



humanitarian
learning centre

OPERATIONAL PRACTICE PAPER 3

May 2018

Menstrual Hygiene Management in Humanitarian Emergencies

*'The silence and stigma surrounding menstruation makes finding solutions for menstrual hygiene management a low priority.'*¹

The overlooked biological reality

Until recently the issue of menstrual hygiene management (MHM) for women and girls in emergencies had been somewhat overlooked by agencies engaged in humanitarian response.² Lack of leadership, coordination and collaboration across key humanitarian sectors has resulted in the de-prioritisation of MHM in emergency response and programming.³ Yet menstruation is a biological fact of life and one that will continue unabated – and all the more challenging – during emergencies.

Why is MHM important?

MHM is important not only for promoting the health, wellbeing, dignity and safety of women and girls, but also to ensure that women and girls do not forgo important livelihood and productive activities or engagement at school (both girls and female teachers) because of the shame and stigma associated with being unable to manage their menses.⁶ At the very core, creating an enabling environment that promotes MHM in an emergency context is about ensuring the basic human rights of women and girls during emergencies.

The challenge of MHM in emergency settings

Despite the debilitating and humiliating effects that poor MHM can have on women and girls in emergency settings, research has shown that in an emergency context MHM is not prioritised by humanitarian responders.⁷ Yet displacement and the very act

of having to flee one's home seriously disrupt the habitual, but often inadequate, coping strategies adopted by women and girls when at home. Moreover, during the period of displacement it is unlikely that women and girls would be able to carry an adequate supply of underwear, cloths or sanitary products to alleviate their recurrent monthly menstrual hygiene needs, making the inability to access these essential items during displacement an additional but real concern.⁸ Upon arriving at transit or reception centres, women and girls may therefore be in dire need of basic menstrual hygiene supplies and facilities, and require a supporting environment in which to deal with these matters.⁹

Menstrual hygiene management (MHM): The Joint Monitoring Programme (JMP) of the World Health Organization (WHO) and UNICEF define MHM such that 'Women and adolescent girls are using a clean menstrual management material to absorb or collect menstrual blood, that can be changed in privacy as often as necessary for the duration of a menstrual period, using soap and water for washing the body as required, and having access to safe and convenient facilities to dispose of used menstrual management materials. They understand the basic facts linked to the menstrual cycle and how to manage it with dignity and without discomfort or fear.'¹⁴

Similar definitions for MHM have the important addition that 'MHM is not just about the management of the menstrual period but also the need to address societal beliefs and taboos surrounding the issue.'¹⁵

The type of humanitarian emergency (conflict or natural disaster), the length of the emergency (acute or protracted), and the location (urban or rural; or on the move, living in camps, host communities, or informal settlements) all create different conditions that make addressing gender-specific needs of displaced women and girls difficult in a variety of ways.¹⁰ For instance, in conflict settings, the provision of, or even access to, water may be seriously disrupted, and water source areas may become the target for attacks which places women and girls at heightened risk when managing menstruation.¹¹ In addition, emergency response teams, disproportionately made up of men who are either untrained in, or uncomfortable with, dealing with menstrual hygiene issues make it particularly difficult for women and girls to raise concerns about MHM.

A holistic response to MHM is lacking

Despite the importance and omnipresent issue of MHM in any emergency context, and the potential for cross-sectoral links of MHM within the cluster system, there is a lack of policy and agency guidelines to support these sectors to conduct a holistic MHM response.¹² Organisations such as Oxfam, Save the Children, and UNICEF have acknowledged the importance of MHM,¹³ but in an environment in which 'MHM is subjectively prioritized', humanitarian agencies generally have failed to put in place the required systems, processes or procedures to determine which cluster or sector is responsible for providing leadership and which others need to be or should be involved.¹⁴ Research suggests that the Water, Sanitation and Health (WASH) sector is best placed to take on this leadership role particularly in the early stages of response, but will require cross-cluster support from Health, Education, Protection, and Shelter.¹⁵ This cross-cluster support is required to ensure that the

menstrual hygiene needs of all women and girls are met and that those who are particularly vulnerable and have specific needs are included in programming – for example, those with disabilities, those who have experienced female genital mutilation or cutting, and those suffering from menstrual disorders, postnatal problems, incontinence, or fistula.¹⁶

