish to discuss private and sensitive issues. While interacting with adolescent girls and young children during fieldwork, prior permission was sought from their parents or schoolteachers. In order to adhere to principles of privacy and confidentiality, this article anonymizes the data gathered from the two cases. Given the practical challenges, this study endeavoured to maintain ethical considerations including the principles of informed consent and sensitivity in questioning people affected by disasters, together with respect for people's rights to anonymity and privacy (Few et al., 2013: 49).

Empirical findings from Assam and Odisha

This section provides a thematic summary of common ideas raised by women and girls in the FGDs and interviews in Assam and Odisha. The section also describes women and adolescent girls' experiences in MHM post-disasters and the humanitarian support in MHM.

Initially the adolescent girls were shy and reluctant to discuss menstrual hygiene issues. The prevalent attitude in the society towards menstruation considered it to be taboo among the members. With subsequent visits and rapport-building, the girls began to confide and slowly opened up about their concerns.

Assam floods, 2012

In Assam 70 per cent of the women and girl participants reported that they went for open defecation, and tended to their menstrual needs while defecating or bathing. A piece of *saree* or any other cloth was used during menstruation. The study found that the menstrual cloth was washed, dried, and reused each time. All (100 per cent) of the female participants reported that they were restricted during 'those' days; during menstruation they were prohibited from entering the main sections of the house – kitchen and prayer rooms. This practice of cultural seclusion was believed to be undertaken to restrict the menstruating females who were considered impure from polluting the household.

Research participants reported differences in the access to private and secure spaces. While preparing for the floods prior to monsoons, households maintained rescue kits that included dry rations and essential documents. All the female participants reported that menstrual hygiene was overlooked while preparing these kits. While living in the relief camps women found it difficult to attend to their menstrual hygiene needs because of the lack of private spaces for women to wash, dry, and change their menstrual cloths. The general practice was to use a separate soap or detergent powder to wash their menstrual linen, which was difficult to follow post-floods, as reported by at least 50 per cent of the participants. During floods, access to water points was difficult due to water inundation. This impacted all the female participants, who were responsible for water collection for household purposes, and also restricted their privacy to wash their menstrual linen near the water sources, as the blood washed into the open drains was visible to others. As a result women travelled distances of 3–5 km in the dark (before sunrise or late in the night) to cater to their personal needs, such as open defecation, changing menstrual cloths, and washing linen. This posed a security risk for female household members. The young girls reported that they always went to the water sources accompanied by elderly female family members. The cultural practices and seclusion of women and girls during menstruation was reported to have affected attendance in school. The primary observation data show that there were no provisions or separate toilets for girls in schools.

The humanitarian response in Assam incorporated MHM through distribution and WASH interventions. The affected families in Sonitpur and Morigaon received household hygiene kits including sanitary cloth, a string (for tying), and a cloth bag

for storage. Humanitarian agencies installed privacy screens using tarpaulin sheets near the embankments for displaced households immediately after the floods in 2012. This enabled the female community members to address their personal needs and privacy to wash their menstrual linen. The agency determined the location for privacy screens after consultations with women community members. It was important to ensure water provision near these facilities. Provision of hand-washing facilities near the latrines, separate spaces in bathing units for women to wash their menstrual linen with privacy, and closed drains were useful as the running wastewater did not display the menstrual blood.

Cyclone Phailin, Odisha, 2013

In Odisha, girls who participated in the FGDs preferred using sanitary napkins, but their families could not afford them; 100 per cent of the girls in Odisha were unaware of the disposal mechanisms for sanitary pads.

The findings from Odisha indicate differences in MHM preferences and practices based on geographical locations, household income, and livelihoods. In Odisha, in the villages with easy access to the local markets and township, 70 per cent of the adolescent girls preferred using sanitary pads for the comfort they provided. These villages had fair access to local markets post-disasters; 30 per cent of the girls reported that they studied in the town of Puri where they had exposure to other women who used sanitary pads. These girls preferred using sanitary napkins but were concerned about the affordability of sanitary pads due to their meagre household income. However, the girls did not have adequate information on how frequently they should change their pads and were unaware of safe disposal mechanisms of the used pads. It was reported that the pads were burnt along with the garbage in their backyards. The remaining participants – girls and women – used an old piece of cloth, which was made using sarees or cotton linen. The common practice was to change in the dark, while they went for open defecation or while bathing near waterbodies, fields, or bushes. In order to avoid being seen, women would venture out in the early hours of the morning before sunrise or after the dark. In the post-disaster context in relief camps, there was no privacy for women to maintain personal hygiene due to lack of space. The young girls reported that they always went to the water sources accompanied by elderly female family members.

