

RESEARCH ARTICLE

Managing menstruation during natural disasters: menstruation hygiene management during “super floods” in Sindh province of Pakistan

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(Received 10 December 2022; accepted 8 August 2023; first published online 13 November 2023)

Abstract

Menstruation is part of women’s normal life, which requires basic hygienic practices. Managing hygiene can be affected by several factors and situations such as natural disasters. Focusing on ‘super flooding’ in Pakistan’s Sindh Province, we pay attention to how this ‘natural disaster’ has affected hygienic practices of menstrual cycle of women. The study meticulously examines the dynamics of menstrual hygiene management, encompassing the nuanced encounters with feelings of shame and embarrassment among girls and women situated in flood camps, schools, and community shelters. It also intends to highlight women’s challenge and embarrassment to participate in the distribution process of essential resources such as pads. The insights garnered from this study hold potential relevance for various stakeholders, including policymakers, healthcare practitioners, and researchers, offering a nuanced comprehension of the intersection of menstrual hygiene, climate change, and well-being of women.

Keywords: Menstruation; maternal and child health; menstrual hygiene practice & management; taboo; shame & embarrassment; super floods; climate change; natural disasters; Sindh

Introduction

Globally about 52% of the female population is of reproductive age and experiences menstruation as a normal part of their lives, emphasizing the crucial importance of basic hygienic practices (Lahme *et al.*, 2018). Around 500 million women and girls do not possess sufficient resources for managing menstrual hygiene worldwide (Sahiledengle *et al.*, 2022). During menstruation, women need to maintain hygiene by adequately cleaning the external genitalia, using a clean cloth, a sanitary pad (or other products, e.g., tampon, cup) hygienically, and changing the pad or cloth every 3–4 hours (Hjelm *et al.*, 2018). The use of unhygienic materials may adversely affect women’s and girls’ health and result in reproductive tract infections (RTIs) (Ulley *et al.*, 2019). Therefore, menstruation and menstrual hygiene management are crucial public health issues for most women and girls across the world, especially during challenging situations.

In 2022, Pakistan faced ‘super floods’ that left millions of people displaced and vulnerable to hunger, waterborne illnesses, and other health concerns, women and girls in particular. The flood emergency affected menstruating girls and women while disrupting their normal coping mechanisms. The United Nations Population Fund (2022) estimates that the more than eight

million women and girls of reproductive age who were affected by Pakistan's unprecedented floods have been turning to desperate measures to manage their periods. Displaced adolescent girls and women in Sindh province, where much of the flooding occurred, faced significant challenges in managing menstruation, such as lack of access to sanitary materials, including underwear; lack of access to private/safe toilets and disposal options for used sanitary materials; and lack of soap, water, private bathing facilities, and places to dry reusable sanitary materials. Studies show that humanitarian crises exacerbate menstrual management challenges, given girls' and women's frequent lack of access to basic materials and disposal (Schmitt *et al.*, 2017; International Federation of Red Cross (IFRC), 2013). They must manage menstruation in overcrowded camps and informal settlements, which often lack private and safe toilets and sanitation facilities (especially at night) for changing and washing materials (Kågesten *et al.*, 2017).

Although menstruation is a natural process, it has been and still is a matter of secrecy in most low-resource countries, including Pakistan. It is a neglected issue in regard to research, relief or recovery activities during or after any challenging situation, e.g., disasters. The disposal of menstrual waste is often strongly influenced by cultural beliefs and societal taboos around menstrual blood and a need for discretion (Chowdhury & Chowdhury, 2023). This results in a variety of practices including burning, burying, or directly dropping materials into latrines (McMahon *et al.*, 2011). These issues may create safety risks, including exposure to gender-based violence while women and girls discreetly access sanitation facilities (Sommer *et al.*, 2016) or dispose of waste during the early morning or nighttime (Sahoo *et al.*, 2015). Relating to it, the present study aimed to explore and analyze menstrual hygiene management practices and experiences related to shame and embarrassment among girls and women situated in flood camps, schools, and community shelters during 'super floods' in the province. Also, the goal was to highlight their challenges related to hesitancy to participate in the distribution process, which might be useful for various stakeholders such as policymakers, health professionals, and researchers in the future.