Culture and MHM in emergencies

MHM responses in emergencies need to factor in cultural understandings of menstruation. For personal and cultural reasons, it may be particularly difficult for women and adolescent girls to raise concerns about MHM to male humanitarian responders. Considered as 'shameful and dirty' in many cultures, myths and taboos around menstruation confine these issues to the private, female domain.¹⁷ In some cultures, physical exclusion from the home during menstruation is commonplace and the sharing of water and sanitation facilities with other household members is prohibited.¹⁸ For some girls, the topic of menstruation is rarely discussed even between mothers and daughters, or teachers and pupils during the pre-menarche stage; and when it is voiced after menstruation has begun the talk is often ill-informed and inadequate.¹⁹

Such poor menstrual knowledge is further complicated in an emergency setting where hygiene kits may contain sanitary products that are unfamiliar to women and girls. For example, in pre-emergency contexts disposable sanitary pads may have been prohibitively expensive for some females with home-made, reusable cloths or scrap material being used as a more affordable and easily accessible option.²⁰ MHM responses should tailor types of sanitary products (disposable, reusable or both) to what is appropriate to the girls and women in need and the local context.²¹

LESSONS FOR SUPPORTING MENSTRUAL HYGIENE MANAGEMENT IN EMERGENCIES

As Figure 1 indicates, MHM in emergencies involves three essential components: MHM materials and supplies, MHM supportive facilities, and MHM information.²² Studies have shown that there is a need for better technical guidance, information and evidence on how to prepare for and implement an MHM response.²³ Seen through a human rights lens, this may involve addressing structural, institutional, practical and cultural restrictions in order to ensure that women and girls enjoy the rights of dignity, privacy and gender equality during menstruation.²⁴ The current evidence suggests that the following are key factors that promote best practice for any response, although phasing them in as and when it is possible is a more realistic scenario (see Table 1).

■ Ensure humanitarian responders on MHM are culturally sensitive and well trained

In emergencies, while appropriate menstrual hygiene infrastructure is essential to enabling women and girls to manage their menstrual hygiene needs, the relationship between operational staff and affected

populations is equally important. Dealing with an issue that is heavily laden with taboo requires careful ‘framing’ of the issues.²⁵ This means that training of practitioners, community health workers, teachers and others who are involved in MHM is imperative.

In addition, emergency response teams should be sensitive to cultural contexts, cultural norms and practices, and the often varied backgrounds of affected populations. To facilitate a two-way communication process, response teams should not be composed solely of male staff – male and female staff may serve different roles in an MHM response. Being able to provide non-judgemental information to women and adolescent girls on how to use MHM products in often overcrowded environments should be a priority for responders,²⁶ whilst acknowledging that it may be easier for women and girls to talk to female practitioners.²⁷ Engaging with and being accountable to women and girls through establishing feedback mechanisms will serve to improve MHM in emergency settings and make for a more effective response.²⁸

Figure 1 The three essential components of a MHM response in emergencies

1 MHM materials and supplies

- Appropriate menstrual materials (pads, cloths, underwear)
- Additional supportive materials (e.g. soap, bucket) for storage, washing and drying
- Demonstration on how to use MHM materials



2 MHM supportive facilities

- Safe and private toilet and bathing facilities with water for changing, washing and drying menstrual materials
- Convenient and private disposal options for menstrual waste
- Waste management systems in place for menstrual waste

3 MHM information

- Basic menstrual hygiene promotion and education
- Basic menstrual health education (especially for pubescent girls)
- Address harmful cultural or social norms related to menstruation

Source: Sommer, Schmitt and Clatworthy (2017).

Figure 2 Beyond pads: the range of supplies needed by girls and women



- **Menstrual materials** refers to the materials used to catch blood. This could be a pad, piece of cloth, tampon, cup or any other preferred method.
- **Menstrual supplies** refers to the other items needed to support the management of menstruation.

Source: Sommer *et al.* (2017).

