UNIVERSITY OF COPENHAGEN

Master's Thesis

Hanna Norelius

Managing menstruation during displacement

A mixed methods study investigating Menstrual Hygiene Management in Rhino refugee settlement, Uganda.

Main supervisor: Dan Wolf Meyrowitsch

Co-supervisor: Siri Tellier

Master of Science in Global Health

Department of Public Health

Number of keystrokes: 161.654

August 2017

Abstract

Despite the fact that one fourth of the world's population is likely to menstruate, girls' and women's menstrual needs are commonly ignored and left unaddressed. Research on menstrual hygiene management (MHM) in general and MHM among refugees and in humanitarian settings in particular is scarce. However, girls and women do not cease to menstruate during displacement. Rather, the challenges they face in their everyday lives are likely to be exacerbated in displacement and their regular coping mechanisms might be disturbed in the new setting. Using a mixed-methods approach, with data from in-depth interviews, focus group discussions and structured interviews, this study focuses on MHM in Rhino refugee settlement in north-western Uganda. This study investigates how the study population access information about menstruation and assess girls' and women's access to and usage of sanitation facilities and materials, as well as how access to MHM influence the lives of girls and women in Rhino refugee settlement. Data are analysed by conducting thematic analysis and descriptive statistics. The Health Access Livelihood Framework is applied in order to facilitate the discussion about access to MHM. The findings suggest that fear and shame affect the access to information about menstruation and that poverty is the main factor that prevents girls and women from accessing soap and the menstrual product of their choice. Menstruation and its management appear to cause stress and worry among girls and women in Rhino settlement. This may be due to lack of soap or menstrual products, lack of knowledge when reaching menarche, lack of supportive network, fear of leaking, or simply because they feel the need to hide the fact that they are menstruating since they do not want to be teased or insulted.

Acknowledgements

I would like to thank WoMena and their partner organisation ZOA for sharing their baseline data with me and thus enabling me to write this thesis.

I did an internship with WoMena as part of my Master's degree from November 2016 to January 2017 and was involved in the preparatory and exploratory phase of their upcoming menstrual hygiene management pilot project in Rhino refugee settlement. During the internship I was based in Kampala, Uganda, but I also got the opportunity to travel to Rhino refugee settlement in north-western Uganda for a week to take part in some preparatory activities preceding the intervention phase of the pilot project. Unfortunately, I completed the internship before the baseline data were collected and therefore I am very grateful that WoMena and ZOA agreed to share their data with me.

Furthermore, I would like to thank the girls, women, boys and men in Rhino refugee settlement for sharing their experiences and views on menstruation.

I would also like to thank my supervisor Dan Wolf Meyrowitsch and my co-supervisor Siri Tellier for interesting discussions and valuable feedback.

List of Abbreviations

FGD	Focus Group Discussion
IASC	Inter-Agency Standing Committee
IPD	Internally Displaced People
JMP	Joint Monitoring Programme
LMICs	Low and Middle-Income Countries
MHM	Menstrual Hygiene Management
NFI	Non-Food Item
NGO	Non-Governmental Organisation
RTI	Reproductive Tract Infection
TBA	Traditional Birth Attendant
UNHCR	United Nations High Commissioner for Refugees
UTI	Urinary Tract Infection
VHT	Village Health Team
WASH	Water, Sanitation and Hygiene

Table of contents

Introduction

Menstruation is a physiological phenomenon affecting girls and women of reproductive age (usually defined as ages 15-49). In spite of the fact that around one fourth of the world's population is of reproductive age (United Nations, Department of Economic and Social Affairs, Population Division, 2017) and consequently likely to menstruate, girls' and women's menstrual needs are commonly ignored and left unaddressed (House et al. 2012). In 1994, during the International Conference on Population and Development in Cairo, the reproductive health rights of women were discussed and the menstrual cycle was also explicitly mentioned. It was emphasized that reproductive health includes all matters associated with the reproductive system including its functions and processes (United Nations 1994). However, it is only in recent years that menstrual hygiene management (MHM) has gained a slightly more prominent role in the public discussion (Sommer et al. 2015: 1302, 1305). This thesis will draw on a definition of MHM that was formulated by the water, sanitation and hygiene (WASH) sector expressed through the Joint Monitoring Programme (JMP) which states that effective MHM requires the following elements:

> "[…] clean materials to absorb or collect menstrual blood, a private place to change these materials as often as necessary, soap and water for washing the body as required, and access to safe and convenient facilities to dispose of used materials. Further, women and girls need access to basic information about the menstrual cycle and how to manage it with dignity and without discomfort or fear" (UNICEF & WHO 2015: 45).

Seemingly this definition contains both so called 'software' and 'hardware', meaning that in order to address MHM effectively, both hardware, such as appropriate infrastructure and products (for instance menstrual products and soap), and software, including knowledge and education about menstruation is needed (Biran et al 2012: 56). Failing to address MHM is likely to have not only negative health outcomes and increase the vulnerability of women and girls, but also hamper girls' and women's participation in daily activities including education, income generating activities, and ability to carry out domestic duties (Krishnan & Twigg 2016). Consequently, ignoring MHM needs can lead to a reinforcement of gender inequalities and further marginalisation of girls and women in society (Mahon & Fernandes 2010; Scorgie et al. 2016). MHM is gradually being introduced into human rights debates, based on the argument that it is the right of all girls and women to be able to manage their menstruation in a safe and dignified manner. Failing to ensure appropriate MHM is

thus increasingly argued to be a violation of human rights, including the right to human dignity, the right to non-discrimination, equality, bodily integrity, health, and privacy (see for example George 2013: 5; Patkar 2001: 1; Wickramasinghe 2012).

Many girls and women living in low and middle-income countries (LMICs) lack access to sanitation, education and sanitary products, and are therefore unable to manage their menstruation in effective and hygienic manners (Sumpter & Torondel 2013). Moreover, many girls, women, boys and men lack knowledge of what menstruation is and why women menstruate (Chandra-Mouli & Patel 2017; Ramathuba 2015; Rani et al. 2016). A literature review conducted by Chandra-Mouli and Patel (2017: 3) find that menstruation is not uncommonly perceived to be a curse or a disease by adolescent girls in LMICs and menstrual blood regarded as impure. The scarce literature on the topic has mainly focused on MHM in school contexts and not on MHM among refugees and in humanitarian settings (Parker et al. 2014: 438; Sommer et al. 2016b: 260). However, girls and women do not cease to menstruate during displacement, rather the challenges they face in their everyday lives are likely to be exacerbated in displacement and their regular coping mechanisms might be disturbed in the new setting (Dutta et al. 2016: 81-82; House et al. 2012: 131; Sommer et al. 2016b; Women's refugee commission 2009: 12).

Forcibly displaced people are likely to flee their countries in a rush and are commonly unable to bring their belongings with them (Abbott et al. 2011). As a result, many displaced people are dependent on humanitarian relief and assistance since they are in great need of basic necessities and might lack access to markets, commodities, and financial resources. It may be the case that women lack access to money for menstrual products and if the head of household is male, he is likely to make the financial decisions and women might be unable to request money for menstrual-related needs due to that menstruation is commonly a taboo subject (House et al. 2012: 131). Water supplies, sanitation and hygiene items may not be readily available when residing in a refugee camp or settlement. In addition, depending on the reasons for displacement, people might be suffering from injuries and might have been separated from family, friends, and relatives or other important people in their support network (House et al. 2012: 131; Sommer et al. 2016b: 258). Parker et al. (2014: 449) inform that women in Uganda reported that they faced more challenges when managing their menstruation in camps 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: 450).

Rationale and problem formulation

There is great need for more research to be conducted on MHM in general and among refugees and in humanitarian response in particular. MHM has not been prioritised in acute relief response because it is not regarded as a life-saving measure (Sommer 2012). However, failing to respond to MHM needs of girls and women may have serious consequences. Inappropriate MHM practices can lead to infections and a loss of dignity. Moreover, lack of access to 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. 2012: 131). There is also a growing recognition that MHM might indeed be a life-saving measure in the sense that women who lack adequate MHM products and facilities may be unable to fulfil household needs, including standing in line for water and food distributions (Krishnan & Twigg 2016; Sommer 2012).

Similarly, without appropriate menstrual products girls might miss school and women might miss work, which will have long-term impacts on girls' lives and impact women's ability to earn an income (House et al. 2012: 131). There is a gap in both academic and grey literature on the topic of MHM among refugees and in humanitarian response. Detailed accounts of MHM interventions and projects are commonly not publicly available and lessons learnt are not shared. Mapping of local MHM practices, for instance, is needed as this can increase the understanding of menstrual needs and practices as well as enable a more appropriate MHM response (Budhathoki et al. 2016; Krishnan & Twigg 2016: 266). It is against this backdrop that the present study aims to investigate MHM among refugees residing in Rhino refugee settlement in north-western Uganda. The purpose of this thesis is to gain an understanding of how it is for girls and women residing in Rhino refugee settlement to menstruate. The objective of the present study is the following:

Overall objective: To investigate how the study population access[1] information about menstruation and assess girls' and women's access to and usage of sanitation facilities and materials, as well as how access to MHM influence the lives of girls and women in Rhino refugee settlement.

[1] Access will be discussed and problematised in the chapter "theoretical framework"

Specific objectives:

- Investigate how the study population access information about menstruation.
- Assess girls and women's access to and usage of bathing and toilet facilities, water, soap and menstrual materials during their menstrual periods.
- Discuss how access to MHM influence the lives of girls and women.

Reflexivity

As mentioned, the present study draws on a definition of MHM that is formulated by the JMP. This definition includes components that are deemed to be important in order for menstruating girls and women to manage their menstruation in a hygienic manner and with dignity. This definition, however, brings certain values regarding what is considered to be good (and consequently bad) MHM and what individuals need in order to attain good MHM. Therefore, it is important to pose the question: who considers these components important? In this discussion, it will be useful to adopt the two anthropological concepts emic and etic. Emic represents the "insider" perspective, meaning the perspective of the participants themselves. The opposite of emic is etic. Etic is the researcher's perspective, that is, the perspective of an outsider (Hylland Eriksen 2000: 38). In qualitative research, the aim is to gain insight into the study participants' own experiences. However, it is difficult, if not unachievable to conduct research with a completely emic approach, seeing that the researcher will always have his/her sociocultural background, experiences and understandings influencing the way he/she perceives the research topic (Rossman & Rallis 2003: 48). The emic approach can be strengthened by conducting research that is participatory and open, meaning that the researcher conducts observations or formulates questions that are explorative and open-ended, providing the study participants with freedom to formulate an answer based on what he/she considers to be of importance (Olive 2014).

Yet, the aim of the present study is to investigate MHM from an angle that is inspired by a definition formulated by JMP and not by the study participants themselves. This may contribute to a reinforcement of a specific narrative of MHM and leave less space for other understandings of how MHM is perceived and practiced. Furthermore, it may overlook divergent opinions regarding what is perceived to be needed in order to practice adequate MHM. Nevertheless, the definition by JMP has not been formulated in a vacuum. Research that have adopted an emic approach have found that the components mentioned in JMP's definition are frequently mentioned as important components

by girls and women around the world (see for example: Hennegan et al. 2016; House et al. 2012; Lahme et al. 2016; Pilliterri 2011; Scorgie et al. 2016). The present study is thus informed by previous research that have adopted an emic approach but draws on a definition that is etic in nature as it describes MHM in a general manner without context specific considerations.

Moreover, it should also be mentioned that the WASH sector has been taking the lead on MHM initiatives and the MHM definition used in the present study is framed by the WASH sector (Lahiri-Dutt 2014). Emerging critique has highlighted that MHM from this perspective offers mainly technical solutions and leaves out issues relating to well-being. Increasingly the term menstrual health instead of menstrual hygiene is used. This is a broader term[2] allowing for a greater understanding of menstruation and management, which includes wellbeing as well as other sectors such as education and human rights. Furthermore, using the word hygiene bring connotations about the need to sanitise the female body and may also imply that certain mainstream hygiene practices are superior to alterative means to maintain hygiene (Lahiri-Dutt 2014: 2, 5). In spite of this, the present study will use the term menstrual hygiene, as this is still the most commonly used term, while being aware of what this term might imply.

This study will analyse baseline data from a pilot project and the collection of this data was guided mainly by aspects crucial for informing the pilot project but also building on findings from previous research (for more details see the methodology chapter). Thus, it is crucial to emphasise that the data analysed in the present study were not collected for the purpose of this study. There were a variety of questions in the interview guides, some of which allowed the informants to respond in an open manner while some questions were more closed and focused on a specific issue. The way questions are formulated have an impact on what responses one gets. If it becomes clear from reading the questions that the researcher already has assumptions about what good hygiene is, there is a risk that the questions are leading, meaning that they "lead" the informant to respond in a certain way. This leaves less space for discoveries of aspects that the informant considers to be of importance but that the researcher was not familiar with or that the researcher did not considered to

[2] WHO defines health in the following manner: "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (WHO 1946).

be important. Because the data were collected for a pilot project, some aspects were deemed necessary to know for project design purposes. There are thus some questions that are directly targeting certain issues, for instance, there is a question about privacy that investigates if the informant thinks she has enough privacy during menstruation. However, these types of questions bring assumptions about what is required for girls and women in order to have appropriate MHM. While previous research has found that many girls and women mention the importance of privacy during menstruation (see for instance Boosey et al. 2014; Bwengye-Kahororo & Twanza 2005; Hennegan et al. 2016; Krishnan & Twigg 2016; Ndlovu & Bhala 2016), it may be misleading to assume that this is a universal concern. However, as mentioned by Phillips (2014: 69), previous research is usually scrutinised before developing an interview guide in order to build upon the already existing body of knowledge instead of investigating issues that have already been researched.

It should also be mentioned that as a researcher, I too have preconceived assumptions. I am a woman, foreign to the Ugandan context, and I have visited Rhino refugee settlement. My background naturally influence how I perceive menstruation and menstrual management. Furthermore, my visit to the Rhino refugee settlement has provided me with a greater understanding for the conditions present in the settlement and this is likely to influence me in the sense that I create my own conception about how it might be to manage menstruation in Rhino settlement. These factors can potentially influence my analysis. However, I attempt to minimise my personal characteristics to influence the study by staying close to the data and allow the informants voices to come through (Neergaard et al. 2009). This will be done by using quotes in the text and by using similar language as the informants use.

Delimitations

The findings of the present study are specific to the context of Rhino refugee settlement and cannot be generalised to other settings. It should be taken into account that MHM practices and perceived needs vary depending on local preferences as well as local conditions. However, the findings from the present study will shed light on girls' and women's experiences of menstruating in a refugee settlement in Uganda and may be relevant to keep in mind when studying MHM in similar contexts.

This thesis is using baseline data collected by the two organisations WoMena[3] and ZOA[4] as part of a pilot project (for more details, see the methodology chapter). Due to the limited scope of the present study, it was not possible to use all the data and include all the interesting aspects that were discovered in the collected data. I was guided by my research objectives when scrutinising the data, and thus excluded data that were not relevant for the purpose of the present study. Drying of menstrual cloths and waste disposal are aspects that are argued to be of central importance to MHM, however, due to time and space limitations these aspects will not be investigated in the present study.

Disposition

In the following chapter, current refugee trends will be described and thereafter the Rhino refugee settlement will be introduced, followed by a review of existing MHM literature. Thereafter, the Health Access Livelihood Framework, which is the theoretical framework of the present study, will be presented. The next chapter will outline the methodology, including the different data collection methods, sampling process, data analysis, reliability and validity, as well as ethical considerations. Next, the findings will be presented, followed by a discussion chapter where the findings are analysed and discussed in relation to the theoretical framework and existing MHM literature. Finally, the conclusion chapter will revisit the research objective, as well as provide suggestions for future research and ways forward.

[3] For more information about WoMena, see http://womena.dk.

[4] For more information about ZOA, see http://www.zoa-international.com.

Background

The present study will focus on MHM in a refugee settlement in north-western Uganda and therefore current refugee trends and Rhino refugee settlement, which is the setting for the present study, will be described in this chapter. The aim is to increase the reader's understanding of current refugee trends in Uganda and to provide an introduction to Rhino refugee settlement. Thereafter, a literature review will follow where existing literature on the topic of MHM will be presented.

Current refugee trends

The last two decades have witnessed an increase in the number of forcibly displaced people (IBRD & World Bank 2016: x; UNHCR 2015: 6). Forcibly displaced people comprise people with refugee status, internally displaced people, as well as asylum-seekers (UNHCR 2015: 2). It is arguably of global concern to engage in responses to support the people who are displaced since most countries are affected, either as sources, destinations or transit countries, or in an economic and political sense (Martin 2016: 5). Unfortunately, displacement is not necessarily a temporary situation. A commonly quoted estimate establish that the average length of displacement is 17 years (UNDP 2017; USA for UNHCR 2017), but the exact basis for this estimate is unclear and therefore a somewhat sceptical attitude should be taken towards this number. The length of displacement will naturally depend on the nature of the situation that forced people to leave their homes and considering countries that have suffered from longer-term instability such as Afghanistan, Democratic Republic of the Congo (DRC), and South Sudan, one may assume that people who have fled from these countries might have been displaced for a longer period of time.