Materials and methods

Research design

This qualitative study was carried out in three flood-affected areas of Sindh province: Nawabshah (now called Shaheed Benazir Abad), Khairpur, and Sanghar. We adopted a qualitative research study design to assess adolescent girls' and women's experiences with menstruation. Considering that the heavy rains and flood in Pakistan started with monsoon raining during June 2022, the ethnographic observations and fieldwork was conducted during the flood relief camp in Sindh from August to September 2022.

Sampling and data collection

The convenience or purposive sample method was used to select interlocutors. We conducted 30 in-person interviews and three Katch'herion (group discussions) (Ali, 2022; 2023) in the above-mentioned settings. The interviews were conducted with each interlocutor alone in the privacy to give them space to discuss sensitive issues privately and comfortably.

One Katch'heri (singular form of Katch'herion) and ten in-depth interviews were conducted among girls and woman in each setting. The interviews lasted between 40 and 45 min and Katch'herion up to 1 and half hour. These 30 interviews and three Katch'herion can appear representative of the other girls and woman in Sindh province because they all manage menstruation according to the same cultural traditions. We reached them via our pre-existing social contacts (family and acquaintances). Salma Sadique conducted fieldwork as she had access to it because she is working in a medical university and participated in Relief Camps arranged by

the government of Sindh during super floods. Later on, Inayat Ali and Shahbaz Ali played a vital role in crafting the article, data transcription, (e.g., verbatim into English) and data analysis.

Data analysis

The analysis of qualitative data was done by undertaking a thematic analysis. The steps involved in the analysis correspond with those proposed by Braun and Clarke (2006) to become familiar with data, generate initial codes, search for themes, review themes, define themes, and write-up. The four thematic areas emerged from the analysis: (1) menstrual hygiene practices among girls and women during the flood; (2) toilets and disposable facilities; (3) shame, fear, and embarrassment in the distribution process; and (4) inadequate guidance from the government and non-profit organizations (NGOs) for the usage of menstrual products. Information from the interviews and Katch'herion were recorded with voice recorders and transcribed in English regularly. Transcripts were translated into English, when applicable. The analysis included reading the transcripts multiple times to familiarize ourselves with their contents, identifying meaningful quotes, and creating relationships among them.

Results

Theme 1: menstrual hygiene management among girls and women during flooding

In flood settings, where people needed to crowd together in camps or schools above the water's reach, women and girls faced different challenges in the management of menstruation. Many of them faced difficulties during menstruation in terms of the availability of menstrual and hygiene products and their management. A woman aged 35 years living in a school of Khairpur district stated:

Due to heavy rains and floods, my mud house floated away with water and completely vanished. Now I am living in a government school in a flooded setting and seven other families are living with us. In a government school, there's no proper sanitation in the washrooms. I am using old clothes and after using them I dispose of them in the backyard of the school because there's no dustbin in school. I change my pad after 24 hours in this flood setting and manage my bleeding by folding and refolding that cloth. It has caused many difficulties for me.

Most interlocutors explained that they used old clothes and rags during menstruation. As it can be seen in the words of Farwa, a 29-years old woman from the Nawabshah district, who shared that:

I used homemade pads but because of the flood all our houses got destroyed, and we didn't have anything left. We were living beside the road, all clothes were soaked and floated away. I was forced to use leaves, which was very uncomfortable, and I even got rashes and itching on my vaginal and anal area. It's after that I had a vaginal infection.

The similar response was received from Faiqa a 17-year-old adolescent girl living in a community shelter on the highway road of Sanghar:

Since I belong to a low-income family and live in the Thar Desert, neither I can afford pads nor I do have access to them. Thus, before the flood, I used old clothes usually torn from an old pillow or scarf to absorb the blood, but now we even don't have pieces of old clothes as everything has been flooded away, therefore, I use leaves torn from the tree to absorb the blood, which creates itching and vaginal infection.