■ Consult with women and girls on their MHM needs

Studies have shown that failure to consult with women and girls on their needs has resulted in the dispersal of inappropriate sanitary products.²⁹ Best practice would suggest that it is important to engage with affected populations to understand their needs and requirements, and provide guidance where needed. Lessons learned from the experience of the International Federation of Red Cross and Red Crescent Societies (IFRC) in Pakistan, where culturally-insensitive items were included in hygiene kits, prompted the IFRC to conduct pilot studies of MHM needs of women and girls in emergencies first in a Congolese refugee camp in Burundi in 2012, and then in the following year in Madagascar (remote, rural and cyclone-prone), Somalia (rural and peri-urban contexts) and Uganda (refugee camp/settlement). Focus group discussions (FGDs) and a knowledge, attitude and practices (KAP) baseline survey, followed by two post-distribution surveys (one month and three month) and further FGDs identified the needs and preferences of women and girls in these contexts. Through established feedback loops, findings were then used to tailor MHM kits to users.³⁰

■ Provide appropriate and culturally-sensitive hygiene kits that contain enough supplies

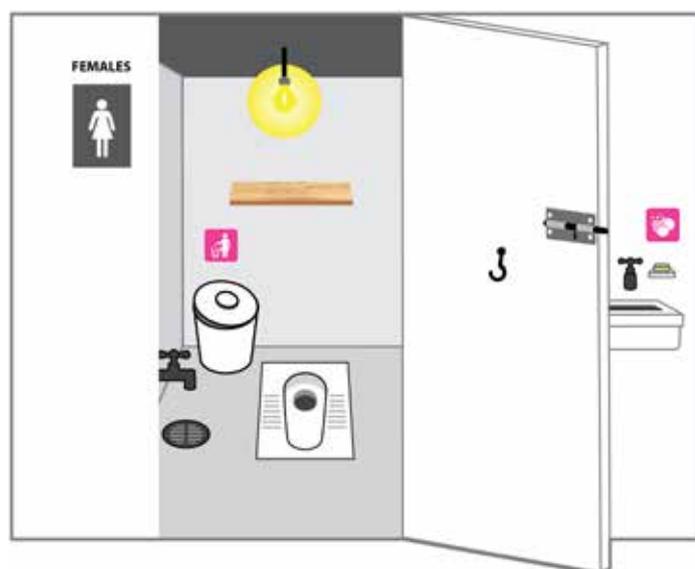
Hygiene or dignity kits should be age appropriate and culturally sensitive, and contain enough supplies and materials relative to the number of females in a household. Supplies and materials should be adequate to last the duration between relief distributions, and where supplies are infrequent the type of materials used ought to be a consideration.³¹ As seen in Figure 2, 'menstrual supplies' refers to the range of supporting items that are needed for a holistic MHM response alongside 'menstrual materials' used to catch blood.

Ideally, kits should contain the following essentials: disposable sanitary pads or reusable cloth (or other preferred methods); washing line and pegs; several pairs of underwear; soap and/or washing powder; bucket with lid to wash sanitary material; two torches (solar powered, wind-up or with batteries); a whistle for safety; a washing basin; towels; and sealable plastic bags to dispose of sanitary waste.³² Where possible, these should be sourced locally through community groups that are making their own sanitary materials.³³ For example, a local entrepreneur in Bangladesh is working with female garment workers to transform scrap garment material into low-cost sanitary napkins.³⁴ With plans to expand this initiative to include women's underwear and reusable sanitary pads,³⁵ it is not inconceivable that such products could be used to meet the needs of female Rohingya refugees in camps in Bangladesh.

■ Ensure the safety and security of women and girls through well-planned and appropriately-designed latrines and bathing facilities

In the best case scenario, there are a number of essential design characteristics that should be considered for menstrual hygiene provision and all of these should be done in consultation with those women and girls who will be using them. Facilities should be 'female friendly', as illustrated in Figure 3.³⁶ Firstly, latrines and bathing facilities should be segregated by gender and an adequate number of them provided, located in a safe and secure place with a lock on the inside of the door to ensure privacy.³⁷ Other amendments such as a mirror to check for stains, and shelving and hooks to place personal and hygiene materials should be included