Uganda is located in the Great Lakes region of eastern Africa, a region that has experienced armed conflicts and unrest for many decades. Consequently, Uganda has received refugees from neighbouring countries for many years and Uganda's neighbouring countries have hosted refugees from Uganda as well (Kaiser 2016: 200; Mulumba 2010: 60, 64-65). Since the mid-1980s, Sudanese refugees have arrived in Uganda in waves seeking asylum and while some have been able to return to their country of origin many of them have been forced to return to Uganda when conflicts have intensified again. For that reason, many of the refugees have lived in Uganda for over a decade and for many it is not their first time as refugees in Uganda (Orach & De Brouwere 2005: 54). In 2013, civil war erupted in newly independent South Sudan, which resulted in new influxes

of South Sudanese refugees to Uganda. The conflict intensified in July 2016 and the number of forcibly displaced people greatly increased. Estimates projected that Uganda would be host to 271,000 South Sudanese refugees at the end of 2016 (UNHCR 2016), however, the most recent update from May 2017 states that Uganda is currently hosting 928,079 refugees from South Sudan (UNHCR 2017a). Unsurprisingly, the substantial increase of refugees in the country has put great pressure on the country's already limited resources (UNHCR 2016).

At present, there are a lot of discussions about what is referred to as a 'refugee crisis' and how countries should approach and handle the large influx of refugees. The refugee policy of Uganda has been argued to be generous and to focus on inclusion rather than marginalisation of refugees (Clements et al. 2016: 49). What is regarded as quite unique is that refugees in Uganda are allocated a plot of land instead of being hosted in camps, with the aim to promote self-reliance and foster sustainable development. Moreover, refugees in Uganda have the right to access employment and education and to move freely in the country (Uganda: The Refugee Act 2006). Accordingly, some of the components of this refugee policy are striving to bridge the gap between humanitarian and development assistance. The allocation of a plot of land to refugees, for instance, intends to allow refugees to grow crops for subsistence or for sale with the aim to increase the autonomy of refugees and decrease the dependency on aid (Krause 2016: 52). In Uganda, refugees are thus hosted in so called refugee settlements instead of camps. Settlements, in comparison to camps, are intended to host refugees on a longer-term basis, are commonly less crowded than camps and are more likely to have social services such as schools (Orach & De Brouwere 2005: 54). Not only refugees but also national Ugandans have access to services provided by aid agencies. According to national guidelines all interventions need to target at least 30% of the host population to avoid conflicts between the refugees and nationals and in order to improve general living conditions in the country (UNHCR 2016: 70).

In the year 2000, a new health system was implemented. This was an integrated health system for both refugees and the host population. Prior to this, two parallel health systems had existed. However, this was a system that was disadvantageous for the host population since the refugees' health services were superior in regards to equipment, funding, staff and geographic access (Orach & De Brouwere 2005: 57). It was also an unsustainable system considering the chronic nature of this refugee situation. The integrated health system was implemented with the aim to improve the living standard of all people in the refugee-affected areas, irrespective of refugee status (Orach & De Brouwere 2005: 58). Furthermore, in 2001 the Ministry of Health established Village Health

Teams (VHTs) in order to bridge the gap between health services and households. VHTs function as health contacts and provide basic health care information at village level, thus they are close to the communities and able to give advice about common health issues as well as refer individuals to health care facilities (Ministry of Health 2015).

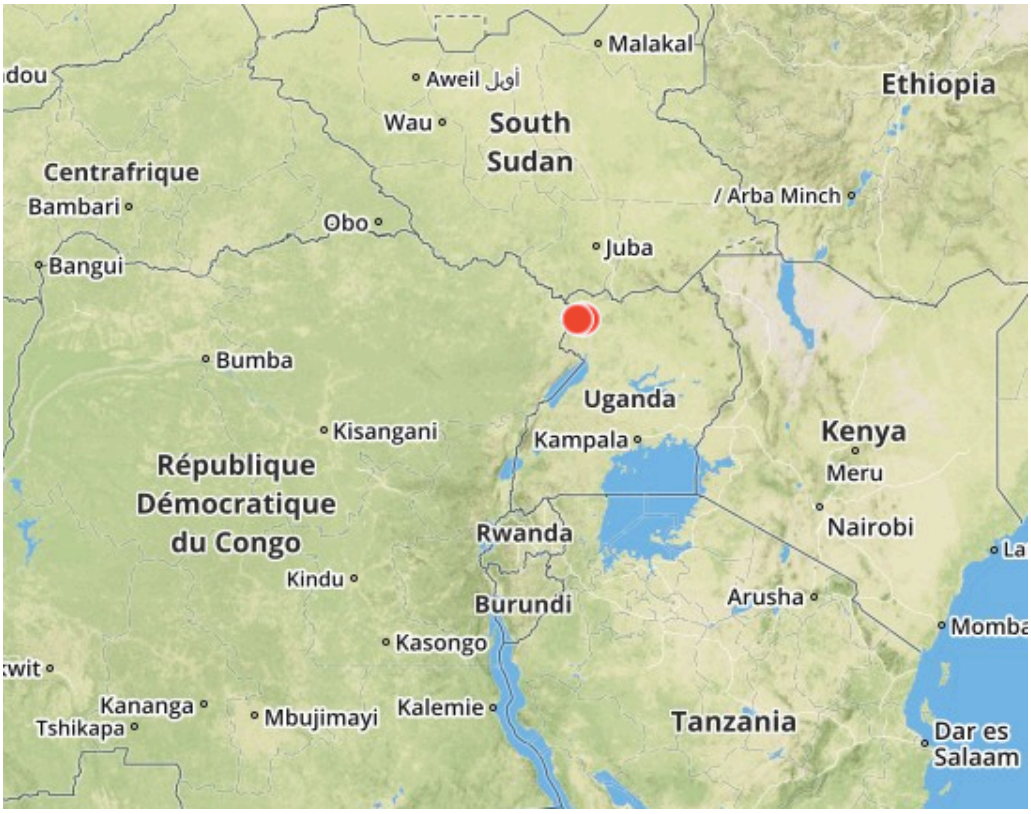
Rhino refugee settlement

The geographical focus of the present study is the Rhino refugee settlement, located in Arua district in north-western Uganda (see picture 1). Arua district is bordering South Sudan in the north and DRC in the west, thus this district has hosted a great number of refugees from these two countries over the years. Many of the ethnic groups that can be found in South Sudan and DRC can also be found in Uganda and it is assumed that the sharing of ethnicity has contributed to the good reception of refugees in the district (Mulumba 2010: 178). Rhino refugee settlement was established in 1992-1993 and is located in a remote area approximately 60km from Arua town (Krause 2016: 52; Mulumba 2010: 182). Rhino settlement is estimated to have the ability to host 32,000 refugees (Krause 2016: 52), however, currently the settlement consists of around 40-50 villages inhabited by 55,112 refugees and asylum-seekers, mainly originating from South Sudan (UNHCR 2017b).

This land was assigned to host refugees because it was sparsely populated prior to the influx of refugees, mainly due to the high prevalence of tsetse flies, mosquitoes and the poor soils in the area (Mulumba 2010). There are still a number of Ugandan nationals living in the area which is now Rhino settlement. In light of Uganda's refugee policy, Krause (2016: 53) emphasises that although refugees are allocated a plot of land, the plots are generally too small and the quality of the soil is too poor to actually result in harvests that are large enough to ensure self-reliance. Furthermore, the presence of relief agencies and lack of development agencies in refugee settlements like Rhino settlement highlights that the shift from short-term to medium-term development assistance might be more difficult to implement than it appears in Uganda's refugee act (Krause 2016: 53).

The great majority, approximately 86 per cent, of the South Sudanese refugees who are hosted in Uganda are women and children (UNHCR 2016). It is vital to recognise that crisis situations affect men, women, girls and boys differently and assistance to refugees should consider the specific needs of the affected population (IASC 2006: 5). Considering current refugee trends, including the increased number of refugees and the average length of displacement, as well as the

overrepresentation of women and children in the refugee settlements in northern Uganda, it is of great importance to address the menstrual needs of girls and women residing in the settlements.



Picture 1. Location of Rhino refugee settlement (KoBoToolbox 2017).

Literature review

This section will review literature on the topic of MHM. The purpose of this literature review is to build an understanding of MHM in general and MHM in refugee settlement contexts and in humanitarian response in particular. Specifically, this review aims to explore the progress that have been achieved and what challenges remains in this field. The literature review is structured based on themes extracted from the literature, namely: holistic approach to MHM, school attendance and social exclusion, adverse health outcomes, and taboos and culture of silence. Finally, achievements in the field of MHM among displaced girls and women and in emergencies will be presented.

Search strategy

The aim of this literature review was to gain an overview of the literature that has been published on the topic of MHM in general and in humanitarian response and among displaced populations in particular. The search engines that were used to search for literature were PubMed, Google Scholar, and REX (The Royal Library, Copenhagen). A number of organisations' webpages were also searched for reports on MHM, including International Federation of the Red Cross (IFRC), Médecins Sans Frontières (MSF), Women's refugee commission, UNFPA, among others. Consequently, both peer-reviewed literature and grey literature is included in this literature review. Furthermore, a snowball method was applied, which means that the reference lists of identified articles were scrutinised and articles with titles deemed relevant for the purpose of this literature review were looked into in detail (Greenhalgh & Peacock 2005). Search terms were *menstrual hygiene management, MHM, menstruation, menstrual hygiene* and these were combined with the following terms *refugee, displaced, refugee settlement, refugee camp, hygiene interventions, emergencies, disasters, humanitarian response*. When selecting literature, the titles and abstracts were read in order to determine if they might be relevant for this research. Literature was included in the review if it focused on MHM in LMICs in general and on MHM in refugee settlements, in humanitarian response or in emergencies in particular. No delimitations were made based on years of publication, however, the great majority of literature included in this literature review are from 2010 and onwards. In total, 44 articles and reports were deemed relevant for the purpose of the present study and therefore included in this literature review.

Holistic approach to MHM

As mentioned previously, the definition of MHM indicates that a holistic approach that covers both 'hardware' and 'software' is required in order to ensure an effective and appropriate MHM response. This means that not only menstrual products are needed to ensure effective MHM, but also appropriate and gender-friendly sanitation infrastructure, soap, water, waste disposal system, knowledge of menstruation, support systems, among other things (see for example Hyttel, et al. 2017; Kjellén et al. 2012). Menstruating girls and women in LMICs commonly lack access to commercially produced menstrual products such as pads, due to unaffordability or unavailability in the local market. Instead materials such as cloths, cotton wool, tissue paper, newspaper, mattress fibres are frequently used to absorb menstrual blood (Chandra-Mouli & Patel 2017: 13; George 2013: 9; Secor-Turner et al. 2016: 301). Parker et al. (2014: 445) found that women living in a camp for internally displaced people (IDP) in Uganda most commonly used rags from old clothes to

absorb menstrual blood. This method was not found to be ideal among the women, since it did not effectively absorb the blood, was uncomfortable and was likely to cause leakage, but the women had no other choice because of great difficulty in procuring new cloths or other appropriate materials. It is recognised that MHM practices are context specific and that girls and women have different MHM practices, preferences and priorities. Therefore, the importance of providing a 'culturally appropriate' response is commonly stressed (see for example Nawaz et al. 2010; Robinson & Obrecht 2016; the Sphere Project 2011: 110).

There is a tendency among MHM stakeholders to focus solely on the provision of menstrual products, a so called personal approach (Hayden 2012: 18). Clearly, products to absorb the menstrual blood are an important part of MHM, however, it is not the only component of effective MHM. Delivering a personal approach is easy, but it is only targeting one of the possible challenges related to MHM (Hayden 2012: 18; Krishnan & Twigg 2016: 265; Patkar 2001: 3). Parker et al. (2014: 446) discover that some of the girls living in the IDP camp in Uganda were provided with cotton cloths from NGOs, which was greatly appreciated. Yet, the cotton cloths were not sufficient on their own because they did not have soap and basins for washing the cloths, nor did they have underwear to hold the cloths. Distributing menstrual products also brings the issue of sustainability; once the distributed products are consumed and disposed of, there are no longer any products for the girls to use except the rags they used prior to the distribution (Parker et al. 2014: 446).

Sommer (2012: 91) states that staff from humanitarian agencies expect and hope that menstruating girls and women will be able to return to their customary menstrual products after the one-time distribution of menstrual products. However, considering current displacement trends, girls and women require a more sustainable approach to menstrual management (Sommer 2012: 91). Other 'hardware' that is necessary for women and girls to be able to manage their menstruation in hygienic and dignified manners are appropriate bathing facilities and latrines that provide privacy, access to water for washing of the body and menstrual products, soap and basins for washing, as well as waste disposal system where menstrual products can be hygienically and privately disposed of (Bwengye-Kahororo & Twanza 2005: 35; Chandra-Mouli & Patel 2017: 13; George 2013: 11; Wickramasinghe 2012: 3). Consequences of overlooking private spaces for washing and changing products can be severe. Krishnan and Twigg (2016: 269) state that displaced girls and women during the Assam floods in 2012 in India lacked private spaces to manage their menstruation so they waited until dark and walked to secluded areas outside the camp to take care of their menstrual needs. Similarly, Parker et al. (2014: 446) found that this was also the case among displaced women

in Uganda. A study from post-earthquake Pakistan discovered that providing secluded and gender-segregated latrines and bathing areas were greatly appreciated by the girls and women as this meant that they could tend to their personal hygiene and wash and dry their menstrual cloths in privacy and safety (Nawaz et al. 2010: 82, 84). Ignoring the importance of appropriate and safe sanitation infrastructure can increase the security risks, including the risk of sexual- and gender-based violence, for girls and women (IFRC 2016: 7; Krishnan & Twigg 2016: 269). Furthermore, planning for hygienic and environmentally sustainable disposal of menstrual products is important. Disposing of menstrual products in inappropriate ways can cause system blockages and failures (Scorgie et al. 2016: 162) or health risks if disposed in open fields or rivers (Chikulo 2015: 1980; George 2013: 11).

As mentioned, MHM requires 'software' as well, which encompasses education and information about what menstruation is, how to use menstrual products, how to take care of personal hygiene while menstruating as well as how to dispose of the products (Parker et al. 2014: 451). Research has found that many girls and women do not have adequate knowledge of menstruation and that it is not uncommon that girls are unprepared and scared as they reach menarche (Sommer et al. 2016a: 4). Ignorance about menstruation can lead to misconceptions about fertility, which in turn can result in unplanned pregnancies (Crawford et al. 2014: 435; Sommer et al. 2016a). Sumpter and Torondel (2013: 13) find that it is likely that education can improve girls' menstrual practices as well as improve girls' preparedness before reaching menarche, which will increase their social and mental well-being. Formal education on menstruation and bodily changes is thus greatly needed in schools around the world (Ndlovu & Bhala 2016: 7; Tegegne & Sisay 2014: 13). Not only girls should be included in menstruation education. Research indicates that when boys have been included in educational sessions about puberty and menstruation, occurrences of teasing menstruating girls in school have decreased (Parker et al. 2014: 448). Furthermore, it is important to recognise that menstruation should be a concern of both women and men, since this is one of the main determinants of reproduction and parenthood (Sumpter & Torondel 2013: 1).

School attendance and social exclusion

The effect of poor MHM on school absenteeism and social exclusion is complex to investigate. Qualitative research is supporting the link between poor MHM and school absenteeism (Biran et al. 2012: 61) but a systematic review conducted by Hennegan and Montgomery (2016) found that the evidence determining the effectiveness of MHM interventions in improving school attendance is

insufficient although current results are promising. However, it seems like girls might stay home from school during menstruation if they lack menstrual products and if the sanitation facilities in school are absent or inappropriate (George 2013: 11; IFRC 2016: 7; Tegegne & Sisay 2014: 13; Women's refugee commission 2009: 17). Even if girls attend school during menstruation, it may be the case that their concentration is reduced due to fear of leaking and staining their clothes, pain, fatigue, shame and fear of teasing (Chikulo 2015: 1981; Montgomery et al. 2016: 3). When girls miss out on education their future life quality, career prospects and potential to earn an income is reduced (Ndlovu & Bhala 2016: 2). Secor-Turner et al. (2016: 305) stress that the impact of menstruation on education is probably more prominent among girls who are experiencing poverty and living in geographically remote areas.

Regarding exclusion from society, there is qualitative research confirming that girls and women are restricted from participating in some activities during menstruation. Bwengye-Kahororo and Twanza (2005: 35) stress that women living in IDP camps in Uganda are struggling to fulfil their daily household tasks due to inadequate MHM and that some stay at home because they worry that they will be teased by men and children. Indeed, Chandra-Mouli and Patel (2017: 7, 9) find that girls in as diverse countries as India, Brazil and Egypt report that their daily activities and routines are disturbed and restricted when menstruating. A study from a camp in DRC found that girls and women living in displacement were not likely to participate in livelihood activities when menstruating and lacking appropriate menstrual products (Rohwerder 2014). Naturally, this has economic as well as social consequences for the girls and women and the wider community (Rohwerder 2016: 11). However, there is lacking evidence demonstrating that improved MHM actually changes this. The link between improved MHM and social exclusion has not yet been determined because of the complex interconnectedness between various factors that influence girls' and women's ability and possibility to participate in society (Biran et al. 2012: 61).