Another adolescent girl a 19- years- old from the camp in Nawabshah District mentioned that when she had her periods during the flooding, she unfortunately had no pads at that time, so she used cloths that had been used by other women of the same camp, which caused itching.

Most women living in schools received hygienic kits from NGOs. One of the female interlocutors named Shumaila of Khairpur district explained:

I used sanitary pads given by the NGO and distributed one packet of pads per woman for an average of two months, which sometimes even had to be shared with other female family members. The first time I used pads and disposed of them outside of the school with a wrap of sheets and paper.

During a time of normalcy, Fiza also used old clothes to manage her menstrual bleeding, as she stated:

I wash old clothes secretly and dry my bloody cloth on the hot stone because it may dry quickly while I usually wash my clothes in the evening time when all men go to home. I wash them beside the river and then put them in the corner of my house on the hot stone. When there are night gatherings in our village and men are outside it becomes difficult to wash and dry them. Hence, I have to use dirty or sometimes wet cloth also.

Kiran a young woman aged 27 years living in a community shelter in Sanghar expressed that:

When a heavy flood occurred, we were all wet from head to toe and it was my second day of period and in our culture it is prohibited to take a bath or wash your body during menstruation. My clothes became wet and the scrap of cloth that I used as pad for period blood leaked and stained my *kamiz* (shirt). I was embarrassed that I covered it with my *dupatta* (shawl).

Similar to Kiran's views regarding embarrassment due to menstrual leakage staining her clothes, Nadia, a young woman in her 20s, from the same community stated:

I always use old clothes, but during flood conditions it was really hard to find clothes because the house was full of water. Therefore, I use some shirts and cut them into pieces, for use and change them after 2 days. And at night we wash them in a place where no one can see, especially men, and dry them in a dark place and use another cloth until the old one gets dry.

Basheera a 30-year-old woman from the same community, added:

I always use some old clothes and wash them for the next use because we don't have any access to sanitary pads and we can't afford them as they are expensive. During the flood we also used the same old clothes but it was really hard to manage because the tent we were in was open and anyone can see and I mostly do washing and changing clothes at night time and dry them at the back of the camp.

Further, she stated that:

During the periods we really encountered problems in managing because it is a secret condition of a woman and no one can share it with others, we hang a wire at the back of camp. And at night when everyone one goes to their camps, I use to wash these bloody clothes and hang them and wait till they dry and then put them in a plastic bag and hide them under clothes.

Both Shabana, the 16-year-old adolescent girl from Khairpur, and Rabia, the 35-year-old woman living in the camp, discuss their methods of menstrual hygiene management in the following way. Shabana highlights using old clothes which she wraps in paper before disposing of them in an agricultural area, while Rabia mentions using pads for the first time and disposing of them outside the school wrapped in sheets and paper. These accounts show the challenges women face in resource-constrained environments while striving to maintain their menstrual hygiene.

Moreover, some interlocutors perceived that the NGO distributed one packet of pads per woman for an average of two months, which sometimes even had to be shared with other female family members. This indicates potential limitations in the availability of menstrual hygiene resources and challenges that women faced during super floods in Sindh Province.

Theme 2: toilets and disposable facilities

In Sindh Pakistan, homes in low-lying areas get submerged during the floods, and flood-affected people had to find shelter and use toilets in relief camps. Therefore, in Sindh Province, people lived in schools and community shelters which had temporary toilets. The menstruating women faced many difficulties after displacement from their houses. According to them, using the washroom was the most difficult task in a flooded setting. A young girl from Nawabshah, named Hina aged 18 years, expressed:

During flooding our house collapsed, therefore our family decided to live in a government school where the washrooms were not private or separate. Females and males used the same washroom and it was difficult for us to wash and dry our menstrual products such as underwear and old clothes. Sometimes I had to use a wet cloth to absorb the blood.