Figure 3 Example of a female-friendly toilet



-  Adequate numbers of safely located toilets separated (with clear signage) from male facilities
-  Safe and private toilets with inside door latch
-  Clear signs instructing girls and women to dispose of menstrual waste in the rubbish bin
-  A shelf and hook for hygienically storing belongings during usage
-  Night-time light source both inside and outside of the toilets
-  Easily accessible water (ideally inside the cubicle) for girls and women to wash themselves and menstrual materials
-  Rubbish bins (with lids) to dispose of used menstrual materials
-  Walls, door and roof are made of non-transparent materials with no gaps or spaces
-  Some units should be accessible to people with disabilities

Source: Sommer *et al.* (2017).

in the design.³⁸ Adjustments should be made for women with disabilities and mobility issues including, but not limited to, safety rails/ropes, cleanable seats, doors with a large pull handle to close and lock them, and larger cubicles and ramps for ease of access.³⁹ Secondly, these should all have a sufficient water supply located inside (or at the very least, near) latrines and bathing areas, with warm piped water provided in bathing areas. Hand-washing facilities with soap should also be made available to discourage the spread of germs.⁴⁰ Thirdly, for night-time use the facilities should be adequately lit but if this is not possible, wind-up torches or torches with spare batteries should be provided. Research shows that the shame associated with having one's period has resulted in women and girls choosing to use latrines and bathing facilities in the hours of darkness,⁴¹ despite the threat of sexual and gender-based violence.⁴² Finally, a designated area with privacy is needed to enable women and girls to wash and dry their sanitary materials.⁴³ Failure to provide these safe spaces can result in poor hygiene management, increasing the risk of infections.⁴⁴

■ Ensure that girls and women with special needs are reached

Girls and women who are unaccompanied, vulnerable, very poor, from indigenous or minority groups, orphaned, or those with disabilities can experience unique MHM challenges during emergencies.⁴⁵ In order to engage with and get needed supplies to these

groups, it is necessary to build on the relationship that these women and girls have with their community networks (i.e. women's groups and disabled people's organisations), leaders within the community, and also call upon cross-sector assistance to facilitate this.⁴⁶ In addition, listening to and acting upon the testimonies of beneficiaries and their caretakers is important to improving and addressing MHM needs,⁴⁷ as is providing customised MHM education and hygiene promotion that is accessible to and accounts for the needs of vulnerable girls and women, as well as providing MHM training to caregivers.⁴⁸

■ Provide for sanitary disposal and waste management

Agencies working to enable women and girls to carry out proper MHM must also bear in mind the complex stages of sanitary disposal and waste management in both the immediate emergency phase of a crisis/disaster, and longer-term protracted crisis situations. Disposal and waste management is a system that begins with the disposal of sanitary material in the latrine/toilet and only ends when waste is collected and disposed of in disposal sites.⁴⁹ The approach taken during the different stages may vary but must be sustainable. For example, in the early stages of an emergency, latrines could be equipped with a container and lid for disposal of sanitary waste, but a longer-term solution could be a chute with an incinerator attached to the latrines. In addition, management, disposal of waste, and maintenance

Table 1 Phasing responses to the stages of an emergency

Stage	Possible menstrual hygiene activities
Preparedness (international or local to a specific area)	<ul style="list-style-type: none"> ■ Research and develop understanding of menstrual hygiene norms, myths and practices. ■ Identify which sanitary protection materials women and girls prefer. ■ Identify existing menstrual hygiene booklets and training materials for teachers, women and girls. ■ Identify and stock menstrual hygiene products that are available locally. ■ Train staff and partners in good practice in menstrual hygiene for emergencies.
Acute emergency (first few weeks)	<ul style="list-style-type: none"> ■ Ensure that the initial emergency water and sanitation facility designs and locations are appropriate for the safety and comfort of women and girls. ■ Ensure that non-food item kits for women and girls include basic menstrual hygiene materials and information. ■ Consult with women and girls to assess the appropriateness of the initial responses.
Stabilisation and longer-term care and maintenance stage (from three or more weeks to the longer term)	<ul style="list-style-type: none"> ■ The hygiene team to undertake more detailed focus group discussions with women in relation to their menstrual hygiene needs. ■ Refine the identification and selection of sanitary protection materials for women and girls. ■ Spend more time looking at the design and location of latrines, bathing units, laundry slabs, private laundry areas, etc. with women and girls. ■ Consider the information needs of adolescent girls and the mechanisms available to support them (using booklets, through the school curriculum, out-of-school clubs, etc.). ■ Consider supporting refugees or others affected by the emergency to produce their own menstrual hygiene products.