Adverse health outcomes

Failing to improve MHM for girls and women is likely to result in inappropriate and unhygienic MHM. As demonstrated, this can have consequences in many areas of girls' and women's lives. The main goal when addressing MHM is to improve the health, hygiene and dignity of girls and women around the world as well as to prevent infections (Hayden 2012: 5). Since MHM has been largely neglected up until recent years, research confirming links between MHM and negative health impacts is weak and inconclusive. Biran et al. (2012: 57, 58, 61) summarise the evidence on

associations between MHM and lower reproductive tract infections (RTIs) and urinary tract infections (UTIs) and concludes that the link is plausible but that so far the evidence is weak and mixed and that the evidence base is underdeveloped. The existing body of evidence is of low quality and has some methodological limitations, including confounding factors and reverse causality (Biran et al. 2012: 57). The RTIs that are likely to be associated with poor MHM is endogenous infections bacterial vaginosis (BV) and vulvovaginal candidiasis (VVC). These can reasonably be introduced through menstrual materials or by poor hygiene during menstruation. If untreated, these conditions can increase the risk of human papillomavirus (HPV), HIV infection, adverse pregnancy outcomes as well as cause upper RTIs such as pelvic inflammatory disease (Biran et al. 2012: 56; Lahme et al. 2016: 2; Sumpter & Torondel 2013: 2).

Another condition that has been discussed in relation to MHM is anaemia. Anaemia is associated with menstruation, however it is not necessarily linked with the management of menstruation and therefore the likelihood that poor MHM is linked with anaemia is low (Biran et al. 2012: 61). Krishnan and Twigg (2016: 271) highlight that during flood emergencies in India girls' and women's poor MHM created risks for fungal infections and rashes. Parker et al. (2014: 447) and Hennegan et al. (2016: 2, 9) add that in Uganda, some girls and women were unable to properly dry their menstrual cloths and as a result wore damp cloths. The frequent use of damp cloths is likely to lead to health problems including rashes, fungal infections, genital irritation and UTIs. Furthermore, the mental well-being of girls and women should also be considered when discussing MHM. Especially considering the shame and stress that is associated with menstruation in general and inappropriate MHM in particular (Lahme et al. 2016: 2).

Menstruation is not the only vaginal bleeding that women might experience during their lifetime. Research by Sommer et al. (2017) emphasise that women can experience vaginal bleeding that might be related to health conditions such as cancers and endometriosis. Lack of knowledge and open discussion about menstruation may result in an inability to differentiate between healthy vaginal bleedings and bleedings that are indicative of that something is wrong. Sommer et al. (2017) argue that girls and women need factual information in order to detect potential health issues and be aware of when they should seek health care.

Taboos and culture of silence

A remarkable characteristic of menstruation is that in most, if not all, countries globally it is associated with shame, taboos, stigmatisation, and surrounded by a culture of silence (see for instance Lahme et al. 2016; Ndlovu & Bhala 2016; Sommer et al. 2017). The degree of concealment of menstruation varies between cultures but commonly it is a universal norm that menstruation is a private matter that should be handled out of sight (Crawford et al. 2014: 426-427). The existence of taboos and cultural beliefs in society can lead to social exclusion of menstruating women and girls. In many communities, menstruation is deemed to be dirty and polluting and thus menstruating girls and women are considered dirty and prevented from taking part in daily activities such as cooking, socialising and participating in religious activities (Chandra-Mouli & Patel 2017: 9; Chikulo 2015:1978). Even if special latrines and spaces are established for girls and women to manage menstruation in privacy, they may refrain from using them due to shame and fear that people in their surroundings will notice that they are menstruating (George 2013: 12). At the same time, however, it is not uncommon that a girl's menarche is a cause for celebration in some cultures (Hernon & Sephton 2013: 78). Bhartiya (2013) highlights the contradictory behaviour in certain parts of India where girls and women are socially restricted during the menstruation period but they also celebrate when a girl reaches menarche. Menarche can be viewed as a source of pride, joy and as a symbol for womanhood and therefore be a cause for celebration. Nevertheless, the celebration of menarche is followed by restrictions which are imposed on girls and women during every menstruation period (Bhariya 2013).

Due to the culture of silence surrounding menstruation, girls are not likely to seek medical consultations or advice from family and friends when experiencing menstruation-related problems or concerns. Instead, girls might isolate themselves from social situation and from school during the menstruation period (Chandra-Mouli & Patel 2017). Also, because of the common lack of knowledge and education of menstruation, girls and boys are likely to embrace the cultural norms and practices from older generations, thus reinforcing taboos in society (Krishnan & Twigg 2016: 273). Consequently, neglecting MHM needs and ignoring the silence and shame surrounding menstruation may lead to reinforcement of gender inequities and further marginalisation of girls and women in society (Mahon & Fernandes 2010). Girls' and women's experiences of menstruation are shaped and influenced by the sociocultural environment they are part of. Despite the existence of research indicating the adverse consequences that poor MHM and negatives attitudes towards menstruation can result in, there is a severe lack of research on refugee women's experiences and attitudes towards menstruation. It is important to understand how menstruation is experienced and

perceived in order to design and provide culturally and socially appropriate health care, education and school infrastructure, as well as how to break the silence and taboos surrounding menstruation (Hawkey et al. 2016: 1-2).

Achievements in the field of MHM among refugees and in humanitarian response

Throughout the literature, the importance of MHM is emphasised. However, this is not necessarily translated into adequate action in the field and as previously mentioned there is limited evidence from interventions analysing strengths and weaknesses of MHM interventions in different emergency settings. Rohwerder (2014: 2) points out that gender-sensitive items, such as sanitary napkins, are not systematically included in the non-food items (NFI) packages. UNFPA developed so called 'dignity kits' in the year 2000 with the purpose of fulfilling the basic needs of girls and women in emergency contexts. Unfortunately, these kits are not yet established as a formal program and the decision to include dignity kits into interventions are made at a country office level (Abbott et al. 2011: 12-13). IFRC is the first humanitarian agency to develop comprehensive MHM relief items and field test them (see Robinson & Obrecht 2016: 7). Based on a pilot study in Burundi and subsequent scale-up interventions in Madagascar, Somaliland and Uganda, IFRC distributed three different kits: one with disposable pads, one with reusable pads, and one with both disposable and reusable pads. The study found that younger girls had a tendency to prefer disposable pads, while women saw reusable pads as a better option due to the sustainability of these products (IFRC 2016: 3). These findings highlight that not only does the needs vary between different refugee settlements but the preferences among the population within the same settlement differ as well.

Organisations have included MHM-related questions into tools and guidelines to be used when assessing an emergency and deciding on appropriate responses. WHO states that a key question in disaster assessment should be "how are women, men, girls and boys differently affected by the disaster?" and that women and girls need to have access to sanitary supplies, including tampons, sanitary napkins, or cloth, as well as privacy to use these products correctly (WHO 2005). Along similar lines, the Inter-Agency Standing Committee (IASC) published a handbook on gender in humanitarian action in 2006. This handbook is developed by a range of humanitarian actors and takes it departure in that women, men, girls and boys have different needs in humanitarian crises and thus it is crucial that response is gender sensitive (IASC 2006: i). This report encourages humanitarian actors to investigate what menstrual practices and cultural assumptions exist among the affected population, as well as to consult the women on appropriate menstrual cloths (IASC

2006: 90,106, 107). Furthermore, this report also mentions that lack of appropriate sanitation facilities in schools can result in lower school attendance or even dropout for girls who are menstruating (IASC 2006: 49).

Johns Hopkins and IFRC (2008) have also formulated a public health guide to use in emergencies in which it is stated that it is important to consider how women deal with menstruation issues and if they have appropriate materials and available facilities to manage menstruation (Johns Hopkins &c IFRC 2008). Médecins Sans Frontières (MSF) has developed a tool for gender and sanitation among displaced populations intended to assist staff to make rapid decisions in the field. This tool has a number of indicators relating to MHM, including consider making spacious latrines to allow for washing and drying of menstrual cloths, consider what menstrual products are used and how they are disposed of, should the latrines and shower blocks be gender segregated, etc. (MSF 2013). Furthermore, the Sphere project has formulated internationally recognised guidelines to direct the minimum standards in humanitarian response (Sphere Project 2017). The first handbook was published in 2000, and has thereafter been revised twice with the latest version published in 2011. Each edition has entailed ever more detailed accounts of how to respond to menstrual hygiene needs in emergencies. The latest version recommends that a basic hygiene items pack should include menstrual hygiene materials, water buckets, as well as bathing and laundry soaps. Moreover, it states that latrines should comprise appropriate disposal facilities for menstrual products and that private washing and laundry spaces should be provided (Sphere Project 2011: 95, 96, 110).

Clearly, there are intentions and efforts to address MHM in emergencies and improve the response and make it more comprehensive. There is still a critical gap between theory and practice (Budhathoki et al. 2016), however, recent years have witnessed a noticeable increased interest in MHM in humanitarian response.

Theoretical framework

This chapter will introduce the Health Access Livelihood Framework, which is the theoretical framework that will be applied when discussing the findings of the present study. The first section will outline the framework itself and the second section will describe how the framework will be applied in the present study.

The Health Access Livelihood Framework

In order to analyse the specific objectives, the Health Access Livelihood Framework will be utilised (see figure 1). This specific framework will be utilised since it is developed for resource-poor settings and aims to explore people's access to health care (Obrist et al. 2007: 1584). Furthermore, this framework allows for a holistic investigation of access and can be applied to the specific issue of MHM in a straightforward manner.

The Health Access Livelihood Framework was developed as part of a broader programme, the ACCESS programme, which aims to understand and improve access to malaria treatment in rural Tanzania (Novartis 2011). This framework combines three approaches to analysing health care access, namely health seeking, health services and livelihoods. The concept 'access' is broken down into five specific components: availability, accessibility, affordability, adequacy, and acceptability. Availability refers to the availability of essential drugs, accessibility considers the geographical distance to health services and the availability of transport, affordability scrutinises the fees and payment for health services, while adequacy and acceptability refer to the quality of care, if it meets the clients' expectations and social values, and if service provides are deemed trustworthy (Obrist et al. 2007: 1586). The health-seeking process includes why, when and how individuals decide to seek health care and the five components of access affect this process (Obrist et al. 2007: 1585). Whether individuals have access to health care is influenced by livelihood assets. These assets include financial, social, human, natural and physical capital (Bakeera et al. 2009). Naturally, if an individual has financial capital the affordability will be less of an obstacle to health care access and an individual with physical capital might have access to good roads or transportation that will render health care more accessible. However, the context in which people live influence the availability of assets, for instance, people's assets may vary depending on politics, the economy, or external shocks like armed conflicts and epidemics (Obrist et al. 2007: 1586). Consequently, the availability of assets may be out of people's control due to external forces that affect their

vulnerability.

Access to health care is also influenced by the availability and quality of health care services, including health facilities, as well as pharmacies, private practice and traditional healers, etc. The health care services are governed by policies, institutions and organisations and influenced by cultural norms (Obrist et al. 2007: 1585). For instance, the Ministry of Health may formulate a policy that dictates which medicines should be used for treatment of certain diseases and in which facilities these medicines should be available, and developmental or humanitarian organisations may provide care that is not in line with local sociocultural values. As figure 1 demonstrates, the health status of the patient, the patient satisfaction and equity can be measured in order to determine the outcomes of health care access (Obrist et al. 2007: 1585).

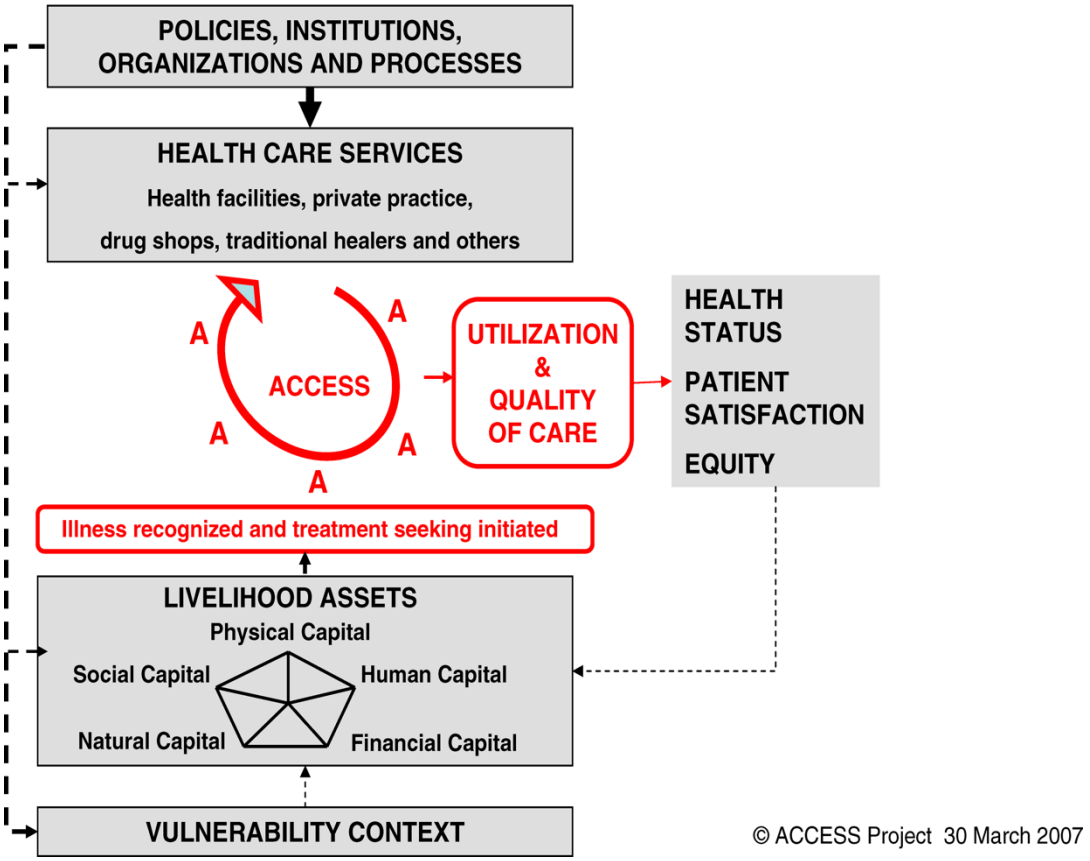


Figure 1: The Health Access Livelihood Framework (Obrist et al. 2007: 1585).

Application of the framework

When applying the above mentioned framework to MHM in a refugee settlement context, it is not necessarily the access to health care that will be investigated but rather access to appropriate MHM. The five components of access will be utilised in the following manner:

- *Availability of* menstrual products to absorb the menstrual blood, water, soap, bathing and toilet facilities. That is, are these products and facilities physically available to girls and women residing in Rhino refugee settlement?
- *Accessibility of* water and bathing and toilet facilities. What is the geographical distance to these facilities?
- *Affordability of* soap and menstrual materials. Is payment an obstacle to accessing soap and menstrual products?
- *Adequacy of* toilet and bathing facilities and menstrual products. Are the facilities and menstrual products meeting the expectations and the perceived needs of the menstruating girls and women? Are the facilities clean and private? Are the menstrual products fulfilling their purpose of absorbing the menstrual blood?
- *Acceptability of* talking about menstruation. How do individuals access information and advice about menstruation? Is it socially acceptable to ask for advice and information about menstruation?

These components will be discussed in relation to informants' livelihoods, that is, their social, human, financial, physical and natural capital, which in turn are influenced by the vulnerability context in which the informants live. The vulnerability context in this study comprise the fact that the informants are living in a refugee settlement in a quite remote rural area in northern Uganda. Access is also influenced by the availability of health care services, which in turn is influenced by policies, institutions, organisations, and additional processes that may influence and govern the availability of health-related services. In the present study, it is the availability of sanitation facilities, menstrual products, soap, water and information about menstruation that will be considered, rather than having a single focus on the availability of health care services. Taking the five components of access into account, the ability to utilise MHM facilities and products and the satisfaction with the same can be discussed. Since no gynaecological examinations have been implemented, the determination of the health status of the study participants is outside the scope of the present study.

Methodology

The present study used programmatic baseline data from a pilot project that was designed and implemented by the two organisations WoMena and ZOA. The aim of the pilot project was to assess the acceptability and feasibility of introducing menstrual cups and reusable pads to girls and mothers, as well as potential health and social impact of introducing these products, in a refugee settlement context in Uganda. WoMena works with effective, evidence-based reproductive health solutions and supports the implementation of these technologies, with a current focus on MHM (WoMena 2015). The pilot project in Rhino refugee settlement was the first project WoMena implemented in a refugee context and was a collaboration between WoMena and ZOA. ZOA is an international relief and development organisation that was already working in Rhino refugee settlement prior to the implementation of the MHM pilot project (see ZOA 2017).

From November 2016 through January 2017, I did an internship with WoMena as part of my Master's programme in global health. Through my internship, I got the opportunity to learn more about the pilot project and to visit Rhino refugee settlement for an exploration visit. During the exploration visit I joined WoMena and ZOA staff and visited various villages in Rhino refugee settlement in order to sensitise them about the project, as well as conduct informal interviews with community leaders, senior woman teachers, and VHTs. The aim of the exploration visit was to give us a better understanding of menstruation knowledge and practices in the communities. Furthermore, we visited seven primary schools in Rhino refugee settlement to carry out facility assessments, meaning that the school latrines, water and soap access, as well as privacy and bathing opportunities and student:latrine ratios, among other things, were investigated. These primary schools were selected based on convenience, because ZOA was already working with these specific schools and had established a relationship with the teachers, parents and students. The facility assessments were done to inform ZOA and WoMena staff about the conditions under which the schoolgirls manage their menstruation and to inform how the upcoming training sessions should be adapted to the girls' specific circumstances. Consequently, I was only involved in the pilot project's exploratory phase that preceded the baseline data collection and not in the actual collection of baseline data. Thus, the baseline data were not collected for the purpose of the present study, but for the purpose of informing the pilot project.