Another girl Gudi aged 17 years living on a highway road of Sanghar stated that:

I am living in a tent that is too small for our family; all adolescent girls face a lot of difficulties during menstruation. Changing the cloths is a difficult task for us because there's no access to the toilet and people use the side area for defecation. I change my cloth in an area that is one kilometer away from my temporary residency. All the girls go to the elder woman. We tie *Chadder* (big shawl) around both sides, and after this, we change our menstrual cloths and throw them there.

One interlocutor of the camp, Uzma aged 35 years, explained. "In this [flood situation] we are vulnerable, because we don't have pads, panties, and even new or old clothes to wear during menstruation".

Another woman named Saati, who is in her late 30s from the community shelter, said:

Due to the flood, we were displaced from our houses, we don't have houses for living. We are living like a beggar in community shelters. We lack access to quality water for drinking, we don't have a separate washroom. We go into bushes for defecation and changing menstrual clothes. Now we are under stress, because most women think that getting drowned in water is much better than living a life like this, where there is no shelter for women and every second person has an eye on us. There is an open place near the tent we are using for changing and washing cloth during menstruation. We have to go the way to the nearest tube-well to wash the cloth. We are still waiting for our [political] leaders. People came to us to ask about our issues, take pictures, and just returned back sitting in their cars.

Aqsa, who is 17 years old, from Sanghar District shared:

I use old clothes on my period. I have no access to a washroom; therefore I use flood water to clean the vagina and wash the menstrual clothes. I don't have the place to make it dry due to rainy weather. I have to use the wet one again and again. I experience urinary tract infection and itching.

Naseema from Khairpur aged 24 years said that

I am living in a road improperly structured camp, during menstruation days, I use a common toilet which is under the use of maximum 130 people including males. When a woman goes to use toilet, then the other women of the camp stand in front of toilet to stop any male members to enter. I wash menstrual clothes in a toilet and dry the clothes on the tree or in a side corner.

A girl named Sundas around 22 years old living in camp Nawabshah were of the view:

I need a separate women's toilet so that I can easily change sanitary pads and wash underwear. A proper disposing system for disposable pads should also be introduced so that the used pads are not flushed out in toilets or cause sewerage blockage.

Nabeela, who is around 30 years old and living on a highway road of Sanghar, stated that:

In flood disasters, privacy is a major concern for women, therefore I have made a temporary space for the toilets in our tent with sticks and covered them with *Ralli* (traditional bedspreads) and clothes. We are facing many difficulties if we shared toilets with men. There is no private space for the woman to hang the pads to dry. Therefore, I decided to make toilets.

Furthermore she expressed, "Government should provide basic things which help with menstruation. The government should make toilets and provide sanitary products. I want privacy so the toilet for women should be separated from the one for the men."

Theme 3: shame, fear, and embarrassment in the distribution process

Menstruation has appeared to be a particularly private matter for the girls. This is because menstruation signifies the coming of age or 'womanhood' for young girls. Soon after menarche, particularly in rural areas, adolescent girls are married, although this practice is changing. Sexuality, fertility, and pollution are strongly associated with menstruation, and thus it is considered a shameful and hidden subject (Rashid & Michaud, 2000). Similarly, in Sindh province of Pakistan, talking about menstruation appears to be taboo. The interlocutors felt embarrassed to receive hygienic kits from men who were distributing them. One of our interlocutors named Zaibunisa from Nawabshah elaborated that:

I was very embarrassed while taking pads from a male worker; I covered my face with a shawl. While my friend who was married, her husband didn't even allow her to collect any sanitary items because they were distributed by men. Perhaps, women feel shy to receive sanitary items in front of men or maybe their parents or cultural norms don't allow them to do so.