The research found that in the fishing households, located in remote villages, the access to markets in the main towns was a challenge. Here, 100 per cent of the female participants used old sarees as menstrual linen. The participants reported they had never used sanitary napkins, as they were expensive and unaffordable. The women claimed that due to poverty and a decrease in the household income they had to prioritize other household needs and did not prefer to spend their limited income on purchasing sanitary pads. Therefore, women preferred using cloth, which was cheaper and could be reused; these were changed only once every day during the cycle. As per local custom, 60 per cent of the female participants across Odisha used a separate soap for washing their menstrual cloth. This soap was kept separate from

other members of the household. After washing, the women and girls dried the cloth inside their homes in dark corners, instead of drying in the open, to prevent others from seeing or accidentally touching them. When not in use the menstrual cloths and washing soap were hidden separately under the roof tile, again to prevent other household members from seeing or accidently touching them.

During household interviews, it emerged that 100 per cent of the respondents were concerned about food and water supplies after the disaster. Menstrual hygiene requirements, especially of the girls, young women, and single-women headed households, were often overlooked. In Odisha, women were responsible for household duties such as cooking, collecting water, washing and cleaning, and caring for the elderly and children. They hardly could attend to their personal hygiene, which was not prioritized during emergencies. The gender assessments undertaken by gender experts in the humanitarian agency considered that improper menstrual care and lack of adequate facilities for women to address MHM posed risks for fungal infections and rashes for menstruating girls and women. The assessment showed that since MHM issues were not discussed openly among the household members, adolescent girls confided in the female elders in the house and followed their traditional knowledge and solutions to address rashes and cramps during menstruation.

The humanitarian Agency A followed a similar standardized approach to menstrual hygiene in Odisha. This included distribution of emergency hygiene kits to affected households, including sanitary cloth, string, bag, and detergent soap. Post-distribution, the separate display stalls were installed, where the use of the kit items was explained to women by female community mobilizers and health promotion volunteers, covering the use of sanitary cloth, maintenance of menstrual hygiene, and personal care in small groups of women. Humanitarian agencies undertook staff training to both male and female staff members, and provided participants with a checklist (Box 1). The checklist was developed by the gender assessment team for integration of MHM for effective WASH recovery programmes.

Box 1 Checklist used by humanitarian agency, Odisha, for sensitizing programme staff towards MHM

A. Menstruating female members in households to be calculated based on sex and gender-disaggregated data and varied factors such as age, mobility, and disability
B. Understand pre-existing practices and sanitary materials used for menstrual purposes – sanitary cloth/rag/napkins – and washing materials – separate soaps, detergent powder
C. Frequency and location for changing cloths/pads as well as washing and drying spaces
D. Existing disposal mechanisms for sanitary pads
E. Presence and conditions of WASH facilities (e.g. latrine, water supply, and bathing units) and access, or privacy concerns near the location of washing
F. Disaster impacts on menstrual practices: lack of cloth, washing soap, privacy concerns, lack of water points and washing facilities
G. Existing mechanisms for information on menstrual hygiene – Accredited Social Health Activist, Auxiliary Nurse Midwives, and Anganwadi worker (a woman health worker chosen from the community and given 4 months training in health, nutrition and child-care. She is incharge of an Anganwadi which covers a population of 1000.)

The following practices by the humanitarian NGOs in Assam and Odisha enhanced the MHM aspects of the WASH programme:

- During distribution of emergency hygiene kits, female hygiene facilitators explained the use of menstrual hygiene materials in the kits in the local language. The community facilitators monitored the use of hygiene kit items during household visits, when the female members discussed in private issues and concerns regarding menstrual hygiene.
- The formation of separate adolescent girls' committees as well as school committees for water, sanitation, and personal hygiene provided a space to impart knowledge on menstrual hygiene to young girls and adolescents post-disasters.
- General practices of hand washing and promotion of sanitation facilities were important in ensuring privacy and better environments for women to address urgent and private needs related to their menstrual health.

Discussion

Based on thematic analysis of the empirical data, it emerged that in Assam and Odisha the menstrual practices differed according to the cultural context, mobility, and age of the research participants. The emerging themes – privacy, facilities and materials, cultural aspects, awareness of safe menstrual practices, and gendered recovery processes – are key areas for concern and action for integrating MHM and WASH during recovery.

Privacy for changing

The data show that menstrual health is overlooked post-disasters at the household level, but is essential to the dignity and privacy of women. It is also an important aspect to consider from the health perspective. As women attended to their menstrual hygiene needs while bathing or during defecation, it was necessary to provide safe spaces for women with the help of privacy screens. In camp settings, it was important to provide spaces for women to address MHM needs.

Facilities and materials

The lack of sanitation facilities and bathing spaces post-disasters affected women's comfort to change their menstrual cloths. This supports findings from existing studies that argue water provision, water quality interventions, and hygiene promotion in an emergency setting must focus on women and girls, include their active participation and empowerment, and account for their needs and preferences in response strategies (Nawaz et al., 2010). Those who preferred using sanitary napkins lacked the financial means to afford the pads in the local markets. Since a separate washing soap was used for cleaning menstrual linen, a fall in household income post-disasters adversely affected women's ability to maintain cleanliness and hygiene standards during menstruation. Within households that had more

than one female member of menstruating age there were difficulties in sharing the limited resources for sanitary materials. With limited household income and increased poverty and food insecurity post-disasters, MHM was least prioritized at the household level.