This chapter will introduce the research design of the present study, as well as the sampling process, data collection methods, and describe how the data was analysed. Data quality will also be

discussed and finally ethical considerations will be presented. Strengths and weaknesses of the different methods will be discussed throughout the chapter instead of being discussed solely in one section.

Research design

A mixed-methods research approach was used in the present study, which means that both qualitative and quantitative data have been collected and analysed. Combining qualitative and quantitative approaches has the argued advantage of creating a greater understanding of a research problem, since both of the approaches have strengths and weaknesses a mixed methods approach can attempt to maximise the strengths while attempting to reduce the weaknesses of the two diverse approaches (Creswell 2014: 264; Punch 2005: 235). In this case, quantitative structured interviews, qualitative focus group discussions (FGDs) and in-depth interviews were conducted (these will be described in detail below). The data were collected between the 1st- 4th March 2017 by WoMena and ZOA during the first phase of their pilot project in Rhino refugee settlement. The quantitative data available to this study builds on a small sample size, which limits the possibilities to make statistically significant analyses and the findings will not be generalisable. Therefore, it should be emphasised that the quantitative data in the present study was rather a semi-quantitative component that provided numbers that were used to give an early indication of trends among the participants and enabled triangulation of data. However, throughout the study the semi-structured component will simply be referred to as quantitative data.

This study adopted a convergent mixed methods design. The quantitative and qualitative data were collected around the same time and analysed separately, but were subsequently merged in the findings and discussion to shed light on the research problem. This design has an implicit assumption that the two types of data will bring different types of information, namely detailed explanations and narratives from qualitative data and scores and numbers from the quantitative data. The quantitative and qualitative data are merged in order to explore whether there is convergence or divergence between the different sources of information (Creswell 2014: 273). The assumption of this approach is that quantitative and qualitative data generate similar results (Creswell 2014: 269). The two approaches were not given equal weight in this thesis; the qualitative approach was dominant due to the fact that the quantitative sample size was small which limited the possibilities to carry out statistical analyses. The quantitative and qualitative research interacted with each other in the sense that the qualitative research facilitated the quantitative research by providing

information about the context and the informants, as well as provided explanations to the quantitative findings (Punch 2005: 242; Skovdal & Cornish 2015: 7). Triangulation was used, meaning that the qualitative results were cross-checked against the quantitative results and vice versa. In other words, the usage of triangulation has the potential to check the findings and make them more robust (Bryman 2012: 635).

Sampling process and selection criteria

As mentioned, this study relies on secondary data collected as part of a pilot project and therefore the sampling process of the informants is the same process as when identifying participants for the pilot project. This section will thus outline the sampling process and selection criteria of the pilot project, since it was the same process that identified the informants who were part of the baseline data collection.

The school facility assessments that were mentioned previously were used when discussing how pilot project participants should be selected. Out of the seven schools that were visited during the exploratory visit, four schools were selected. The pilot project had four intervention groups and the groups received different menstrual products. The four schools constitute the basis for the four intervention groups. Therefore, when selecting schools, factors that were considered were the availability of latrines for girls, girl: latrine ratio, availability of water and soap, cleaning routines of the latrines, availability of private space for changing menstrual products and cleaning yourself, number of female teachers in the school. Schools were not excluded if they had few latrines and lacked soap and reliable supply of water, but depending on these conditions the schools were matched with menstrual products that would potentially suit that environment better and make the usage safer. Furthermore, sensitisation meetings were held with the community members and school staff and their attitudes to the pilot project were also taken into consideration. Bearing in mind that this was a pilot project, it was important that the local communities were expressing interest and had a positive attitude towards taking part in the project. The four selected schools ended up being Siripi Primary School, Ocea Primary School, Wanyange Primary School, and Vurra Cope Primary School. Purposive sampling was used and the decision was made after careful discussions between staff from WoMena and ZOA where different aspects were considered, namely, the hygiene facilities at school, attitudes of the communities, as well as ZOA's previous experience of working in these communities.

The primary target groups of the pilot project were 60 primary school girls in grades 6 and 7, as well as 28 mothers (or guardians). Mothers were included because WoMena discovered that girls were likely to feel more comfortable trying new products and accept them if their family members (mothers, sisters, guardians, etc.) and their peers got familiar with them as well. The target groups included both refugees and nationals, because as mentioned previously all projects need to target at least 30% of the national population. The pilot project had a secondary target group, which included family members, peers and partners, was invited to sensitisation meetings with the aim to strengthen the support network for the primary target group. A number of boys and fathers from the secondary target group were interviewed in the baseline data collection, in order to get an overview of their knowledge and perception of menstruation.

There were some important factors to consider when selecting individuals to participate in the pilot project. ZOA staff, who had previous experience from implementing projects in Rhino settlement, pointed out that the great majority of the population residing in the settlement lacks resources and therefore the risk for jealousy[5] is high. Consequently, it was important that people selected for the pilot project would represent different tribes and villages within the settlement so as to avoid tensions between the various tribes and villages. Moreover, WoMena's experience from other projects highlighted the importance of selecting beneficiaries who were all part of the same group, for example a health club in school, because this also decreases the risk of jealousy and function as "natural delimitation". Another selection criterion was that the selected girls and women should have reached menarche and currently experience menstruation (meaning they should not, to their knowledge, be pregnant at the time of selection). Project participants were thus selected using purposive sampling, meaning that individuals were sampled in a deliberate way with the specific selection criteria in mind (Punch 2005: 187).

Out of the 88 project participants, convenience sampling was applied to select a number of individuals to participate in baseline data collection activities. ZOA staff had a list with the names of all project participants and informants were selected depending on their availability at the time,

[5] Jealousy can occur if some individuals receive menstrual products and trainings while others do not. Jealousy may increase when individuals regard the sampling process as unfair and if they suspect that individuals belonging to certain tribes or villages were excluded.

but still keeping in mind that around 30% should be Ugandan nationals and 70% should be refugees as in line with the national guidelines. This sampling technique was used for the selection of girls and women to participate in the structured interviews, the in-depth interviews as well as the FGDs. Similarly, the sampling of boys and fathers to participate in the FGDs was also based on convenience, that is, fathers and boys who were available and in the school area when the FGDs were being conducted were asked to participate. The study includes boys and men for the reason that menstruation is surrounded by taboos and norms that are firmly based in society and society includes not only girls and women but also boys and men. Furthermore, menstruation is of great importance to boys and men as well since it is a crucial part of fertility and family planning. It should be mentioned that the sampling of fathers to participate in the FGD was somewhat biased. Most of the fathers that participated were teachers in the school, hence they were probably more well-off and more educated than the average father living in Rhino refugee settlement. The mothers, however, were housewives and/or farmers and were considered to constitute a representative sample of the mothers in the area. In the following sections, the three data collection methods will be described further.

Structured interviews

Quantitative data were collected through structured interviews, which are commonly used in survey research. The aims when conducting structured interviews are to minimise the differences between the interviews and ensuring that the interviews are standardised (Bryman 2012: 209). This stands in contrast to qualitative interviews, which are commonly semi-structured or open-ended, allowing the interviews to be shaped by the informants' answers.

Two types of structured interviews were developed for the baseline data collection; one for the mothers and one for the schoolgirls. Four girls per school and two mothers per school were selected to participate in the structured interviews, resulting in a total of 24 structured interviews. The structured interviews took place in the schools and were conducted by two Danish female staff from WoMena. The questionnaires were administered electronically through KoBoToolbox, a tool for data collection which requires a smartphone but the tool can be used independent of internet access. This allowed for data to be collected even though internet access was unreliable in Rhino settlement. Collecting data electronically is advantageous because the research team does not need to manage large quantities of papers, which makes the process smoother. Furthermore, as noted by the researchers administering the data collection, using smartphones instead of paper forms made

the situation less formal and created a more relaxed and intimate atmosphere. However, obviously the researchers need to take care to make sure that the tool works well before using it; double-check that the order of the questions is coherent and that the answers are recorded correctly, that the tool works in offline mode, and that the smartphones have full battery when it is time for the data collection.

The structured interviews were in English, but if requested these were translated into local languages so as to make the informants as comfortable as possible. The interviews for mothers included 153 questions in total and the interviews for girls had 157 questions. The questions touched upon the following topics: socio-economic status of the informant, personal experience of menstruation, activities when menstruating, menstrual knowledge and perceptions, statements about menstruation (agree or disagree), menstruation-related challenges when residing in a refugee settlement, and availability of hygiene, sanitation, and toilet facilities. However, all of these topics were not addressed and included in the present study, rather, the themes that were identified in the qualitative components of the present study were guiding the selection of quantitative questions.

In order to capture the informants' experience, knowledge, and opinions, multiple-indicator measures were used in the questionnaire. Using a single indicator might miss aspects that have big impacts on the informants' understanding of the topic and simplify a topic that has more aspects than what is being captured by the researcher. Therefore, by using multiple indicators it is possible to capture a more holistic image of the issue being investigated (Bryman 2012: 166). The majority of questions were closed, which means that the informants were presented with a number of response options. However, some of the questions offered the informants to answer 'other' if none of the response options suited the experience of the informants. If an informants chose the 'other' category, she was asked to explain in her own words the answer that was applicable to her experience. Advantages of using closed questions are that errors due to variability are reduced. Variability can occur when the interviewer is inconsistent when asking and/or recording answers or in case there is more than one interviewer potential differences between the interviewers may lead to variability (Bryman 2012: 211). Another advantage with closed questions are that they are easier to process in the analysis stage, since the answers are categorised at the same time as data is collected and thus the coding process is less complicated and time consuming compared to when using open questions (Bryman 2012: 211-212).

It should be noted that when conducting structured interviews, the characteristics of the interviewers might affect the replies of the informants (Bryman 2012: 227). As mentioned, the interviews were conducted by two Danish women and their attributes, for instance, being white and foreign, may have affected the informants' responses. It should be highlighted that the interviewers were women, which was likely to be advantageous when discussing a potentially sensitive topic such as menstruation and many women tend to feel more comfortable discussing menstruation with women instead of men (Mason et al. 2013: 5). Moreover, there is a possibility that the informants provided answers that they deemed to be socially desirable, resulting in a so called social desirability bias. This means that informants may adjust their answers to correspond to what they assume that the interviewers want to hear or to what is desirable in the community or wider society. This potential limitation can be minimised by being neutral and non-judgemental as an interviewer, so as to encourage the informant to speak her mind and create an environment where the informant feels comfortable and safe (Bryman 2012: 227).

In-depth interviews

The qualitative in-depth interviews were semi-structured, meaning that an interview guide was developed prior to the interviews but the questions were formulated in a way that made the interview flexible and provided the informant with the possibility to answer freely and share her own perspectives and experiences. When interesting aspects arose during the interview, the interviewer could depart from the interview guide and ask follow-up questions building on what the informant shared (Bryman 2012: 470). The qualitative interview is a useful tool when aspiring to gain access to people's views, perceptions, practices, meanings and constructions of reality (Punch 2005: 168). Similar to the structured interviews, two different interview guides were developed, one for girls and one for mothers. One girl per school was interviewed and one mother per school area, resulting in a total number of 8 in-depth interviews. Due to time constraints, WoMena staff did not have the possibility to conduct these interviews and instead staff from ZOA conducted these interviews. The interviews were held in the schools and were conducted in English, Lugbara or Kakwa, and when requested by the informants an Arabic translator was present. All the interviews were between 33 and 80 minutes long. The interviews were recorded and later transcribed by individuals identified by ZOA who were fluent in the languages used in the interview. The transcribers received training from WoMena staff in how to thoroughly transcribe interviews without losing data.

A limitation of the in-depth interviews was that the interviewer did not have a lot of previous experience with conducting interviews. Consequently, when reading the transcripts, it seemed like the interviewer was missing some chances to probe and ask supplementary questions that could potentially encourage the informant to develop her answer and contribute to richer data. Furthermore, the transcripts lack data in a number of places where the informants' answers were inaudible, which might be the result of low quality recording devices, noisy surroundings, or that the informant was shy and talked quietly.

Focus group discussions

FGDs are a method of interviewing that includes more than one interviewee, consequently possessing characteristics of a group interview (Bryman 2012: 501). This method of collecting data is flexible, inexpensive, provides rich data and is stimulating. However, to manage the group dynamics and achieve a comfortable and balanced interaction between the informants can be challenging (Punch 2005: 171). In contrast to the previously mentioned in-depth interviews, the role of the interviewer is slightly different in a FGD. The interviewer takes on the role as a facilitator, who is meant to guide the discussion and at the same time be unobtrusive in order to allow the informants to discuss among themselves (Punch 2005: 171).

The FGDs were semi-structured; questions and statements were formulated beforehand to guide the discussion but it also gave room for informants to develop their arguments and perceptions and add additional information (Bryman 2012: 501; Punch 2005: 171). The facilitator was a Danish woman working for WoMena, notes were taken by another Danish woman from WoMena, and one woman from ZOA was present for support if needed as she was from the West Nile region herself. Notes were taken during the FGDs because it was not only what was said during the discussion that was important, but also how it was said and the atmosphere and dynamics during the discussion (Bryman 2012: 504). The aim of a FGD is to gain insight into how a group of people discuss a certain topic and it allows individuals to challenge each other's views and question each other. In this way, peers can verify claims and are able to probe each other's views (Bryman 2012: 501, 503).

Four FGDs were conducted in Rhino refugee settlement; one with fathers only, one with mothers, one with boys, and one with girls. The groups consisted of 5-6 individuals. The purpose was to gain insight into the various groups' perceptions and knowledge of menstruation. As mentioned previously, girls' and women's experiences of menstruation are influenced by the wider community

and the sociocultural environment they are part of. Thus, it was deemed important to include men and boys in the FGDs in order to get an understanding of how much they know about menstruation, what they think about it and discuss their potential roles in relation to menstruation. All FGDs were conducted in English, except for the FGD with mothers where an Arabic translator was present. In the same manner as the in-depth interviews, the FGDs were recorded and subsequently transcribed by individuals identified by ZOA who were fluent in the languages used in the FGDs.

Potential limitations of FGDs are that when discussing sensitive topics such as menstruation participants might feel uncomfortable and shy. This was the case in two of the FGDs, the ones with girls and boys. The notes from these FGDs explain that participants seemed shy, somewhat reluctant to actively participate, and that they answered the questions but did not discuss amongst themselves. Consequently, the notes from these two FGDs state that this method may not be optimal when discussing menstruation with primary school students in this setting. Furthermore, the knowledge of menstruation among the boys was low and they insisted on not needing a translator during the discussion. However, the transcripts indicate that at times the boys seemed to struggle to understand what was being said and therefore in future situations it may be advisable that a translator is present to ensure that the discussion is not hampered by language barriers. In addition, it can be challenging to manage the group dynamics and ensure that all participants are given the possibility to speak their minds without being interrupted or discriminated against by other participants. There might be a tendency amongst participants to say what they believe that they are expected to say from a societal and cultural point of view or express views that are likely to impress the other participants (Bryman 2012: 518). However, this does not necessarily make the data from a FGD weak, rather, it can highlight how private and public views of a topic differ which can be an interesting finding in itself.

Analysis of the structured interviews

In terms of analysis of quantitative data, a large sample size is needed in order to conduct statistical analysis with significant findings (Creswell 2014: 269). Considering the small sample size available to the present study, it was not possible to conduct meaningful statistical analysis and the findings cannot be generalised beyond this particular sample (Bryman 2012: 175). As mentioned previously, the qualitative approach was dominant in the present study and the main reason for this was mainly the small sample size of the structured interviews. When analysing the quantitative data, the software the Statistical Package for the Social Sciences (SPSS) version 24 was used.

The variables were a mix of interval, nominal and dichotomous variables. Interval variables have identical distances between the categories. The following question, for instance, generated interval variables: "On average, how many times per day do you change your menstrual management product during your menstrual period?" The answers were 1 time per day, 2 times per day, 3 times per day, etc. Some variables were classified as nominal, that is, the categories could not be rank ordered. For instance, one menstrual management product cannot be ranked as higher or lower than another; disposable pads are not higher or lower, or more or less, than cotton cloth. Finally, dichotomous variables contain two categories only, for example, the question "do you feel you have enough information about menstruation?" can only be answered with a "yes" or a "no" (Bryman 2012: 335).

Data were transferred manually from KoBoToolbox into SPSS and coded by giving each answer category a number. These numbers were thereafter entered into SPSS. The data were investigated by using descriptive statistics. The data will be presented using frequency tables and bar charts. Data will be displayed in this manner since both frequency tables and bar charts are practical ways to summarise, understand and interpret data (Bryman 2012: 337; Punch 2005: 111). Some of the questions allowed the informants to indicate more than one answer if more than one answer applied to them. In those instances, the variables were coded as dichotomous variables and then all variables that belonged to the same question were combined into a group by utilising the "multiple response sets"-function in SPSS (Ho 2006: 25-27). However, when these findings are presented in multiple response frequencies tables, the total number of interviewees will appear to be higher than the actual number of interviewees since the interviewees could give more than one answer (Ho 2006: 30).