Sahib Zadi, a woman approximately 35 years old residing in a community shelter in Khairpur, points out that despite the assistance provided by NGOs in the form of sanitary pads and underwear, the fact that these items are distributed by male workers brings about feelings of

shyness and embarrassment among the women. This discomfort arises from cultural norms within their families where discussing menstruation with male members is deemed inappropriate and against social norms. This observation highlights the intersection of gender, cultural beliefs, and access to menstrual hygiene kits. Likewise, a woman named Gulan in her 30s from Sanghar stated:

I feel embarrassed during the distribution processes. The hygiene (menstruation kit) in our area is distributed by male social workers and as it is strictly prohibited to hide it from others, especially men and now they are distributing it. It's quite an embarrassing situation and we are afraid of being teased by men during distribution. But I had nothing to manage my periods, so I sent my little daughter to take it.

Another woman of same setting elaborated in this way:

NGOs did provide us with sanitary pads, packets, and underwear, but there was no private ladies' toilet for changing pads. It's an awkward situation when men are distributing pads, and most of the women feel shy and didn't even take it. Although I have gotten an itching problem due to using plant leaves, I awkwardly participate in the distribution process. There was no management of sanitary disposal. They gave us one sanitary pad packet (15 pads) with underwear. These pads can easily be utilized in a month, so how could I manage my further periods?

A girl named Fazeela in her 20s, of Khairpur said that:

I received one pack of disposable pads and underwear, but what happens if this underwear is stained, I don't have extra underwear and how I manage periods with just 15 pads because it is a natural phenomenon because it occurs every month? They should provide washable pads so we could reuse them and there is no need for disposable management.

Fazeela's views illuminate the issues with relying solely on disposable menstrual products. Her concerns underscore the necessity for holistic solutions that address menstrual hygiene comprehensively, including supply quantity, product reusability, and individual comfort. Her call for reusable pads aligns with the growing push for sustainable menstruation choices. Another female interlocutor, Nazan, aged 19 years and living in a school said:

Some young men came to our camp and provided us with sanitary pads. It was a shame for us, they did not provide those things to us in privacy, but instead in front of men, and took photos of us. In the kit, there was a pack of sanitary pads and underwear. What we actually use, which is cloth, was not in the kit.

Nazan critiques the distribution especially due to the lack of privacy. It reveals how people relate the menstruation and pads to shaming and privacy. Simultaneously, it demonstrates the processes of creating evidence of sharing products during the aid distribution. As a result, many girls and women in flood settings did not participate in the distribution process. One of the interlocutors who was living in a community shelter said:

I can't go to buy sanitary items during the flood because of flood water. We can't even demand our father, brothers or husbands to purchase sanitary products from the market. In our community, women or girls are not allowed to go in the distribution of hygienic kits. In my community talking about menstruation is considered taboo.

Similar views are shared by women living in the school in the flood setting; one of them named Shakeel a 30 years old stated:

It is convenient for the woman if menstrual products should be distributed with other items so we wouldn't feel awkward or embarrassed. The items should be packed separately and then put in a box, so food items or other necessities have hygienic space between them. We would not feel any embarrassment if menstrual kits should be distributed privately by female workers because in our culture it is prohibited to talk to the man about menstruation.

Indeed, distributing menstrual products together with other items will eliminate discomfort and embarrassment, and especially if female workers do it considering cultural taboos surrounding menstruation. Another interlocutor Kanwal a 35-year-old woman living in the school area elaborated that:

One NGO distributed sanitary pads and underwear. They distributed it in a much hidden manner like he called my father and took him to the side and gave him kits of sanitary pads. I was also a dire need of sanitizers, soap, pain killer tablets, and shoppers for disposing of those pads.

Kainat a young girl aged 21 years from the community shelter stated that:

I received only sanitary pads and that was of very poor quality that leaked after 3 hours. I didn't receive any panties or other hygienic items like soap or sanitizers. I needed good quality sanitary pads, panties, and other hygienic items to manage my periods.

