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36th WEDC International Conference, Nakuru, Kenya, 2013**DELIVERING WATER, SANITATION AND HYGIENE SERVICES
IN AN UNCERTAIN ENVIRONMENT****Menstrual management in communal sanitation facilities:
recommendations to eThekweni Municipality***C. Truyens, R. Wilmouth, C. Buckley, W. Turnberg & W. Daniell, USA***BRIEFING PAPER 1746**

A growing body of research has shown that menstrual hygiene products (MHPs) are critical to gender equity, and South Africa has committed to providing free sanitary napkins to all indigent women. To address interim water and sanitation needs of its citizens living in informal settlements, South Africa's eThekweni Water and Sanitation Unit (EWS) constructed community ablution blocks (CABs) that consist of gender-separated toilets, showers, and washbasins. The interactions between women, unfamiliar sanitation systems, and MHPs are likely to impact women and the sanitation systems they utilize. A larger case study led by PATH is evaluating these interactions, within which this sub-study aims to characterize the relationship between CABs and menstrual hygiene management in Durban's informal settlements. Based on analysis of information gathered through interviews, photo documentation, and observations, we provide recommendations to EWS that we believe will improve women's experiences at CABs and reduce negative impacts on the sanitation systems.

Background**eThekweni Municipality, South Africa**

To address the interim sanitation and hygiene needs of those living in urban informal settlements, the eThekweni Municipality has constructed more than 350 communal sanitation facilities, called community ablution blocks (CABs), that serve the sanitation and hygiene needs of between 30 and 200 families (Roma et al., 2010). Each facility consists of gender-separated toilets, showers, and washbasins, and has a paid caretaker (janitor) responsible for daily management and cleaning (Photograph 1). Within the Municipality's urban core, the toilets are connected to the municipal waterborne sewerage network, while in the urban periphery, the CABs have non-networked systems, such as ventilated improved pit (VIP) latrines.

Until relatively recently, women's needs and preferences relating to sanitation systems have been largely ignored, particularly with respect to menstrual hygiene management. Recent studies have shown that access to menstrual hygiene products (MHPs) is critical to gender equity, impacting women's health, education, and economic involvement (Sommer, 2009). According to South African surveys, as many as 30 per cent of girls miss school while they are menstruating, likely due in part to the fact that 60 per cent of South African women and girls lack access to proper MHPs (WRC, 2011). To address this problem, in 2010 the South African government promised to provide free sanitary napkins to all indigent women and adolescent girls, launching the Sanitary Dignity Campaign. The Department of Women, Children, and People with Disabilities is coordinating these efforts among various government agencies, and the Water Research Commission has been tasked with determining the best manner in which to fulfil this promise, both with respect to product choice and logistics of distribution.

Interactions between menstrual management and sanitation systems

Many factors impact a woman's menstrual hygiene practices, including cultural beliefs and stigmas, physical and economic access to MHPs, and the design and maintenance of sanitation facilities. Flushing menstrual waste is common and may contribute to blockages in pipes or cause problems for wastewater

treatment plants (Ashley et al., 2005). Blocked sewer pipes can cause raw sewage to back up into homes and buildings, causing serious health and safety concerns, and removing the blockages costs utilities significant amounts of money and manpower (Kjellén et al., 2012). Improper disposal of MHPs also causes problems for on-site sanitation systems, including pit latrines and septic systems. These facilities are designed to handle organic material that breaks down over time, and disposing of nonbiodegradable or slowly degrading MHPs cause pits and tanks to fill up more quickly than they should. The MHPs and other solid waste make emptying the pits by hand or vacuum more challenging, as the solid waste may clog the machinery's intake.

The most common cause of improper disposal of MHPs is a lack of adequate disposal facilities with subsequent solid waste removal services, coupled with a lack of education on proper disposal methods. To properly manage their menstrual hygiene, women need secure, well-maintained sanitation facilities with covered, regularly emptied waste bins, preferably located in the toilet stall (Kjellén et al., 2012). A woman who uses disposable MHPs will throw away an average of 125-150 kg of tampons, pads, and applicators in her lifetime (Bharadwaj & Patkar, 2004), so it is critical that she disposes of these products in the best possible way.



Photograph 1. Community ablution block in an informal settlement near Durban, South Africa

Source: Carley Truyens

Study aims

The overall purpose of the larger Menstrual Management & Sanitation Systems Project led by the University of Maryland is to research the “interactions between menstrual management and sanitation, using a systems approach that integrates an understanding of sanitation hardware with women’s practices, needs, and willingness to pay for menstrual management products.” To support the overall project, two case studies were conducted by PATH in South Africa and India. PATH is an international nonprofit organization that transforms global health through innovation. The primary goals of the case studies led by PATH were to determine the impact of menstrual hygiene products and practices on multiple sanitation systems, and conversely, to determine the impact of urban and peri-urban sanitation systems on the menstrual management experiences, product choices, and practices of women and adolescent girls. As part of the case study conducted in Durban, South Africa, this sub-study focused on the relationship between CABs and menstrual hygiene management in Durban’s informal settlements. Specifically, we have attempted to characterize the existing conditions in CABs with respect to the following:

- Perceptions of risk from bodily fluids and caretaker occupational safety;
- Facility maintenance, disrepair;
- Supply chain for nondurable goods, with implications for future MHP distribution; and
- Solid waste management and disposal for MHPs.