Analysis of the in-depth interviews and the FGDs

The analysis of qualitative data was done by undertaking a thematic analysis. Thematic analysis is one of the most common approaches to analysis of qualitative data (Bryman 2012: 578) and "is a method for identifying, analysing, and interpreting patterns of meaning ('themes') within qualitative data" (Clarke & Braun 2017: 297). The themes create a framework for organising analytic observations (Clarke & Braun 2017: 297). Nvivo version 11.0.0, a qualitative data analysis software, was used to perform the thematic analysis. The transcripts from the in-depth interviews and the FGDs were imported into Nvivo and after reading the transcripts thoroughly I coded the

transcripts. Codes are labels assigned to words or pieces of text and coding is a process of sorting, summarising, and assigning meaning to the data (Punch 2005: 199). Throughout the coding process, nodes were created in Nvivo to categorise the codes. Nodes can be described as categories under which codes that can be grouped together are collected (Bazeley & Jackson 2013: 70, 75; Bryman 2012: 596). These nodes were subsequently used when performing the thematic analysis. The following was considered when identifying themes:

- Repetition. Topics that were frequently recurring are likely to be considered important by the informants and therefore I consider them important to investigate.
- Similarities and differences. Considering how topics and aspects of menstruation were discussed in different ways by interviewees.
- Theory-related materials. Concepts from literature on menstrual hygiene management were kept in mind when coding the transcripts and have guided the identification of themes (Bryman 2012: 580).

When conducting a thematic analysis, the extraction of themes is influenced by the researcher conducting the analysis; the process is subjective and might mirror the views and intentions of the researcher (Holliday 2007: 91). However, this potential bias can be decreased by considering repetitions when identifying themes, as repetitions will be observed by other researchers as well, and being transparent about how themes were identified will also decrease potential bias.

Reliability and validity

Qualitative reliability was enhanced by transparent and detailed descriptions of the sampling methods and data collection. This way the possibility to replicate the study is maximised. Nevertheless, it should be mentioned that social settings are dynamic and not frozen in time, which means that if another researcher is attempting to replicate this study, she/he will probably hear and see other things than the researchers involved in this study. However, by being transparent about the data collection process, it is possible for other researchers to adopt similar methods and attempting to take on a similar social role as did the researchers conducting the original study (Bryman 2012: 390). Qualitative validity is concerned with the accuracy and credibility of the findings (Peräkylä 2016: 414). It is important that informants feel comfortable enough to express their views and share their experiences so that the data collected reflect their personal thoughts and practices. Furthermore, it is important that the researcher can demonstrate that her or his interpretations are

based on the data (Peräkylä 2016: 415). Qualitative reliability and validity were enhanced in the present study by methodological transparency, by staying close to the data and demonstrate how it is being used and how it constitutes the basis for the discussions. Finally, validity was enhanced by triangulation of the qualitative findings and the quantitative data as well as existing literature on the topic.

As mentioned previously, the quantitative data build on a small sample size and therefore it is not possible to generalise the findings beyond this sample. In order to enhance quantitative validity, staff from WoMena and ZOA scrutinised the questions of the structured interviews to ensure that the questions were clear and unambiguous. Validity was enhanced through triangulation; if similar results were obtained from the different sources of data, the data were considered to have higher validity (Bryman 2012: 168-172; Punch 2005: 241).

Ethical considerations

All informants signed consent forms before participating in any data collection activities. Since some of the study participants were under the age of 18 and thus considered children in Uganda, a signature from a parent or guardian was required. All study participants were informed about the purpose of the pilot project, the purpose for conducting interviews and how the data would be used. They were also reminded that their participation is voluntary and that they were allowed to discontinue the interviews at any time if they choose. All informants were guaranteed anonymity and the informants names will not be mentioned in any reports or be made public in any way (Webster et al. 2014: 87-88).

Findings

In this chapter, the findings from the structured interviews, in-depth interviews and FGDs will be presented. Firstly, the informants will be introduced briefly. Thereafter, the chapter will be structured in accordance with the main themes that were identified in the thematic analysis.

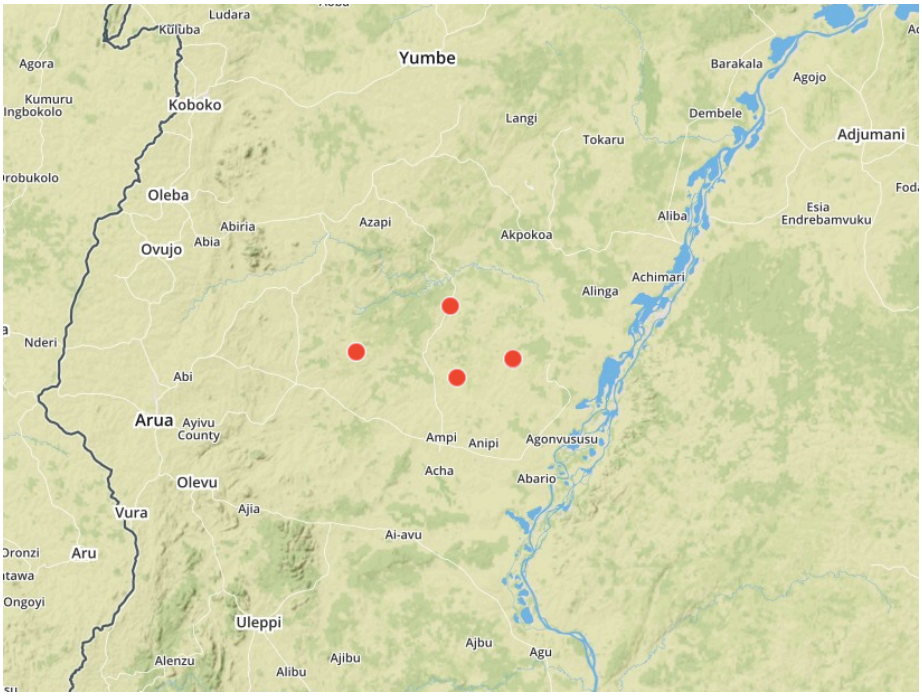
Characteristics of informants

The aim of this section is to provide a brief overview of the informants themselves and to illustrate the general living conditions for inhabitants of Rhino refugee settlement. The personal characteristics of the participants of the FGDs and in-depth interviews were either irregularly reported or not mentioned in the transcripts that were available to me. Therefore, this section will mainly focus on the girls and women who were taking part of the structured interviews.

The informants reside in four different communities in Rhino refugee settlement, namely Siripi, Ocea, Wanyange, and Ofua (see picture 2). The girls and women who participated in the structured interviews were from South Sudan (66,7%), Uganda (29,2%), and one informant originated from Kenya (4,2%). Among these, the refugees that have lived in Rhino settlement for the longest time arrived in 2012, while the majority of the informants (45,8%) arrived in 2016. Of the 24 informants who participated in the structured interviews, 15 report that their households consist of 7 or more members, while the rest report having smaller households (between 2 and 6 members). The informants of this study are between the ages of 15 and 42, with the majority of participants being 16 years of age. All of the girls live with a parent or a guardian, except one girl who report that she is the head of the household. Seven of the informants have already participated in other types of menstrual management projects, delivered by their school or non-governmental organisations (NGOs), but the remaining 17 informants have never taken part in any menstrual management project.

All informants live in houses made of either unburnt bricks with mud, mud and poles, or tarpaulin and sticks, while the roofs are commonly made from thatch, or alternately from tent or iron sheets. Some of the girls and women do not have any source of lighting, but most have access to a torch and some use firewood, electricity from solar energy or a generator, paraffin lantern or some type of home-made light source. Out of the 24 informants, 13 report that every member of their household have at least two sets of clothes, while 10 state that the members of their households do not have

two sets of clothes, and one informant does not know how many sets of clothes her household members have. Regarding shoes, 14 live in households where the members have one pair of shoes or less and 9 live in households where their family members have at least one pair of shoes, and one respondent does not know the number of shoes her family members have.



Picture 2. Location of Siripi, Ocea, Wanyange and Ofua communities (KoBoToolbox 2017).

Access to information about menstruation

The structured interviews reveal that 75% of the informants do not think that they have enough information about menstruation and all but one of the informants in the in-depth interviews say that they would like to learn more about menstruation. Based on the narratives from the interviews with the school girls, many have received some basic information about menstruation from their mothers, or other female adults in their households, heard friends talk about it, or received basic education about menstruation in school from a senior woman teacher. However, several respondents suggest that they were feeling unprepared and did not have enough information when reaching menarche, resulting in that they felt confused about what to do, how to handle the flow of blood and how to behave. Commonly the girls were feeling worried and scared when seeing the blood for the first time. One in-depth interview with a girl in Ocea Primary School describes her own experience of reaching menarche:

"My first time I had not known about menstruation […], I had heard but I didn't understand exactly what it was like. So it started at around 2pm after I had cooked lunch and I was seated while sorting beans for supper, I saw the blood and got so scared so I told my mother, who then said I shouldn't be scared as it is a sign of maturity and that I needed to be so clean all the time by bathing and that my body was changing and so I should be careful and control myself since I could now get pregnant." (girl, in-depth interview, Ocea).

The individual experiences differ and some of the mothers explain that they have not talked to their daughters about menstruation and that their daughters have not sought them to share their experiences or ask for advice. One mother explains that *"the challenge is girls don't know anything about menstruation and when they receive their menstruation they get help from friends and never share it with the mothers and don't consult even, because our daughters are too shy even."* (mother, in-depth interview, Wanyange).

In the FGD with girls, all of them mention that they receive information about menstruation from their mothers, but also from the Madame in school. One girl says that the Madame taught them *"that menstruation is a disease which comes every month"* (girl, FGD, Vurra Cope). The mothers in the FGD agree that it is important for girls to learn about menstruation before they reach menarche, so that young girls are aware of what is waiting them, especially if their mothers are not around at the time when they experience their first menstruation. If they have the knowledge already they will not face challenges and they will know how to handle their menstruation (mothers, FGD, Ocea). However, as mentioned, many mothers did not think that they had enough knowledge about menstruation and all of them, except one, said that they would like to learn more. In an in-depth interview, one mother said that she cannot teach her daughter about menstruation because she has too little knowledge about menstruation herself (mother, in-depth interview, Ocea). Similarly, the fathers and boys also expressed an interest in receiving more information about menstruation. One father explains that "*boys and men should know more about menstruation so as plan themselves*" (father, FGD, Siripi) and one of the boys says that he would like to learn more about menstruation because "*I don't want to make a girl pregnant*" (schoolboys, FGD, Wanyange).

Findings from the structured interviews indicate that there are a number of sources that girls and women utilise when seeking information and advice about menstruation. Table one displays the findings from the structured interviews regarding who women and girls prefer to ask for advice

about menstruation. Seven respondents (25.0%) mention that mothers are the most common source for advice, while 5 respondents (17.9%) mention "no one" meaning that five of the respondents do not ask anyone for advice about menstruation. All of the respondents mention that they would ask other women for advice, not men.

Table 1. Girls' and women's preferred advisor regarding menstruation (n=24)

	No. of individuals (%)
Who do you ask for advice about menstruation?	
Health centre	1 (3.6)
Neighbours	2 (7.1)
Colleagues	1 (3.6)
Organisations	1 (3.6)
Grandmother	1 (3.6)
School	1 (3.6)
Mother	7 (25.0)
Guardian	1 (3.6)
Teacher	1 (3.6)
Friends	3 (10.7)
No one	5 (17.9)
Older girls in community	1 (3.6)
Sister	1 (3.6)
Aunt	2 (7.1)
Total	28 (116.7)*

*The interviewees could provide more than one answer and therefore the total number of individuals adds up to a larger number than the actual number of interviewees who participated in the structured interviews.

One girl mention that she would like to receive advice and information from an educated person from an organisation, but only if that person is a woman (girl, in-depth interview, Siripi). In an in-depth interview, a girl from Ocea says that she can ask different people in her life for advice about menstruation, she explains that "*I can't choose because sometimes what my friend would tell me may differ from a teacher, my mother, or people like you so I can talk to anyone about it*" (girl, in-depth interview, Ocea).

Girls and women tend to be more likely to discuss menstruation freely with friends (79.2%) than with family (54.2%). The reasons for not discussing menstruation freely are shame, fear, not habitual, lack of people to talk to, and one mother explains that she does not talk about it because it is not important. In the FGD with mothers, one informant mention that her daughter will tell her when she starts menstruating, while another informant says that her daughter did not tell her, but that she knew she had reached menarche due to changes in her behaviour. She adds that "*they do*

fear to tell their mothers and share their experience" (mother, FGD, Ocea) and another informant adds that "*other children fear their mothers and use elder sisters to deliver the message*" (mother, FGD, Ocea). The findings from the FGDs and the in-depth interviews indicate that some individuals are comfortable discussing menstruation while others are not. In the FGD with girls, they all agree that it is not normal to talk about menstruation (girls, FGD, Vurra Cope). However, in the in-depth interviews several girls state that they share their experiences of menstruation with fellow girls, and that they are particularly likely to share with close friends who are girls. Similarly, several mothers in the in-depth interviews express that they can share experiences and concerns related to menstruation with fellow (female) friends, although they also mention that some women are too shy to discuss with fellow women.

There appear to be a consensus among the girls and women that they do not want to discuss menstruation with men. In the in-depth interviews, a mother from Wanyange explains that "*with women I can talk in details without fear but to men just talk briefly I just request for some money to buy pads, pants and soaps to the girls to keep themselves clean*" (mother, in-depth interview, Wanyange) and a girl from Vurra Cope Primary School explains that "*there is fear; I can't talk to a man about my menstruation*" (girl, in-depth interview, Vurra Cope). One mother said that she does speak about menstruation with her partner, but that "*he doesn't feel comfortable when I tell him I am on period because sometimes he wants to have sex and it's impossible to have it when I am in my period"* (mother, in-depth interview, Wanyange).

In the FGD with mothers, it is expressed that "*some men don't want to hear or see it* [menstruation, author's comment]*, some can start criticising and abusing them* [menstruating women, author's comment] *in the community"* (mother, FGD, Ocea). There seems to be some recognition of these issues in the FGD with fathers, as one father mentions that some women fear to talk about menstruation with men since they think that the men will repeat their conversation to other men (father, FGD, Siripi). However, two of the fathers also point out that it is important for partners to be able to discuss menstruation for purposes of planning the spacing of children and also so that they can make sure that female family members have the necessities needed to manage menstruation (fathers, FGD, Siripi). In the FGD with boys, one boy expresses that "*they* [girls and sisters, author's comment] *keep them* [menstruation, author's comment] *a secret, some are intelligent and they keep it a secret but some of them do not*." (schoolboy, FGD, Wanyange).

Bathing and toilet facilities

The findings from the structured interviews demonstrate that 87.5% of the informants have access to a toilet. There are two girls and one mother who do not have access to a toilet; one girl explains that her toilet is still under construction and that she goes to the forest when she needs to go to the toilet, one girl says that she uses her neighbour's toilet facility, and the mother explains that her toilet is almost full so she looks for any alternative, for instance using the neighbour's toilet.

In the FGD with mothers, it appears that digging the holes for the latrines may be challenging and some of the mothers have received assistance from the Danish Refugee Council (DRC). One mother explains that "*as me I am having waist problems that's why DRC built for me house and a latrine* […]" and another mother says that "*in the beginning I didn't have a toilet but I also have the same problem my elder son is also sick that's why DRC built for a house and latrine*" (mothers, FGD, Ocea). A mother from the same discussion adds "*like for me I don't have toilet, because I don't have someone to dig for me*" (mothers, FGD, Ocea).

Everyone reports using pit latrines, most commonly surrounded by a structure made of local bricks or carpet and with roof made of iron sheets or carpet. It is not uncommon that several people (extended families and neighbours) share a toilet; one mother from Wanyange says that "*we are 28 members share my toilet till they dig their own toilets*" (mother, in-depth interview, Wanyange). The structured interviews suggest that most girls and women have toilets that can be closed so that the user cannot be seen from the outside (70.8%) but that some have toilets that cannot be closed (25%) and one informant does not know (since she does not have a toilet and goes to the forest instead) (4.2%). Sixteen informants (66.7%) can lock their toilet door, while seven (29.2%) are unable to lock their toilet door and one informant does not know (since she does not have a toilet) (4.2%).

Seventeen respondents (70.8%) consider their toilet and bathing facilities clean, while the remaining respondents say that their sanitation facilities are unclean (20.8%), only clean sometimes (4.2%), or "don't know" (4.2%). In an in-depth interview, one mother explains that she struggles to maintain the hygiene of the environment because "*sometimes these kids go and defecate in the bathing shelter"* (mother, in-depth interview, Ocea). While the majority considers their toilets at home clean, all girls, except one, report that the toilets in their schools are unclean. One girl expresses the following about the toilets in her school: "*what I dislike about them is that they are always dirty and sometimes washed once a week, so they smell; ever since I joined school they have only washed*

them once" (girl, in-depth interview, Ocea). One girl states that the toilets at her school lack doors, lacks water and lacks soap, and that she does not have a place in school where she can change her pads in privacy (girl, in-depth interview, Vurra Cope).