Likewise, another girl named Habiba in her 30s, living in a camp, elaborated that she had not received any hygienic kits, and she had coped with her menstrual bleeding using a piece of old cloth. She needed high-quality sanitary pads, clean clothing, soap, sanitizers, and pain-relief tablets, but there was no provisions for such items in a flood disaster. Another interlocutor was of the view that:

If people want to provide these things, it would be necessary to come along with at least one woman who should guide, like in my case I don't know how to use sanitary pads because I use old clothes so it should be necessary to provide information regarding them their usage and their disposing process. A man came to my father, who gave him a packet of sanitary pads separate from other distributions. If hygienic kits are provided, it's also necessary to provide information regarding them about how and when to change your pads and information should also be given regarding the proper usage of cloths.

Other women living in a flood camp located on a highway road did not receive menstrual kits, they explained during one Katch'heri that:

We did not receive a menstrual kit; if we received, then we are not ready to wear sanitary pads, because it's prohibited to discuss this topic with other ladies except their elderly female members. If the provision of menstruation kits is possible, then still these ladies will not be willing to use it because it's restricted for them.

Most of the flood affected women criticised distribution of only one packet of sanitary pads; as they required more packets to manage menstruation for the coming months. An adolescent girl Sorath aged 18 years from the community shelter stated that:

In this hygiene kit, there was only one sanitary pad packet with one underwear which isn't enough for the long run because menstruation occurs every month. They should include some more packets, extra underwear, soaps for washing, and period cramp medicine.

Another young woman Jawaria in her 20s, from the same community shelter stated, "Menstruation kits should be provided by the hands of females, who should educate us about their use. Menstruation kits should have underwear in large size, sanitizer because we don't have hand wash". Urooj, another female interlocutor, expressed that:

I received menstruation kits from a female; she distributes menstrual kits to every adolescent to the elder women. But our male members teased us when we received menstrual kits. They said we need a house and foods, and that sanitary pads and underwear are not important; females can manage by using cloths.

Urooj highlights the positive aspect of receiving menstrual kits from a female distributor. Yet she shares the perspective of male members who downplay the significance of sanitary products, reinforcing gender insensitivity and lack of understanding towards menstrual needs. She continued mentioning that:

In our family, our male members show inappropriate behavior towards women who came to guide us. They perceive that the menstruation topic is not for discussion it should just remain a secret.

Moreover, one of the interlocutors named Sobia living in a tent aged around 35 years shared that:

We belong to a family where using sanitary pads is not allowed. We think that the sanitary pad is made by *yahoodi* (Jews), if we use, we lose our virginity and we will not able to produce a child. We become infertile. It would be better if new pieces of cloths should be included in the hygienic kit rather than sanitary pads.

Sobia's views reflect a complex interplay of cultural, superstitious, and possibly religious beliefs that shape her understanding of menstrual hygiene. These beliefs result in a reluctance to use sanitary pads and a preference for traditional methods involving cloth. Furthermore, most of the interlocutors advised that the majority of girls and women indicated extreme discomfort at the thought of changing their menstrual materials inside their shelters although inadequate, shared toilets were still preferred for changing menstrual materials over a shared shelter. Latrine facilities were generally located around 10 feet from a household and described as cramped, often lacking locks or doors, and shared by several households. Despite the discomfort, most girls and women did not feel they had an alternative. As one woman explained:

The responsibility of the distribution of such kits should be given to the LHWs [lady health workers] or LHV's [lady health visitors] of the village with whom we can talk easily, share our needs, and can easily ask any type of query regarding the usage of the kit. If the distributors will be LHW or LHV, each woman will surely get an advantage in these distributions.

Theme 4: inadequate guidance from the government and NGOs for the usage of menstrual products

All interlocutors had different perspectives about the usage of menstrual products. Many of them shared that they were unaware of how to use menstrual pads and their duration. This reflects a gap in menstrual education and awareness, suggesting a need for more comprehensive information

dissemination and education about menstrual hygiene practices. One of them, named Naghma, 30 years old woman was of the view that:

The government should provide facilities for female social workers to work in the field like distributing sanitary items, educating them about menstruation hygiene, and provide awareness about how to use sanitary items and how to dispose of them. This can only be approachable or accessible if it is provided by female workers.