Source: House *et al.* (2012: 134).

of all facilities must be ensured to prevent the spread of disease.⁵⁰ Being aware of strongly-held cultural beliefs around the disposal of menstrual materials (such as burying instead of burning) should be taken into account when deciding on the most appropriate waste management system.⁵¹ Failure to do so can jeopardise the functionality and sustainability of these systems.⁵²

■ Ensure MHM is provided in schools during emergencies and protracted crises

Research shows that in emergency situations girls are more likely than boys to forgo education.⁵³ In an emergency context where a school building may no longer exist and temporary structures such as 'tent schools' are created,⁵⁴ poor provision for MHM should not be a contributing factor to schoolgirls (and their female teachers) not attending school.⁵⁵ Functioning water, sanitation and hygiene facilities that are gender sensitive need to be in place in schools, which should be able to supply girls with sanitation materials, if required.

The school curriculum should be adapted to include menstrual hygiene and teachers should receive training on how to provide guidance to girls and boys

on the subject.⁵⁶ One female teacher could act as a champion for MHM in a school.⁵⁷ Where it might prove problematic for teachers, particularly male teachers, to teach girls about puberty and menstruation, studies conducted in Tanzania, Ghana, Cambodia and Ethiopia show that the distribution of books on puberty is a useful way to improve knowledge and understanding towards puberty and MHM.⁵⁸ Only through a concerted effort to raise awareness around the natural process of menstruation can stigma and taboos be addressed at an early stage and prescribed patriarchal norms be challenged.⁵⁹

■ Tailor the MHM response to different stages of an emergency

Whilst each emergency will require an adaptive MHM response in relation to its own unique context, WaterAid suggests that a phased response which addresses MHM at different stages of an emergency is a sensible approach to adopt.⁶⁰ Table 1 identifies key activities that should take place during the 'Preparedness', 'Acute emergency' and the 'Stabilisation and longer-term care and maintenance' stages, and provides a summary of the main points addressed in this section.

GUIDELINES AND OTHER RESOURCES

- In 2017 the Mailman School of Public Health at Columbia University and the International Rescue Committee (IRC) published *A Toolkit for Integrating Menstrual Hygiene Management (MHM) into Humanitarian Response*. This toolkit provides up-to-date evidence and guidance on MHM during emergencies, as well as training tools that can be adapted to different emergency contexts to aid in the process of training and sensitisation. It is available in an abridged version in [Arabic](#) and [French](#).
- The IFRC has used participatory methods to improve MHM in emergencies. See [Improving Menstrual Hygiene Management in Emergencies: IFRC's MHM Kit](#).
- WaterAid with support from SHARE (2012) developed the [Menstrual Hygiene Matters](#) resource guide and accompanying [training guide](#) that highlight examples of best menstrual hygiene practice around the world.
- The Water Supply, Sanitation and Hygiene promotion section of *The Sphere Project: Humanitarian Charter and Minimum Standards in Humanitarian Response* (2011) includes references to MHM. The draft version of the *Sphere Handbook 2018* includes a new hygiene standard on MHM and incontinence.
- A dedicated [website](#) for 'Menstrual Hygiene Day' (28 May) has been set up by WASH United which includes the latest resources on menstrual hygiene.
- The organisation [Grow and Know](#) has developed a series of [books on puberty](#) for girls and boys in countries around the world such as Tanzania, Ghana, Ethiopia, Cambodia and Madagascar.