The girls in the FGD also mention that the latrines in their school are dirty and smell badly and one girl says that when she is in her menstruation period she does not change her menstrual product in school but would rather go home: "*[...] sometimes you ask for permission and you go home and come back to school*" (girl, FGD, Vurra Cope).

The findings from the structured interviews indicate that all informants bathe twice (16.7%), or more than twice (83.3%), per day during their menstrual period. Descriptions of bathing facilities are generally insufficient, however, in in-depth interviews from Ocea and Wanyange two mothers describe that their bathing rooms are made of grass and constructed with stones on the floor or lifted up in a manner so that the water can flow out (mother, in-depth interview, Ocea; mother, in-depth interview, Wanyange).

Menstrual products

The girls and women use various types of menstrual management products (see table 2). Table two provides an overview of the menstrual products girls and women use. Nine out of the 24 informants report using two or three different types of products. The most commonly used product is disposable pads (37,1%), followed by cotton cloth made from old rags (31,4%). Four individuals report using "other" products; one mother use cotton from the field, while another use extra underwear and shorts during menstruation. The other two says that they are using "other" products when they cannot afford disposable pads, but without specifying what this other product might be.

One mother explains that "*as in the camp when you arrive in the camp they give you three packets of pads which each packet contains 10 pieces but if it gets over and we don't receive other pads we use piece of clothes"* and another participant adds that "*it has been long we didn't receive pads from the organisations so we just use clothes*" (mother, FGD, Ocea). All informants who use disposable pads also added that they do not buy it every month or that the disposable pads are not always available to them due to lack of money or that they are too expensive. One girl from Vurra Cope Primary School says that she prefers to use the disposable pads because they do not leak and she can just throw it away after usage. However, she adds that these pads are expensive and she cannot

afford them every month, therefore she changes pads twice per day because she lacks pads (girl, in-depth interview, Vurra Cope). A mother from Wanyange explains that "*we were being distributed with some clothes here by DRC* [Danish Refugee Council, author's comment] *I cut it into pieces and use for managing my menstrual blood"*, she continues "*no one encouraged me to use this method, but I just use because there is no any other way to manage with it the menstrual period*" (mother, in-depth interview, Wanyange).

A girl from Ocea explains that *"the challenges women and girls I have seen experience during our menstruation time are (laughs) especially from my friends, they lack pads and so the blood stains their clothes"* (girl, in-depth interview, Ocea).

Table 2. Menstrual products used by girls and women (n=24)

	No. of individuals (%)
What menstrual products do you use?	
Disposable pads	13 (37.1)
AFRIpads (reusable pads)	2 (5.7)
Homemade reusable pads	4 (11.4)
Cotton cloth (made from old rags)	11 (31.4)
Ecopads (reusable pads)	1 (2.9)
"Other"	4 (11.4)
Total	35 (145.8)*

*The interviewees could provide more than one answer and therefore the total number of individuals adds up to a larger number than the actual number of interviewees who participated in the structured interviews.

Findings from the structured interviews indicate that the choice of product is associated with economic status and availability of money. Graph one provides an overview of girls' and women's main reasons for using their current menstrual management product. The majority of informants (45.8%) state that they use their current menstrual product since they cannot afford other products (see graph 1).

A mother from Siripi says that to absorb menstrual blood "*I use clothes that I cut by myself* […] *I usually cut them into pieces from my bigger old clothes"* and she further explains that "*I don't like it because it keeps changing its position which makes me uncomfortable"* but adds that she uses the clothes *"because I can't afford to buy the pads* (mother, in-depth interview, Siripi).

The economic issues are further discussed in the FGD with fathers. One father states that "*most women use clothings and others are given by their friends but generally, there is no specific budget for menstruation because nobody cares what happens*" and another father explains that it "*depends*

on family background those with some money plan for the menstruation but those with poor economic background can't budget for it". Another father adds that "*some families have big number of women and girls than men or boys therefore, it's hard for them to budget for menstrual products every month hence difficulties during menstruation*" (fathers, FGD, Siripi).

Six respondents (25%) indicate that they use their current method for "other" reasons (see graph 1). The explanations given are related to donations (that is what is given to me, it is donated) or related to preference (it avoids blood to come, it is the safest when the flow is heavy). A mother from Wanyange explains that "*our challenges here are the lack of pads which they don't have a reliable source for it, and the piece of clothes they are using it is not all that good to be used"* (mother, in-depth interview, Wanyange). Three individuals inform that they use their current method because it is comfortable.

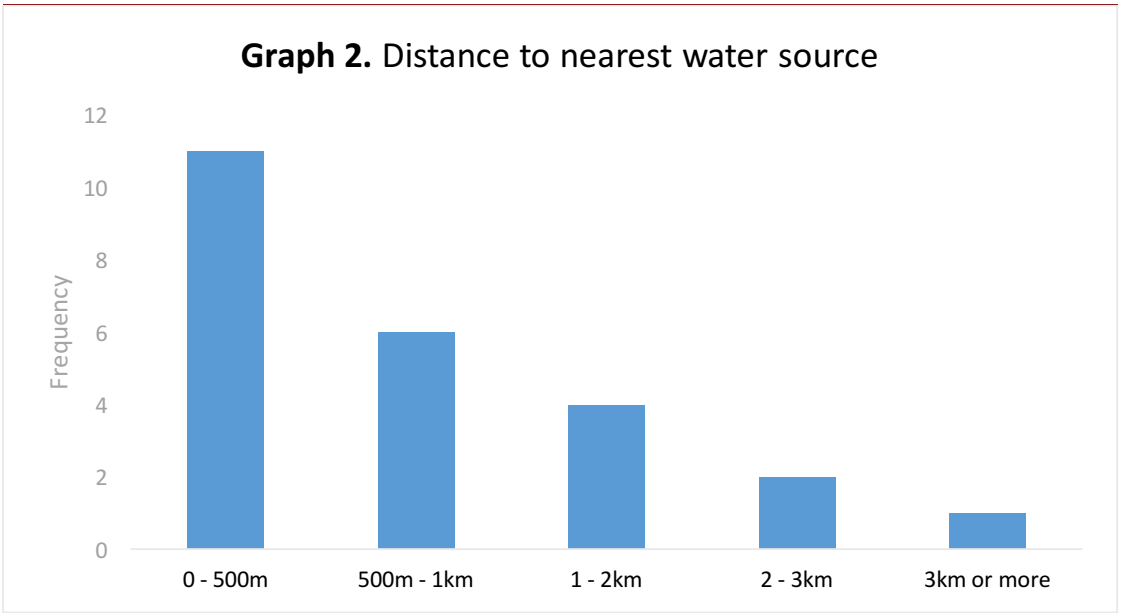
Soap and water

Twenty respondents (83.3%) inform that there is water available to them for washing their hands before or after using the toilet, while two respondents (8.3%) have water available to them sometimes. One girl (4.2%) does not have access to water for handwashing and one mother (4.2%) brings her own water when visiting the toilet.

Some mothers and girls get their water from boreholes, which are described as quite reliable sources that does not run out of water. A mother from Siripi explains that "*we fetch water from the borehole, it's always available*" (mother, in-depth interview, Siripi). Others get their water from tanks and these are sometimes empty in which case they are without water until the tanks are refilled. A girl from Vurra Cope Primary School says that "*if tank is full we get water […] at times the water get over and there is no water in the tank*" (girl, in-depth interview, Vurra Cope). A number of informants get water from joint supply points in the community centre, from a tank connected to a church, or from a nearby primary school. The geographical distance to the nearest water source, as estimated by the respondents, is presented in graph two. The majority of informants (45.8%) get water from a source that is located at a distance of 0-500 meters from their home (see graph 2).

Soap is seemingly less frequently available to most girls and women. Eight respondents (33.3%) report that soap is never available to them, twelve respondents (50%) have soap sometimes, and four respondents (16.7%) have soap available to them all the time. Indeed, in the in-depth interviews many girls and mothers stress that soap is not commonly available to them. One girl explains that "*like last month I had my menstruation there was no soap and I bathed just with water*" (girl, in-depth interview, Vurra Cope).

A mother from Wanyange explains that "*I am the one responsible for making sure soap is available at home, because without soap my life becomes hard, because washing, bathing, all rely on soap*" and adds that "*I don't have money it becomes hard for me to provide the soap at home, which gives me a lot of worries, and through this stress and worries it makes me sick and thin*" (mother, in-depth interview, Wanyange). Similarly, a mother from Ocea describes that she uses soap to clean herself and to feel clean, but she adds that "*it is hard to get soap because sometimes if I take my maize to the market and it's not bought, then I can't buy soap to bring home*" (mother, in-depth interview, Ocea). The findings from the structured interviews indicate that 14 of the 28 respondents experience challenges related to cleaning themselves or their menstrual products. One mother refers to the current water scarcity in Rhino settlement: "*now with the crises of water we receive two Jeri cans per day and if there is still water we add one more*" (mother, in-depth interview, Wanyange).



Menstruating in Rhino refugee settlement

The findings indicate that girls and women face some challenges when menstruating in Rhino refugee settlement. Table three provides an overview of the main challenges mentioned by the girls and women in the structured interviews. The most frequently mentioned challenge is menstrual products, followed by soap and "other". When girls and women describe soap as a challenge, it appears to be due to the fact that several girls and women lack soap and it is the lack of soap that is described as a challenge (see previous section). The "other" category comprises a variety of different answers, including lack of underwear, leakage, when menstrual products are not donated by organisations, pains, no hospital to buy tablets, poor food, need to go home during the day for bathing, and that it is very expensive, including transport to town.

One mother from Siripi explains that "*we have no pads, pants, even proper clothes to wear during such days*" (mother, in-depth interview, Siripi). However, one girl explains that she feels good and another girls says that there is no problem when menstruating in Rhino settlement. Although two girls explain that they feel good or do not experience any problems in relation to menstruation, the formulation of this question is problematic and will be discussed in greater detail in the subsequent discussion chapter.

Table 3. Challenges faced by girls and women when menstruating in Rhino refugee settlement (n=24)

	No. of individuals (%)
What is most challenging when menstruating in the settlement?	
Soap	12 (26.1)
Menstrual products	16 (34.8)
Privacy	2 (4.3)
Water	2 (4.3)
I do not know	2 (4.3)
"Other"	12 (26.1)
Total	46 (200.0)*

*The interviewees could provide more than one answer and therefore the total number of individuals adds up to a larger number than the actual number of interviewees who participated in the structured interviews.

In the structured interviews the girls and women are asked "is it different to manage your menstruation here, compared to where you are from?". Of the 24 respondents, 17 are refugees and answered this question; eight said yes, five said that they do not know, and four said no. They expressed in their own words how it was different, see the following examples:

"In South Sudan my relatives are there, in case of shortage or challenges, you ask them. Here there is no one to ask in case of any challenge" (mother, structured interview).

"Relatives are at home, to give money for products. Here we rely on organisations to donate, and they often delay. Better in South Sudan – we get soap and water. Here water comes from water tanks. Sometimes the water delay here" (girl, structured interview).

"In South Sudan, during dry season, you can lay bricks and earn money for pads and skirts and soap. Here I do not have my clothes, it is all in South Sudan, and I only have one school uniform it is very hard" (girl, structured interview).

"In South Sudan, you get water and soap – everything" (girl, structured interview).

These four citations are representative of the eight informants who said that it is indeed different to manage menstruation in Rhino settlement compared to where they are from. The reasons given are that they do not earn money in Rhino settlement and that they had greater access to products, soap, water and other necessities in South Sudan. Moreover, some respondents also mention that they had a social network in their country of origin that could support them in case of challenges, and that they lack their social networks in Rhino settlement.

During the in-depth interviews when asked how it is to menstruate in Rhino refugee settlement, all girls and women mention challenges such as a lack of products, lack of soap, pain, financial struggles, fear of leaking, lack of pants, no reliable sources for menstrual products, itching and rashes, and no proper service in the hospital. In some instances, these challenges have negative effects on girls' and women's daily lives and activities. A mother from Wanyange explains that "*I feel ashamed of going out thinking that if I sit down I will get dirty with blood and let the public know that is in her menstruation on period*" (mother, in-depth interview, Wanyange). Furthermore, in the in-depth interviews some girls inform that they sometimes miss school during their menstruation, due to fear of leaking or because they experience pain. One girl explains that she sometimes has difficulties concentrating in school when she is menstruating saying that "*sometimes I think it's going to leak out so I end up not understanding*" (girl, in-depth interview, Vurra Cope).

In the FGD with fathers, many of which are teachers, it is also mentioned that menstruation may affect school attendance among girls: "G*irls more especially do not come to school during menstruation period which is a big challenge*" (fathers, FGD, Siripi).

These findings are in line with the structured interviews, where six of the girls (37.5%) have stayed away from school because of their menstruation. Table four provides an overview of the reasons to why the six girls did not go to school during their menstrual period. Out of the six girls, two (12.5%) stay away from school every menstrual period, two (12.5%) miss one day of school per menstrual period, while the remaining 2 girls miss 1-5 days per year or 6-10 days per year.

Table 4. Reasons for staying away from school during menstruation (n=6)

	No. of individuals (%)
What was the reason you stayed away from school during menstruation?	
I did not have any products to manage my menstruation	3 (18.75)
I had pains	3 (18.75)
I was afraid of leaking	2 (12.5)
I was afraid that someone would tease me	1 (6.25)
Total	9 (56.25)*

*The interviewees could provide more than one answer and therefore the total number of individuals adds up to a larger number than the actual number of interviewees who answered this particular question.

Nevertheless, two mothers from Vurra Cope and Wanyange says that although there are menstruation-related challenges in Rhino settlement, it is easier to manage menstruation in Rhino settlement compared to when they were residing in South Sudan. The mother from Wanyange

explains: "*here we are provided with pads, and there is no much work and but when we were there we have to look for our own money to buy the pads since pads have replaced the clothes people used to use back in the days*" (mother, in-depth interview, Wanyange). Similarly, one girl from Vurra Cope Primary School mention that "*there in South Sudan it was very hard for me to get money to buy Always "Pads" because it is very expensive there*" (girl, in-depth interview, Vurra Cope). There are also respondents who share that they do have some challenges related to menstruation but that this does not affect their everyday lives. One girl says that when she has her menstruation "*I feel normal I can play; I can jump all the physical exercise I can do*" (girl, in-depth interview, Siripi) and a mother explains that "*having my menstruation doesn't really change a lot about my days*" (mother, in-depth interview, Siripi).

Discussion

In this chapter, the findings will be discussed in relation to the Health Access Livelihood Framework as well as to previous research. The chapter will be structured in accordance with the three objectives; the first focuses on access to information, the second concentrates on access to sanitation facilities and products, while the last part discusses how access to MHM influences the lives of girls and women in Rhino refugee settlement. Strengths and weaknesses of the present study will be discussed in relation to each objective, where relevant, and lastly summarised in the end of the chapter.

Previous research finds that it is not uncommon that menstruation is surrounded by a "culture of silence". Similarly, the findings from the present study suggest that there is a culture of silence surrounding menstruation in Rhino settlement and that this inhibits people to discuss menstruation due to shame and fear. The informants commonly procure information about menstruation through females in their network, mainly mothers and peers, however, the majority of the study participants felt that they did not have enough information about menstruation. Soap and menstrual products are considered the most difficult for girls and women to access. The main obstacle is that these products are too expensive. The majority of the girls and women have access to sanitation facilities and the few informants who do not have their own latrine use their neighbour's toilet or go to the bush. Water is generally accessible to all interviewees, although some had to walk long distances to fetch water and may not have as much water available to them as they would prefer. Organisations play a significant role as they occasionally provide menstrual products and have assisted some individuals to build sanitation facilities. Lack of access to MHM cause distress and worry. Some girls report that they occasionally miss school when they menstruate, mainly due to a lack of menstrual products. However, a few of the girls and women report that although they experience challenges relating to MHM, having their menstruation does not really affect their daily lives and they can carry out their activities as usual.

Access to information

Findings from the present study are in line with research from South Africa (Chikulo 2015; Ramathuba 2015; Scorgie et al. 2016), India (Rani et al. 2016), and Nepal (Crawford et al. 2014), that it is not uncommon that girls, women, men, and boys lack knowledge about menstruation. Research from Ethiopia (Tegegne & Sisay 2014), Kenya (Mason et al. 2013) and South Africa

(Chikulo 2015) find that it is very common that girls lack knowledge of menstruation prior to menarche, consequently leaving some girls in shock when they experience menstruation for the first time. Similarly, several informants in Rhino refugee settlement were unprepared and did not think they had enough knowledge when reaching menarche and therefore they felt shocked, scared and confused since they did not know how to manage the flow of blood.

Research from Kenya (Mason et al. 2013) finds that girls usually procure information about menstruation from females in their surroundings, such as mothers, sisters or peers. Correspondingly, the findings of the present study indicate that both girls and women obtain information from women in general and from mothers in particular. In contrast, however, Bhattarcherjee et al. (2013) find that the majority of slum-dwelling girls in West Bengal in India get information from friends, followed by mass media and that mothers is one of the least common source for information about menstruation. Nevertheless, there appears to be a consensus among girls and women around that world that they prefer to discuss menstruation with fellow women, not men, may they be mothers or friends. Although findings from the present study suggest that mothers are the preferred advisors, the informants also report that they are more likely to discuss menstruation freely with friends rather than family. A potential explanation for this could be that mothers are deemed to be reliable sources when asking for advice about matters relating to menstruation management, while discussions about menstruation in general and personal experience are likely to take place between peers. It may also be that girls and women are less likely to discuss freely with family since families usually also include male members.