The female social worker should be encouraged by the government to work in the field and break the stigma that menstruation is filthy, disgusting, and taboo, and instead should educate people, especially men, that it is a natural process that occurs in every healthy girl's life. Female workers should be encouraged by being given handsome salary packages and other facilities (security, transport, and residences).

The government should provide menstrual hygiene education and awareness on how to change or dispose of sanitary disposable pads during floods. The government should at least provide water in our houses so we could at least meet our basic needs (toilets or kitchens). The government should focus on the menstrual hygiene of women as primary relief, not as secondary relief as they are providing food and tents to the people, and they should provide us sanitary items and separate changing areas for women.

A girl named Aisha who is 25 years old, living in the school area elaborated:

Menstruation management should not be taken as a secondary relief. Organizations and institutions working on menstruation should have to step into the field, now, the awareness-based time is over this time is for action to provide them with their basic needs regarding menstruation.

Another girl Noshaba in her 20s viewed:

Menstruation kits should have information regarding the use of sanitary pads including: time of change, how to put on underwear, how many pads to use in a day, and disposing method. Furthermore, they should include information that the used pads should be disposed of in a separate bin. Menstrual kits should also have a sanitizer or any small hand wash or any small soap which helps the women who use them to wash their hands with them.

Moreover, a woman Neelam around 30 years living in the camp said:

The first and basic step is to educate girls who are at the age of menstruation so they could handle the situation when they first get their period without making themselves embarrassed. Education about menstruation and hygiene will clarify to them that it is not a taboo but a natural life process through which every healthy woman passes every month. Educate girls about different myths and taboos which have no reality. Teach them how to use disposable pads, when to change them, how many times a day, and how to dispose of them. If she is using washable pads, then educate her on how to properly wash them and dry them. This usage information should be present on the kit so if someone is using disposable pads for the first time then they could know by these instructions (it should be better if the instructions are with pictures) because most of the women are uneducated in a rural area or some even in the urban area too.

Most of the interlocutors in flood settings have a similar view. They perceive difficulty during menstruation and think that knowledge should be given about how to use sanitary materials. The kit does not contain any type of instructions for the usage of pads; there must be a detailed description of the usage and how to dispose of them. Menstrual products should be distributed by a female without the absence of a male. Furthermore, they stated that a menstrual hygiene kit should include; a cloth/sanitary pad, soap to wash that cloth, hand wash/ sanitizer, and painkiller tablets. The material distributed should be packed properly and it must be distributed to females separately because girls feel shame and embarrassment to take these kits in front of males.

Discussion

The findings from this qualitative research identified four thematic areas that emerged from the analysis: (1) menstrual hygiene practices among girls and women during the flood; (2) toilet and disposal facilities; (3) shame, fear, and embarrassment in the distribution process; and (4) insufficient guidance provided by government and NGO to the respondents of three geographical settings of Sindh province. The first theme identified the fact that girls and women faced many challenges when managing their menstruation in camps or schools compared to when living in their villages. Indeed, when displaced, women are not able to manage their menstruation in the same way as they have done for generations back in their home towns or villages (Parker *et al.*, 2014). Correspondingly, in Sindh, girls and women in a flooded setting faced different issues to manage menstruation hygienically and with dignity. They have not had sanitary products to use; yet if they have, then when and where do they change the pad, where should they dispose of the used material, and where should they wash and dry the reusable material? To address these problems, girls could use old wasted clothes if they have any. The study of Parker and colleagues (2014) found that internally displaced women and girls living in camps, neighboring villages, and schools in Katakwi district of Uganda were not sufficiently consulted about their menstrual needs, which reflected in their poor menstrual health management practices.