NOTES

- 1 United Nations General Assembly (2012) *Stigmatization and the Realization of the Human Rights to Water and Sanitation*, Report of the Special Rapporteur on the Human Right to Safe Drinking Water and Sanitation, Catarina de Albuquerque, UN Doc. A/HRC/21/42: 7, para. 22.
- 2 Robinson, A. with Obrecht, A. (2016) *Improving Menstrual Hygiene Management in Emergencies: IFRC's MHM Kit*, HIF/ALNAP Case Study, London: ODI/ALNAP.
- 3 Sommer, M.; Schmitt, M.; Clatworthy, D.; Bramucci, G.; Wheeler, E. and Ratnayake, R. (2016) 'What is the Scope for Addressing Menstrual Hygiene Management in Complex Humanitarian Emergencies? A Global Review', *Waterlines* 35.3.
- 4 House, S. (2016) *Supporting the Rights of Girls and Women Through Menstrual Hygiene Management (MHM) in the East Asia and Pacific Region*, Good Practice Guidance Note, Thailand: UNICEF East Asia and Pacific Regional Office (EAPRO): 9.
- 5 Roose, S.; Rankin, T. and Cavill, S. (2015) 'Breaking the Next Taboo: Menstrual Hygiene within CLTS', *Frontiers of CLTS: Innovations and Insights* 6, Brighton: IDS: 3.
- 6 House (2016).
- 7 Hayden, T. (2012) *Menstrual Hygiene Management in Emergencies: Taking Stock of Support from UNICEF and Partners*, New York NY: UNICEF.
- 8 House, S.; Mahon, T. and Cavill, S. (2012) *Menstrual Hygiene Matters: A Resource for Improving Menstrual Hygiene Around the World*, WaterAid; Sommer *et al.* (2016).
- 9 Sommer, M.; Schmitt, M. and Clatworthy, D. (2017) *A Toolkit for Integrating Menstrual Hygiene Management (MHM) into Humanitarian Response*, 1st ed., New York NY: Columbia University, Mailman School of Public Health and International Rescue Committee: 31–32.
- 10 Sommer *et al.* (2016: 246).
- 11 House *et al.* (2012).
- 12 Sommer *et al.* (2016); WaterAid (2013) *ToT in Menstrual Hygiene Management (MHM) in Emergencies for Emergency WASH Trainers*, Course Report, 5 April, London: WaterAid: 10.
- 13 Oxfam (2011) 'Women's Menstrual Hygiene Needs in Emergencies', *Oxfam Technical Briefing Notes*, Oxford: Oxfam GB; Ferron, S. and Lloyd, A. (2014) *Emergency WASH for Children: Scoping Study*, London: Save the Children; Hayden (2012); United Nations Economic and Social Council (2017) *UNICEF Gender Action Plan, 2018–2021*, E/ICEF/2017/16: 12, para. 60.
- 14 Hayden (2012: 16).
- 15 Schmitt, M.; Clatworthy, D.; Ratnayake, R.; Klaesener-Metzner, N.; Roesch, E.; Wheeler, E. and Sommer, M. (2017) 'Understanding the Menstrual Hygiene Management Challenges Facing Displaced Girls and Women: Findings from Qualitative Assessments in Myanmar and Lebanon', *Conflict and Health* 11.19: 2; House *et al.* (2012: 132).
- 16 House *et al.* (2012: 132).
- 17 Chandra-Mouli, V. and Patel, S.V. (2017) 'Mapping the Knowledge and Understanding of Menarche, Menstrual Hygiene and Menstrual Health Among Adolescent Girls in Low- and Middle-Income Countries', *Reproductive Health* 14.30: 2.
- 18 Roose, S.; Rankin, T. and Cavill, S. (2015) 'Breaking the Next Taboo: Menstrual Hygiene within CLTS', *Frontiers of CLTS: Innovations and Insights* 6, Brighton: IDS; United Nations General Assembly (2012: 7, para. 22).
- 19 Chandra-Mouli and Patel (2017: 2, 6); Sommer, M.; Hirsch, J.S.; Nathanson, C. and Parker, R.G. (2015) 'Comfortably, Safely, and Without Shame: Defining Menstrual Hygiene Management as a Public Health Issue', *American Journal of Public Health* 105.7: 1305.
- 20 Chandra-Mouli and Patel (2017).
- 21 Robinson with Obrecht (2016: 6).