Table 1 in the previous chapter provided an overview of girls' and women's preferred advisor regarding menstruation and respondents could provide more than one answer. However, it should be noted that only four respondents gave more than one answer. This could potentially indicate that respondents misunderstood and thought that they were supposed to indicate one person only; the *main* person they turn to for advice. This could be a possible weakness, as individuals are likely to confront a wide range of sources when searching for information. However, it could also be the case that menstruation is such a sensitive issue that girls and women indeed to not seek advice about menstruation from more than one source.

The reasons given for not discussing menstruation freely were fear, shame, not habitual, among others. Applying the Health Access Livelihood Framework, information about menstruation appears to be partly inaccessible to the study population in Rhino settlement as the majority of the

informants experience that it is unacceptable to talk about menstruation. Tan et al. (2017) argue that myths and cultural misinterpretations of menstruation emerged in ancient times but that many of these still exist, resulting in negative social attitudes toward menstruation. The findings suggest that a culture of silence surrounds menstruation in Rhino refugee settlement, as in so many other places, and this limits people's possibilities to access information since many individuals are uncomfortable or reluctant to discuss it. A few of the study participants state that they had received some type of training related to menstruation from either NGOs or from their schools, indicating that it is available although only offered sporadically to a limited number of people.

As mentioned previously, the present study found that girls in the FGD had been taught by the Madame in school *"that menstruation is a disease which comes every month"* (girl, FGD, Vurra Cope). Using the word 'disease' could potentially bring a negative connotation, which could create or reinforce the connection between menstruation and negative feelings or create misconceptions about what menstruation is and why girls and women menstruate. One may therefore argue that it is important to make information available that is objective and informative in order to decrease negative feelings and myths about menstruation. Nevertheless, it should be noted that perceptions of health and disease can vary tremendously between different populations (see for instance Radley 2002). Thus the usage of the word disease in relation to menstruation can have a variety of meanings and the specific meaning assigned to the word by the Madame in school in this case is unknown.

Access to information is likely to be influenced by human, social, physical, and financial capital. Lack of social capital might imply that the individual does not have a social network and therefore no one to talk to about menstruation, which was the case for one of the respondents in the present study. This aspect may be particularly relevant in a refugee setting, because as both the findings from the present study and previous research (see Sommer et al. 2016: 258) indicate it is not uncommon that individuals get separated from their social networks during displacement. Human capital, that is, knowledge and education, may influence access to information because the people who are consulted for advice may not have sufficient knowledge to guide the menstruating girl or woman. Research from Nigeria conducted by Adinma and Adinma (2008) find that information about menstruation given by mothers and peers may be incorrect due to lack of knowledge or based on myths and misconceptions, thus reinforcing existing beliefs and taboos in society. Similarly, several mothers in Rhino settlement stated that they did not think that they have enough information to teach their children about menstruation.

Access to facilities and products

Bathing and toilet facilities

Previous research from India (Krishnan & Twigg 2016), Sri Lanka (Wickramasinghe 2012), and Uganda (Atuyambe et al. 2011; Parker et al. 2014) found that it is not uncommon for girls and women to lack access to appropriate toilet and bathing facilities during displacement. The findings from the present study are mixed, indicating that the majority of the study participants have toilet and bathing facilities available to them, although it is not uncommon that the toilets are shared with extended families, neighbours and individuals who recently arrived in the settlement. Applying the Health Access Livelihood framework, it appears that the girls and women who do not have toilet facilities available, in the sense that they do not have their own toilet at home, rely on their social capital in order to gain access to a latrine and they commonly end up using their neighbour's latrine. Furthermore, lack of social capital may also be the reason why some informants do not have a latrine of their own. One mother, for instance, has no one to assist her to dig a hole for the pit latrine and that is why she does not have a latrine. Organisations such as the Danish Refugee Council influence the access to bathing and toilet facilities for some of the girls and women, since they support families with the construction of sanitation facilities in case they have a family member who is sick or has special needs. Research from South Africa (Scorgie et al. 2016) and India (Krishnan & Twigg 2016) highlight that several girls and women were concerned about their personal safety when using sanitation facilities to tend to their personal hygiene and change menstrual products, especially at night. None of the study participants from the present study voiced concerns about personal safety. Whether this is due to a safe environment or that respondents simply did not mention potential concerns about safety is unknown.

Regarding the adequacy of sanitation facilities, the findings from the present study are in line with the findings by Parker et al. (2014) and Scorgie et al. (2016) that it is not uncommon that toilet doors cannot be closed or that the door cannot be locked. Considering these findings one could assume that privacy should be mentioned as quite a major concern, however, although a few of the informants mention that they lack privacy it is not mentioned as a concern by the majority of the informants. Research from an IDP-camp in Uganda by Bwengye-Kahororo and Twanza (2005) mention that privacy was considered a major concern by menstruating women and that many lacked access to bathing shelters. Rosenquist (2005: 340) argues that most people want to be undisturbed

when defecating, however, as pointed out by Hongladarom (2015: 23), privacy is to some extent culturally defined and the need for privacy is therefore likely to vary between people. Therefore, it might be the case that some girls and women in Rhino settlement do not consider privacy to be of great importance when visiting sanitation facilities or managing menstruation. I contemplate that another potential reason as to why privacy seems to be a less frequently mentioned problem and latrines and bathing facilities appear to be available to most girls and women is because they reside in a settlement and not a camp. As mentioned previously, refugee settlements are commonly less crowded than refugee camps and refugees are allocated a plot of land where they can build their own house (Krause 2016:52; Orach & De Brouwere 2005: 54). Consequently, there might be more privacy available due to less crowded living conditions and perhaps increased security as the sanitation facilities are likely to be placed in proximity to the house.

Arguably, another reason as to why privacy is considered important by many girls and women when managing menstruation, is that menstruation is generally perceived to be an issue that should be handled secretly and out of sight. Sommer et al. (2015: 1303) state that menstruating girls and women around the globe learn how to behave in a manner that is socially accepted when managing menstruation. This can be taught in a direct or indirect manner, however, it builds on social and cultural norms that dictate that menstruation should be managed in a discreet manner and kept hidden from boys and men (Sommer et al. 2015: 1303). Shame is commonly associated with menstruation, which is emphasised in previous literature (see for instance Lahme et al. 2016; Montgomery et al. 2016) as well as in the findings of the present study. Lee (2008: 616) argues that girls and women are socialised into feeling ashamed about menstruation and therefore they seek privacy in order to conceal the fact that they are menstruating. As mentioned in the findings chapter, one boy in the FGD mentioned that some girls are intelligent and keep menstruation secret and a mother from Wanyange explains that she feels ashamed to go out during her menstruation period since the worries that she will stain her clothes and let the public know that she is menstruating. These two statements indicate that the public should not know when girls and women menstruate and that it should be managed in secret, hidden from the public. This discernible connection between shame, privacy, hiding of menstruation is not unique to Rhino refugee settlement, but is also found in countries as diverse as Mali (Trinies et al. 2015), Sweden (Brantelid et al. 2014), the United States of America (Lee 2008), and Pakistan (Rizvi & Ali 2016).

Cleanliness of sanitation facilities in Rhino settlement appear to be a greater concern in the schools than at home. The girls do not consider the facilities in their schools to be adequate because they are dirty and lack soap, toilet doors and sometimes water. One girl in Rhino settlement says that she does not change her menstrual products in school due to the inadequacy of the facilities, instead she goes home to change and then comes back to school. Previous research from Zimbabwe (Ndlovu & Bhala 2016), Malawi (Pilliterri 2011), Ethiopia (Tegegne & Sisay 2014), and Kenya (Mason et al. 2013) have discovered similar inadequacies of the sanitation facilities in schools and observe that this may have an adverse effect on girls' school attendance.

Applying the Health Access Livelihood Framework, it can be argued that access to appropriate sanitation facilities is greatly influenced by broader processes that govern the availability of gender-sensitive facilities. Norwegian Refugee Council (NRC) recently pointed out that the humanitarian response in the refugee settlements in northern Uganda are inadequate and does not address the specific needs of girls and women (NRC 2017). The neglect of girls' and women's specific menstruation-related needs by decision-makers, community members and NGOs is likely due to the fact that menstruation is considered an issue that should not be discussed openly but should be handled quietly and in secret. As mentioned previously, it is only in recent years that MHM has gained increased attention by NGOs and the research community. Women are not uncommonly excluded from decision-making processes and as a result, they get less opportunities to make their voices heard and express their concerns and needs (House et al. 2012).

In addition, Sommer et al. (2015: 1303) argue that the engineers in the WASH sector have, at least traditionally, been predominantly male and that the underrepresentation of women in the WASH sector might be another potential reason to why issues such as menstruation have been neglected. Still, safe and dignified MHM it is not considered a life-saving matter and therefore MHM (and issues related to gender in general) may not be prioritised by humanitarian actors in situations where people struggle to cater to other basic needs such as food, water and shelter. However, gender-sensitive humanitarian response is crucial to meet the different needs of women, girls, boys and men. Another issue to be considered is the constant struggle of humanitarian agencies such as UNHCR to obtain funding. A recent update indicate that UNHCR has received 16% of the requested amount that is calculated to be needed in order to respond to the needs of all individuals affected by the crisis in South Sudan (UNHCR 2017c) (these numbers are not specific to Uganda or Rhino refugee settlement only, but for the whole region that is affected by the South Sudan

situation). The competition for funding is tough and issues that are not deemed to be life-saving might be overlooked.

Menstrual products

Chandra-Mouli and Patel (2017) state that girls from poorer communities in LMICs commonly use home-made menstrual products and rarely use commercially produced sanitary pads. Similarly, Parker et al. (2014) find that women in an IDP camp in Uganda were likely to use rags from old clothes for menstrual protection. Therefore, it was a bit unexpected to find that the most commonly used menstrual product among the informants in Rhino refugee settlement is disposable pads. However, it should be noted that almost all of the respondents reported that they use more than one product. One potential explanation to why many women and girls use disposable pads in Rhino settlement is that this product is sometimes distributed by organisations, as mentioned by some of the informants. Consequently, it appears that developmental and humanitarian organisations have a major influence over when and if the study population have access to disposable pads or not. As mentioned previously, Sommer (2012) highlights the unsustainable approach adopted by many organisations that commonly entails just a one-time distribution of menstrual products, which may not be a good and sustainable way to approach MHM needs in a situation that is of a more chronic nature.

When girls and women in Rhino settlement lack access to disposable pads they use other materials that are available to them to absorb the menstrual blood, even if it may be cotton from the field or extra underwear. The present study finds that the second most commonly used product is cotton cloth made from old rags, which some women mention that they use when they do not receive disposable pads from organisations or cannot afford to buy disposable pads. Several respondents report that they do not consider the cotton cloth to be a good menstrual product because it changes position which is uncomfortable and can cause leakage. Similarly, Parker et al. (2014: 445) found that women in an IDP-camp in Uganda considered cotton cloth to be an inadequate menstrual product due to poor absorption, leakage and discomfort. It is remarkable that only three (12.5%) of the girls and women in the present study state that they use their current menstrual product because it is comfortable. Eleven (45.8%) of the girls and women state that they use their current menstrual product because they cannot afford other products. This indicates that they would rather use another product than the one they are currently using. It is important to recognise that all individuals have different preferences and needs. In order to know your own preferences, however, you need to

possess knowledge about menstruation and management so that your decisions are informed and you are aware that there are various ways in which menstruation can be managed. The findings show that there is a gap of knowledge and that the informants would like to know more about menstruation. One of the study participants said that she uses her current menstrual product because she does not know of any other products. As mentioned previously, the importance of providing a "culturally appropriate" MHM response is stressed by many actors working in humanitarian response (see for example Nawaz et al. 2010; Robinson & Obrecht 2016; the Sphere Project 2011:110). Nevertheless, how can something be called culturally inappropriate when populations have not been introduced to, or tried, a certain product? The findings from the present study indicate that girls and women require more information about different menstrual products and ways to manage menstruation. However, it should be left to the girls and women themselves to decide which MHM practices suit them and what they consider most comfortable.

Scrutinising the issue of menstrual products through the lens of the Health Access Livelihood Framework, it becomes quite clear that not all women and girls consider their current menstrual product adequate. As mentioned previously, some of the products do not appear to meet the girls and women's perceived needs because they fear that their products will leak and that they will stain their clothes. None of the respondents mention explicitly that this is something that they have experienced, nevertheless it implies that some girls and women doubt that the product will fulfil their needs (to absorb the blood). Menstruation-related needs appear to be low on the list of priorities in many households in Rhino settlement for reasons such as indifference, poverty or because it competes with many needs that are considered more pressing. This finding is in line with the findings of Krishnan and Twigg (2016) from India that menstruation-related needs are commonly overlooked at household level in post-disaster situations.

Water and soap

The findings of the present study indicate that the majority of the informants have water available to them (83.3% report that they have water for washing hands before or after visiting the toilet). The findings indicate that boreholes are a more reliable source that will have water at all times, while tanks are less reliable since the water quantity in a tank is limited. Applying the Health Access Livelihood Framework, the accessibility varies between the different study participants depending on their geographical distance to a water collection point and what type of water source they use. One may speculate that for households with few, sick or disabled family members the burden of

walking long distances every day to collect water is more challenging and that this can limit these households' access to water. The availability of water is generally governed by forces that are, more or less, out of the residents control, for instance the weather, water policies and organisations' possibilities to provide water through, for example, water trucking or the construction of boreholes. This is likely to increase the residents' dependency on humanitarian and developmental organisations, as they do not have many ways in which to secure water for themselves in case of water scarcity.

Access to soap is challenging for most of the girls and women in Rhino settlement and 33.3% report that soap is never available to them. Lack of soap appears to be a quite common problem among displaced populations and in post-disaster situations as highlighted in studies from Bangladesh (Azad et al. 2013) and Uganda (Atuyambe et al. 2011; Parker et al. 2014). As pointed out by Bwengye-Kahororo and Twanza (2005) soap is available all over Uganda, even in the most remote parts, provided that people can afford it. This is also the case in Rhino settlement; soap is available in the market and in the shops but, as mentioned by a number of girls and women in the present study, it is too expensive for the great majority. Consequently, access to soap is mainly depending on financial capital. Lack of soap obstructs girls and women's ability to bathe themselves and to wash their menstrual products properly. Indeed, half of the study population in the present study report that they experience challenges related to cleaning themselves or their menstrual products. According to a systematic review conducted by Sumpter and Torondel (2013), it is found that especially girls and women of lower socioeconomic status living in rural areas sometimes have to wash reusable menstrual products without soap which results in usage of products that have not been properly sanitised. Several of the mothers interviewed in Rhino settlement mention that their access to soap is depending upon their ability to do casual labour or go to the market and sell crops. As mentioned previously, the allocation of a plot of land to newly arrived refugees aims to increase their autonomy and decrease their aid dependency (Krause 2016:52). However, the soils are poor in the area and the settlement is located far from Arua town so the opportunities to earn an income that is large enough to cover expenses for basic necessities, including soap, may still be limited.

Access to MHM and its influence on girls' and women's lives

A study focusing on menstrual absorbents in Uganda by Hennegan et al. (2016b) highlight that depending on the formulation of interview questions, for instance if the questions are closed and open-ended, the results are likely to differ. The present study finds that the girls and women in

Rhino refugee settlement experience various challenges when menstruating, however, as mentioned in the findings chapter the formulation of the question "What is most challenging when menstruating in the settlement?" is problematic. This question can be perceived as leading, since there is an inherent assumption that girls and women will indeed face challenges when menstruating in Rhino settlement. Leading questions tend to influence the response as they encourage informants' responses to take a certain direction (Yeo et al. 2013:191). In the present study it may lead study participants to talk about challenges, although it is not certain that they would have discussed challenges if not steered into that direction. The potential problem in this case is that the study participants might not necessarily experience any challenges but when asked specifically about it they come up with, or recall, challenges simply because they were asked. This brings forth the preconception that certain elements are needed in order to practice MHM and that all of these elements cannot be found in Rhino settlement. These preconceptions are based on presumptions that a certain way of managing menstruation is the preferred and ultimate way of doing it.

The findings from the present study is in line with previous research that points out that regular coping mechanisms are disturbed when girls and women are in displacement (Dutta et al. 2016: 81-82; House et al. 2012: 131). The present study finds that when the informants were still residing in their countries of origin, they used to seek support in their social networks when facing menstrual management challenges. In Rhino settlement, however, several informants do not have this security since they have been separated from family, relatives and friends. In general, girls and women thought it was easier to manage their menstruation in their country of origin, except few informants who consider it to be easier in Rhino settlement since they are provided with pads in the settlement and because there is not so much work for them to carry out. Out of the MHM elements that the present study investigates, it appears that lack of access to menstrual products has the greatest impact on girls' everyday lives since this is one of the most commonly stated reason as to why they miss school during their menstrual period. Yet, it should be noted that the data about school absenteeism are self-reported and self-reported data have been found to be less reliable and likely to be biased (Biran et al. 2012; Hennegan et al. 2016). Hennegan and Montgomery (2016) note that in order to obtain reliable data on school attendance, self-reported data should be triangulated with official school attendance records, since it is not unlikely that individuals over- or underestimate their school attendance.