The second theme revealed the lack of sanitation facilities and bathing spaces affecting women's privacy to change their menstrual cloths. Studies from India (Krishnan and Twigg, 2016), Bangladesh (Wickramasinghe, 2012), and Uganda (Atuyambe *et al.*, 2011) found that it is not uncommon for girls and women to lack access to appropriate toilets and bathing facilities during displacement. Absence of private and appropriate sanitation facilities can put menstruating girls and women in danger because they might wait until it is dark to seek a secluded place to take care of their hygiene needs. This may put them at increased risk for sexual- and gender-based violence (House *et al.*) Previous studies in humanitarian settings demonstrated experiences of female adolescents like embarrassment and fear of being teased during menstruation (Miuro *et al.*, 2018). The findings of the second theme revealed that the majority of the girls and women experienced great shame because they had to live in exposed conditions. A number of them had to share their living arrangements with strangers in relief camps or live on their roofs, exposed to everyone as their houses were completely submerged by floodwaters. A few had to live in cramped conditions with extended family members whose homes had become inhabitable. For girls living in shelters, the particular concerns were living with strangers, especially men, and the risk of exposing parts of their bodies.

Moreover, the third theme demonstrates shame, fear, and embarrassment among girls and women in the distribution process. Most of the interlocutors argued that because the menstruation kits in their area were distributed by male social workers, they were often unable to accept them, as it is quite an embarrassing situation for the women, who are afraid of being teased or stigmatized by men during distribution. This supports findings from existing studies that highlight that 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 (Sommer, 2012, Nawaz *et al.*, 2010)

Theme four discussed inadequate awareness and guidance from the government and NGOs received by interlocutors. Most of them do not know the usage of sanitary pads. Government and non-governmental organizations should educate girls and women about menstrual hygiene management practices. The first and basic step can be to educate the girls and women on how to use disposable pads, when to change them, how many times a day, and how to dispose of them. If women and girls use old clothes, then they must be educated on how to properly wash and dry them. Government and NGOs should give them an orientation about how to use disposable pads and how to wear underwear correctly, as most of the population are using old clothes and do not know about how to wear disposable pads correctly. Inappropriate menstrual hygiene management (MHM) practices can lead to infection and loss of dignity.

Conclusion

In 2022, the super floods in Pakistan caused an overwhelming situation in the country. The Sindh province faced the greater challenges. Although the entire population confronted different problems, the flooding exerted critical effects on the already vulnerable populations, e.g., women, children and elderly people. These floods have had substantial effects on the unhygienic practices of women during menstruation, which may cause various diseases such as cervical cancer, urinary, and RTIs. Governments and other organizations consider menstrual hygiene as secondary relief and focus on food, medicine, tents, and nets as primary relief. It is therefore important to consider menstrual hygiene as primary relief. While menstruation hygiene kits are distributed by men, as per a cultural perspective, it is taboo to talk about menses in front of men, so many of the women were not permitted by their husbands to take these sanitary items from men. These kits should be distributed equally as each and every flood-affected woman should have accessibility and availability of sanitary hygienic kits. These kits should be distributed to women/girls by women, not men, in a polite and better way; through this respect for their privacy can be demonstrated, especially given that menstrual hygiene it is still considered taboo and discussed only behind closed doors.

In addition, humanitarian agencies need to strengthen their approach to MHM and address these challenges by providing awareness through different campaigns regarding menstruation, and information should be present on the kits, both in written and pictorial form (as many girls and women in Sindh are formally uneducated) so if someone is using disposable pads for the first time, then they could know by these instructions what to do and how to do it.

Acknowledgements. We acknowledge the comments and suggestions of Robbie Davis-Floyd that helped to improve this article. We are also thankful to our interlocutors who gave precious data on a critical topic that has shaped the entire article.

Funding statement. This research received no specific grant from any funding agency, commercial entity, or not-for-profit organization.

Competing interests. The authors declare none.

Ethical standard. The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committees on human experimentation and with the Helsinki Declaration of 1975, as revised in 2008.

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Cite this article: Sadique S, Ali I, and Ali S (2024). Managing menstruation during natural disasters: menstruation hygiene management during “super floods” in Sindh province of Pakistan. *Journal of Biosocial Science* **56**, 480–492. <https://doi.org/10.1017/S0021932023000159>