Cultural practices

The cultural practices of secluding women and girls during menstruation affected their daily activities and social performance. For girls, existing studies have shown such practices to affect attendance at school (Muralidharan et al., 2015; Sommer et al., 2016). In Assam and Odisha the practice of seclusion during menstruation led to reduced mobility within the household and society as well as dietary restrictions for women. Cultural practices also influenced the preference of using sanitary pads, napkins, or cloth. This varied across the two case studies in Assam and Odisha according to age, caste, and livelihoods of the female participants and their access to the local markets and affordability of sanitary pads. Due to lack of awareness and knowledge regarding menstrual hygiene management, the adolescent girls relied on elderly wisdom and adopted cultural norms and practices.

Awareness of safe menstrual practices

The data highlight that there is a lack of awareness and knowledge about the following issues related to MHM: how frequently sanitary pads/cloths should be changed in a day during menstruation; appropriate disposal mechanisms; necessity of regular washing and cleanliness of private body parts; and appropriate measures for washing and drying menstrual linen. As knowledge and cultural practices related to MHM were passed from one generation to another, it was necessary to generate awareness of appropriate practices that complemented the cultural beliefs and norms. The male staff members in the WASH team – project supervisors and community facilitators – were also sensitized about issues related to MHM; however, suitable follow-up and on-the-job training would prove useful to understand the effectiveness of this measure.

Gendered recovery processes

In Assam and Odisha, female members had limited control, and sometimes no control, over household finances. This influenced their ability to purchase sanitary materials, even when these were available in the markets. In Assam, it emerged that women were in charge of house rebuilding and daily expenses as men had migrated for work. However, due to recurring disasters and damage to livelihoods and other pressing needs during recovery, the women-headed households did not use sanitary pads. The lack of accessible and safe WASH facilities during disasters and recovery posed further challenges for women to fulfil household and personal WASH needs. These gender aspects in WASH during recovery were overlooked by the government and humanitarian actions, an aspect noted in other research (O'Reilly, 2010; Sommer, 2012). MHM can be efficiently integrated within programme design

and planning when MHM information is collected during the assessment stage. It is challenging to gather reliable data and approximate numbers during emergencies; mainstreaming MHM into the programme can be facilitated with a sensitive and inclusive approach among staff members towards women's needs. A study by Muralidharan et al. (2015) in India showed that policy initiatives are in place to enable adolescent girls to manage their monthly period safely and with dignity, to address the software and hardware MHM components, and present opportunities for collaboration to ensure that girls have access to the information, support, services, products, and facilities they need. However, the analysis of policies in WASH and recovery – the Disaster Management Act, 2005, and Swachh Bharat Abhiyan, 2013 – as well as state guidelines on disaster response – the Odisha Relief Code and the Assam Relief Manual – and state disaster management plans revealed no mention of strategies and explicit guidelines on incorporating MHM in post-disaster interventions.

Recommendations and conclusions

This research demonstrated that MHM needs and experiences varied depending on the women's mobility, literacy levels, exposure or disabilities (if any), cultural practices, and post-disaster experiences in schools, homes or public places. Moreover, post-disaster recovery provided a unique opportunity to generate awareness and build local knowledge and understanding of male and female members of the communities on menstrual hygiene management. This opportunity could be maximized by humanitarian agencies providing support through their WASH emergency programmes; these factors need to be included in the programme planning and inclusive approaches to recovery programmes and interventions.

Based on the empirical evidence, this research offers a practical suggestion to humanitarian agencies to enhance MHM in WASH interventions during recovery. Agencies should collect and use the household sex- and age-disaggregated data to inform kit distribution and include culturally appropriate and preferred sanitary materials: sanitary cloth along with string to tie around the waist, and scissors and a cloth bag. In accordance with local customs and MHM practices, agencies should plan whether to provide soap and, if so, how many pieces for cleaning sanitary cloths. With reference to household size and number of menstruating female members within each household, agencies should provide an appropriate size of cloth to be used per person. It is recommended that agencies undertake phased distribution of detergent and sanitary napkins or pads to female members during recovery. This research also informs existing policies in water and sanitation, and guidelines for disaster management and recovery, which currently overlook MHM, by strengthening a bottom-up and inclusive approach towards community-led recovery planning.

In conclusion, humanitarian agencies need to strengthen their approaches in MHM and learn from and with the communities. Research on community practices and socio-cultural traditions related to menstrual hygiene, and impacts of disasters on menstrual hygiene can guide policies for recovery. Since menstrual hygiene

is still considered taboo and discussed behind closed doors, it features very low on household recovery priorities, and often does not even get mentioned. Hence, organizational understanding and learning of menstrual hygiene management remains tacit among the professionals engaged as hygiene promotion experts. Such experiences in MHM during recovery should be systematically documented, published, and shared. Thus, humanitarian agencies can encourage open discussion and raise awareness through provision of appropriate infrastructure and information while considering gender issues.

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