- 22 Sommer *et al.* (2017).
 23 Sommer *et al.* (2016).
 24 Winkler, I. and Roaf, V. (2015) 'Taking the Bloody Linen Out of the Closet: Menstrual Hygiene as a Priority for Achieving Gender Equality', *Cardozo Journal of Law and Gender* 21.1.
 25 Sommer *et al.* (2015: 1302–03).
 26 Hayden (2012).
 27 Sommer *et al.* (2017).
 28 House *et al.* (2012).
 29 House (2016).
 30 Robinson with Obrecht (2016).
 31 Schmitt *et al.* (2017: 4).
 32 House (2016).
 33 House *et al.* (2012).
 34 www.unitar.org/medium/ella-pad-innovative-solution-waste-reuse-make-low-cost-sanitary-napkin-garments-workers-bangladesh (accessed 28 February 2018).
 35 *Ibid.*
 36 Sommer *et al.* (2017).
 37 House *et al.* (2012).
 38 House (2016).
 39 House *et al.* (2012); House (2016).
 40 House *et al.* (2012).
 41 *Ibid.*: 138.
 42 Emery, M.; Shaw, M.; Santosa, L. and Bird, O. (2011) 'Recommendations to Reduce Sexual Violence in Haitian Internally Displaced Persons' (IDP) Camps', *New Voices in Public Policy* Vol. V: 1–34; Davoren, S.J. (2012) 'Helping International Non-Government Organisations (INGOs) to Include a Focus on Gender-Based Violence During the Emergency Phase: Lessons Learned from Haiti 2010–2011', *Gender & Development* 20.2: 281–94; Sommer, M.; Ferron, S.; Cavill, S. and House, S. (2014) 'Violence, Gender and WASH: Spurring Action on a Complex, Under-Documented and Sensitive Topic', *Environment and Urbanization* 27.1: 105–16; UN Women (2015) *The Effect of Gender Equality Programming on Humanitarian Outcomes*, New York NY: UN Women: 10–11, 23, 35–49.
 43 Sommer, M. (2012) 'Menstrual Hygiene Management in Humanitarian Emergencies: Gaps and Recommendations', *Waterlines* 31.1 and 2: 83, 86, 90, 92 and 99.
 44 Das, P.; Baker, K.K.; Dutta, A.; Swain, T.; Sahoo, S.; Das, B.S.; Panda, B.; Nayak, A.; Bara, M.; Bilung, B.; Mishra, P.R.; Panigrahi, P.; Cairncross, S. and Torondel, B. (2015) 'Menstrual Hygiene Practices, WASH Access and the Risk of Urogenital Infection in Women from Odisha, India', *PLoS ONE* 10.6: 1–16.
 45 Sommer *et al.* (2017: 63).
 46 *Ibid.*: 28.
 47 *Ibid.*: 63.
 48 *Ibid.*: 65.
 49 *Ibid.*: 51.
 50 House *et al.* (2012).
 51 Chandra-Mouli and Patel (2017: 12); Mahon, T. and Fernandes, M. (2010) 'Menstrual Hygiene in South Asia: A Neglected Issue for WASH (Water, Sanitation and Hygiene) Programmes', *Gender & Development* 18.1: 110; Schmitt *et al.* (2017: 5).
 52 Schmitt *et al.* (2017: 8).
 53 Kirk, J. (2006) *Education in Emergencies: The Gender Implications – Advocacy Brief*, Bangkok: UNESCO Bangkok: 3–5.
 54 *Ibid.*: 1.
 55 Gender Task Team (n.d.) *Gender Responsive School Sanitation, Health and Hygiene*, Inter-Agency Network for Education in Emergencies.
 56 *Ibid.*
 57 UNICEF (2016).
 58 Sommer, M.; Ackatia-Armah, N.; Connolly, S. and Smiles, D. (2015) 'A Comparison of the Menstruation and Education of Girls in Tanzania, Ghana, Cambodia and Ethiopia', *Compare: A Journal of Comparative and International Education* 45.4: 589–609.
 59 Winkler and Roaf (2015).
 60 House *et al.* (2012: 134).

Humanitarian Learning Centre

The Humanitarian Learning Centre (HLC) is a joint initiative of the Institute of Development Studies, the International Rescue Committee and Crown Agents. In partnership with the Humanitarian Leadership Academy, the Humanitarian Learning Centre is a transformative centre that brings together accessible, operational learning with academic insights to enable more effective humanitarian response.

This **Operational Practice Paper** was written by **Tina Nelis**.

The opinions expressed are those of the author and do not necessarily reflect the views of IDS or any of the institutions involved. Readers are encouraged to quote and reproduce material from the **Operational Practice Papers** in their own publication. In return, IDS requests due acknowledgement and quotes to be referenced as above.

© Institute of Development Studies, 2018
 ISBN 978-1-78118-444-8