Based on the analysis of information gathered during the case study, we provide recommendations to the eThekweni Water and Sanitation Unit (EWS) to improve women’s experiences at CABs and reduce negative impacts on the sanitation systems.

Methodology

In March and April of 2012, the study team led by PATH conducted facility assessments at 12 CABs, of which 11 were connected to the sanitary sewer network and 1 had VIP latrines. Each facility assessment consisted of three components:

- Photo documentation—We photographed the interiors and exteriors of the 12 facilities, capturing specific features relating to waste disposal, privacy, safety/security, cleanliness, and maintenance;
- Observation checklist—In addition to the photos, we used a checklist document denoting specific details about important features, as described above; and
- Structured caretaker interviews—For each facility, we interviewed the facility caretakers, capturing information on demographics and employment history, water access and usage, service provision, operations and maintenance, provision of supplies, messaging and disposal practices, and perceptions of risk from bodily fluids.

To support the facility assessments, we conducted a ‘ride along’ with an EWS blockage team in order to observe typical blockage contents, locations, and removal procedures. We also observed occupational health and safety procedures, recording key moments with photographs and video. Additionally, we conducted in-depth interviews with sanitation system personnel and general stakeholders whose lives or careers either impact or are impacted by sanitation systems or menstrual hygiene management, however, these findings will be reported separately. A concurrent sub-study engaged with female users of the sanitation systems. The key insights from female users will be reported separately as well.

Key recommendations

Based on our analysis of the interviews, observations, and literature review, we identified several negative interactions between menstrual management and sanitation at CABs. We believe that implementing the following recommendations may improve the user experience for women, the safety of the caretakers, and the sustainability of the sanitation systems in the eThekweni Municipality.

Perceptions of risk and caretaker knowledge

All caretakers interviewed were concerned about contracting diseases from another person’s menstrual blood. Although EWS provides some safety training to the caretakers before they begin working, there is still confusion about disease transmission and the risks posed by contact with another person’s bodily fluids. Because caretakers stated that they trusted the Municipality, EWS should provide multiple training opportunities to all caretakers each year on disease transmission, handling infectious waste, and proper use of personal protective equipment.

CAB operation and maintenance

Supply chain

EWS delivers toilet paper and other cleaning supplies to each CAB via truck once per month. We found that the caretakers store and distribute toilet paper in several ways to avoid theft and shortages. Despite measures taken to ensure availability of toilet paper, CABs often run out of toilet paper. When toilet paper is unavailable, people resort to using other dry cleansing material, such as newspaper, which can cause system blockages.

The supply chain for toilet paper should be evaluated as an example for a potential MHP supply chain. EWS could distribute the sanitary napkins or other MHPs to CABs on a monthly basis when they deliver other supplies with little increased cost. Just as caretakers must deal with theft and shortages of toilet paper, theft and shortages of distributed MHPs will likely be challenges.

Solid waste management

The eThekweni Municipality has largely overlooked the disposal of solid waste from the CABs. The eThekweni Department of Solid Waste (DSW) provides garbage bags to *households* within informal settlements and collects the solid waste on a weekly basis, but neither DSW nor EWS distributes garbage bags or bins to the CABs.

As the South African government rolls out the Sanitary Dignity Campaign, the number of women living in informal settlements using disposable sanitary napkins will greatly increase, and EWS and DSW must be prepared to handle both the distribution of the MHPs and the influx of menstrual waste. Without waste bins in the female restrooms, this increase in disposable MHPs may lead to an increase in improper disposal of the products. DSW and EWS should coordinate with each other to determine who is responsible for providing waste removal services, bins, and bags to CABs. This should include installing small waste bins in each female bathroom stall to allow women to dispose of MHPs discretely, possibly reducing the potential for blocked toilets and sewer pipes. However, “proper” disposal of MHPs is not well defined, and there are gaps in the literature regarding pathogen survival and disease transmission via used MHPs. Research is necessary to determine sanitary waste disposal procedures that are appropriate for Durban, given the relatively high disease burden and less-robust waste management system.

Sanitation and hygiene education

Improper disposal of waste in the piped sewerage network is common in eThekweni. Because CAB caretakers interact with community members on a daily basis, they are a direct link between the community and the Municipality. EWS could utilize this link to disseminate information about sanitation, hygiene, and menstrual management to community members living in informal settlements.

EWS’s current water and sanitation education program includes colourful posters and pamphlets and a street theatre team that educates school children and community members through live performance. Before the Sanitary Dignity Campaign begins distributing sanitary napkins or other MHPs, we recommend that EWS develop both printed educational materials and “street theatre” skits that specifically inform audiences about menstrual hygiene management and proper disposal of MHPs. This education campaign could target all caretakers, women, and adolescent girls, and may focus dissemination on schools as well as CABs.

Conclusion

To truly provide women with the dignity they deserve, we must consider women’s menstrual hygiene management needs when developing sanitation programs. The eThekweni Water and Sanitation Unit, while innovative in its approaches to meeting the water, sanitation, and hygiene needs of those living in Durban’s informal settlements, must recognize that interactions exist between menstrual hygiene management and sanitation systems and that these interactions are likely to be exacerbated by the launch of South Africa’s Sanitary Dignity Campaign. If EWS takes a proactive approach to mitigating the conflicts between menstrual hygiene management and sanitation systems, it will improve women’s experiences at CABs while reducing negative impacts on its sanitation systems.

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PATH is an international nongovernmental organization whose mission is to improve the health of people around the world by advancing technologies, strengthening systems, and encouraging healthy behaviors.

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