In one of the in-depth interviews, one mother explains that they have no pads, pants or even proper clothes to wear during menstruation. The same mother later on says that having her menstruation

does not really change a lot about her days. Some of the study participants mentioned various menstruation-related challenges but also said that they have no problems during their menstrual periods. This appears to be somewhat contradictory as one could consider that the lack of those arguably essential products for menstrual management would influence the daily life of a menstruating woman. Potentially, this is a consequence of the above mentioned leading question that presumed that girls and women would face challenges when menstruating. The formulation of the question may have encouraged study participants to recall issues that are challenging but that are not necessarily pressing issues that they would mention if not specifically asked. Another potential explanation is that menstruation and its management is part of girls' and women's everyday lives and although they do experience challenges they will find ways to manage irrespective of the challenges. Still, in general, menstruation and its management cause worry and stress among girls and women in Rhino refugee settlement. This may be due to lack of soap or menstrual products, lack of knowledge when reaching menarche, lack of supportive network, fear of leaking, or simply because they feel the need to hide the fact that they are menstruating since they do not want to be teased or insulted.

Strengths and limitations

There is a general gap in both academic and grey literature on the topic of MHM among refugees and in humanitarian response. Budhathoki et al. (2016) and Krishnan and Twigg (2016: 266) emphasise the need for increased understanding of menstrual needs and practices to enable appropriate and sustainable MHM in humanitarian response. The present study attempts to fill a gap by shedding light on girls' and women's access to various MHM components in Rhino refugee settlement. An advantage of the present study is that that uses a mixed-methods approach. This allows for a more holistic investigation of the issue, as the quantitative data give an indication of trends while the qualitative data bring forth the informants' opinions, experiences, and explanations. Mixed-methods also allows for a triangulation of data which enhances data validity. Another strength of the present study is that FGDs with boys and men are included. Although it is girls and women who menstruate, it is important to include boys and men because menstruation is a crucial part of fertility and family planning. Moreover, boys and men need to be included if we are to successfully break the silence surrounding menstruation and address taboos and change norms that inhibits girls' and women's access to safe, appropriate and dignified MHM.

As mentioned previously, the present study undertook a convergent mixed methods design which has the inherent assumption that that qualitative and quantitative data generate similar results (Creswell 2014: 273). The findings indicate that there is indeed convergence between the different sources of information, thereby indicating an enhancement of the data validity. However, when using this study design, the quantitative sample size is usually larger than was the case in the present study and therefore the early trends provided by the quantitative data is not as robust as it would have been if the sample was larger.

The present study is drawing on a definition of MHM that is formulated by the JMP. Using this definition may contribute to a reinforcement of a specific narrative of MHM and thereby leaving less space for study participants to voice other understandings of MHM and share if they have other views on what is needed to practice safe and dignified MHM. However, as mentioned previously, the components of this definition did not arise in a vacuum but rather have been identified as important components by girls and women through emic research.

The sampling of fathers was based on convenience, that is, the men who were fathers and available in the school area at the time when the FGDs were conducted were asked to participate. The majority of fathers who participated in the FGD turned out to be teachers, which results in a sampling bias since these fathers are likely to be wealthier and more educated than the average father in Rhino settlement. Moreover, a lesson learnt is that FGDs might not be an ideal data collection method when discussing a sensitive topic such as menstruation. While the mothers and fathers did not seem bothered to discuss this topic in groups, the girls and boys seemed shy which resulted in slightly restrained discussions. As mentioned previously, questions such as “What is most challenging when menstruating in the settlement?” can be perceived as leading, since it assumes that girls and women will face challenges when menstruating in Rhino settlement. Thus, this question may lead the informants in a certain direction and might thereby generate answers that are influenced by the researcher.

Conclusion

The present study sought to investigate how the study population access information about menstruation and assess girls' and women's access to and usage of sanitation facilities and materials, as well as how access to MHM influence the lives of girls and women in Rhino refugee settlement.

Access to information about menstruation is limited for girls, women, boys and men residing in Rhino refugee settlement. The findings of this study suggest that a culture of silence surrounds menstruation which inhibits people to discuss menstruation due to fear and shame. Most girls and women prefer to ask other women, most commonly mothers, for advice about menstruation. The study participants consider their knowledge about menstruation to be limited and express a desire to learn more about it. Poverty is one of the main factors that prevent girls and women from accessing soap and the menstrual product of their choice. Menstruation and its management appear to cause stress and worry among girls and women in Rhino settlement and in some instances restrict girls' everyday lives in the sense that they miss school during their menstrual periods. Organisations operating in the settlement affect the access to sanitation facilities, water and menstrual products and some of the women express that due to the support from organisations it is easier to manage menstruation in the settlement compared to in their home country. Nevertheless, the majority of the study participants said that it is more difficult to manage menstruation in the settlement, since they do not have their social network for support and lack access to soap, water, and menstrual products. Although organisations provide sporadic support, it is an unsustainable source that girls and women cannot rely on.

Perspectives

There are a number of reasons as to why it is important to ensure that girls and women have access to adequate MHM. Firstly, as the present study has established, there is a large gap in knowledge of menstruation among girls and women, as well as boys and men. Inadequate knowledge of menstruation may lead to misconceptions about fertility and consequently result in unplanned pregnancies. Knowledge of menstruation is thus important for all people as this is a significant factor to consider when planning a family. Secondly, lack of access to MHM may have adverse health impacts, both physical and psychological. The present study indicates that lack of MHM causes worry and stress among menstruating girls and women. Moreover, lack of MHM may also result in health challenges such as UTIs and RTIs. Thirdly, as the present study demonstrates, lack

of adequate MHM may inhibit girls and women in their everyday lives, which may increase school absenteeism and social exclusion. Failing to ensure appropriate MHM is increasingly framed as a violation of human rights and considering that such a large proportion of the global population is experiencing menstruation, appropriate MHM should be a prioritised issue so that girls and women can manage their menstruation in safety and dignity and without worry and stress.

Assuming that the findings of the present study are valid, in spite of the limitations mentioned previously, the following interventions could potentially be considered in order to increase the access to information about menstruation. Educational institutions can include puberty and sexual education in the curricula and in Rhino settlement, where a large number of organisations are operating, information can be made available through these organisations. Information is also available through the Internet, given that there is network access in Rhino settlement and that the population have smartphones and can afford to pay for Internet. Findings from the present study suggest that a number of girls and women are dissatisfied with the service in the hospital and this was mentioned as one of the challenges that they experience. As mentioned previously, there are VHTs working in Rhino settlement to bridge the gap between health services and households. VHTs could play important roles in the provision of advice about sexual and reproductive health in general and menstruation and its management in particular to the population in Rhino settlement.

Traditional healers and traditional birth attendants (TBAs) are common throughout sub-Saharan Africa and are generally well accepted (Mills et al. 2006). This structure has been involved when tackling HIV/AIDS (see for instance Mills et al. 2006). Mills et al. (2006) state that traditional healers are key individuals to involve; important health care resources who might be able to increase access to education and counselling on HIV. Similarly, Ahmed et al. (1999) emphasise the role played by traditional healers and TBAs when people experience health problems or social problems. In Sudan, TBAs were included in a family planning programme and they successfully increased the use of contraceptives from 13% to 21% (Ahmed et al. 1999). Considering that HIV/AIDS and family planning are quite sensitive issues that may be difficult to talk openly about, menstruation and its management might also benefit from an inclusion of traditional health care structures in order to increase the access to information and make it more acceptable to discuss menstruation in the communities. In addition, considering that poverty is one of the main factors preventing girls and women from accessing soap and the menstrual product of their choice, interventions that can empower residents of Rhino refugee settlement economically could be considered. Microcredit groups, for instance, have the potential to empower its members

economically and can be a sustainable solution as long as the members of the group stay committed (see for instance Kulb et al. 2015; Merchant 2001).

As mentioned previously, there is need for more research on this topic. Research with stronger methodology is needed, since research with weak methodology cannot produce credible and strong evidence. Randomised-controlled trials (RCTs) investigating the effect of MHM interventions on health and social outcomes as well as the association between RTIs and MHM are needed. As mentioned previously, research commonly relies on self-reported school attendance which tends to be either under- or overestimated. In order to generate more reliable data, the self-reported data should be triangulated against, for instance, official school attendance records. Furthermore, it would be interesting to conduct longitudinal studies in refugee settlements where the residents are affected by situations of a chronic nature, and investigate how and if MHM practices and perceived needs vary over time.

As stressed by IASC (2006: 6) gender analysis should be integrated into all phases of a humanitarian intervention so that women, girls, boys and men get the protection and assistance that they require. Failing to consider the different needs of men and women in the initial planning phase of humanitarian interventions can result in the construction of inadequate sanitation facilities that are not gender segregated, lack privacy and are poorly lit (Benelli et al. 2012: 227). Systematic collection and usage of sex and age disaggregated data would improve humanitarian interventions and enable a more appropriate response. As mentioned previously, one woman in the present study was unable to dig the hole for the latrine and therefore she did not have a latrine. Female-headed households, elderly or physically disabled people may require assistance to assemble shelters, latrines, or similar structures. This may be due to lack of physical strength or since in some cultures certain types of work is perceived to be a male responsibility and therefore women might lack the practical skills needed to perform certain tasks (Benelli et al. 2012: 227-228).

Humanitarian organisations play prominent roles in Rhino settlement, but the MHM support is of an unsustainable nature. As mentioned previously, populations may be displaced for a number of years, but still receive single or sporadic handouts of kits with necessities to tend to their hygiene needs. As stressed during the Humanitarian summit in 2016 (see World Humanitarian Summit 2016), there is a clear need to find longer-term solutions and to bridge the gap between humanitarian and developmental assistance. Based on the findings from the present study, affordability of adequate and sustainable menstrual products appears to be a pressing need among

displaced girls and women. Consequently, it may be beneficial to investigate other menstrual products that could offer a more sustainable solution. WoMena, together with partner organisations, are currently investigating the feasibility and acceptability of introducing menstrual cups in Rhino refugee settlement (WoMena 2017). Menstrual cups are one potential option that could facilitate menstrual management of displaced girls and women as it is a one-time distribution that can be reused for up to ten years (Hyttel et al. 2017). The menstrual cup needs to be boiled for disinfection between the menstrual periods and Hyttel et al. (2017) found that it was a challenge for study participants to obtain the necessary equipment to boil the cup. However, the menstrual cup was widely accepted by the Ugandan girls who participated in the study (Hyttel et al. 2017) and the menstrual cup should therefore be taken into consideration when investigating sustainable solutions for MHM.

References

Abbott, L., Bailey, B., Karasawa, Y., et al. 2011. "Evaluation of UNFPA's Provision of Dignity Kits in Humanitarian and Post-Crisis Settings", School of International and Public Affairs, Columbia University.

Adinma, E. D., Adinma, J. I. B., 2008. "Perceptions and Practices on Menstruation Amongst Nigerian Secondary School Girls", *African Journal Of Reproductive Health* Vol. 12, No. 1, pp. 74-83.

Ahmed, I. M., Bremer, J. J., Magzoub, M. M. E., Nouri, A. M. H., 1999. "Characteristics of visitors to traditional healers in Central Sudan", *Eastern Mediterranean Health Journal* Vol. 5, No. 1, pp. 79-85.

Atuyambe, L. M., Ediau, M., Orach, C. G., Musenero, M., Bazeyo, W., 2011. "Land slide disaster in eastern Uganda: rapid assessment of water, sanitation and hygiene situation in Bulucheke camp, Bududa district", *Environmental Health* Vol. 10, No. 38.

Azad, A. K., Hossain, K. M., Nasreen. M., 2013. "Flood-Induced Vulnerabilities and Problems Encountered by Women in Northern Bangladesh", *International Journal of Disaster Risk Science* Vol. 4, No. 4, pp. 190-199.

Bakeera, S. K., Wamala, S. P., Galea, S., State, A., et al. 2009. "Community perceptions and factors influencing utilization of health services in Uganda", *International Journal for Equity in Health* Vol. 8, No. 25.

Bazeley, P., Jackson, K., 2013. *Qualitative Data Analysis with NVivo* 2nd ed., SAGE Publications Ltd.

Benelli, P., Mazurana, D., Walker, P., 2012. "Using sex and age disaggregated data to improve humanitarian response in emergencies", *Gender & Development* Vol. 20, No. 2, pp. 219-232.

Bhartiya, A., 2013. "Menstruation, Religion and Society", *International Journal of Social Science and Humanity* Vol. 3, No. 6, pp. 523-527.

Bhattacherjee, S., Ray, K., Biswas, R., Chakraborty, M., 2013. "Menstruation: Experiences of Adolescent Slum Dwelling Girls of Siliguri City, West Bengal, India", *Journal of Basic and Clinical Reproductive Sciences* Vol. 2, No. 2, pp. 85-91.

Biran, A., Curtis, V., Gautam, O. P., Greenland, K., Islam, M. S., et al. 2012. "Background Paper on Measuring WASH and Food Hygiene Practices – Definition of Goals to be Tackled Post 2015 by the Joint Monitoring Programme" Available: https://pdfs.semanticscholar.org/8f1a/9dc7a7955ef88ba91dbb18ddaefdaade1acc.pdf (Accessed 2017-06-25).

Boosey, R., Prestwich, G., Deave, T., 2014. "Menstrual hygiene management amongst schoolgirls in the Rukungiri district of Uganda and the impact on their education: a cross-sectional study", *Pan African Medical Journal* Vol. 19.

Brantelid, I. E., Nilvér, H., Alehagen, S., 2014. "Menstruation During a Lifespan: A Qualitative Study of Women's Experiences", *Health Care for Women International* Vol. 35, No. 6, pp. 600-616.

Bryman, A., 2012. Social Research Methods 4th ed. Oxford: Oxford University Press.

Clarke, V., Braun, V., 2017. "Thematic analysis", *The Journal of Positive Psychology* Vol. 12, No. 3, pp. 297-298.

Budhathoki, S. S., Bhattachan, M., Pokharel, P. K., Bhadra, M., van Teijlingen, E., 2016. "Reusable sanitary towels: Promoting menstrual hygiene in post-earthquake Nepal", *Journal of Family Planning and Reproductive Health Care* Vol. 43, No. 2.

Bwengye-Kahororo, E., Twanza, E., 2005. "Promoting Women's Hygiene in Emergency Situations", 31st WEDC International Conference: 'Maximizing the benefits from water and environmental sanitation': Kampala, Uganda.

Chandra-Mouli, V., 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* Vol. 14, No. 30.

Chikulo, B. C., 2015. "An Exploratory Study into Menstrual Hygiene Management amongst Rural High School for Girls in the North West Province, South Africa", *African Population Studies* Vol. 29, No. 2. pp. 1971-1987.

Clements, K. T., Shoffner, T., Zamore, L., 2016. "Uganda's approach to refugee self-reliance", *Forced Migration Review* Vol. 52, pp 49-51.

Crawford, M., Menger, L. M., Kaufman, M. R., 2014. "'This is a natural process': managing menstrual stigma in Nepal", *Culture, Health & Sexuality* Vol. 16, No. 4, pp. 426-439.

Creswell, J. W., 2014. *Research Design – Qualitative, Quantitative, and Mixed Methods Approaches* 4th ed., SAGE Publications, INC.

Dutta, D., Badloe, C., Lee, H., House, S., 2016. "Supporting the Rights of Girls and Women Through Menstrual Hygiene Management (MHM) in the East Asia and Pacific Region: Realities, progress and opportunities", UNICEF East Asia and Pacific Regional Office (EAPRO), Bangkok, Thailand.

George, R., 2013. "Celebrating Womanhood: how better menstrual hygiene management is the path to better health, dignity and business", Geneva: Water Supply & Sanitation Collaboration Council.

Greenhalgh, T., Peacock, R., 2005. "Effectiveness and efficiency of search methods in systematic reviews of complex evidence: audit of primary sources", *BMJ* Vol. 331, No. 7524, pp. 1064-1065.

Hennegan, J., Dolan, C., Wu, M., Scott, L., Montgomery, P., 2016. "Measuring the prevalence and impact of poor menstrual hygiene management: a quantitative survey of schoolgirls in rural Uganda", *BMJ Open* Vol. 6.

Hennegan, J., Montgomery, P., 2016. "Do Menstrual Hygiene Management Interventions Improve Education and Psychosocial Outcomes for Women and Girls in Low and Middle Income Countries? A Systematic Review", *PLoS ONE* Vol. 11, No. 2.

Hawkey, A. J., Ussher, J. M., Perz, J., Metusela, C., 2016. "Experiences and Constructions of Menarche and Menstruation Among Migrant and Refugee Women", *Qualitative Health Research,* 1049732316672639.

Hayden, T., 2012. "Menstrual Hygiene Management in Emergencies: Taking stock of support from UNICEF and partners", UNICEF and RedR Australia.

Hernon, M., Sephton, V., 2013. "Menarche and associated problems" in Briggs, P., Kovacs, G., Guillebaud, J., 2013. *Contraception: A casebook from Menarche to Menopause.*

Cambridge University Press.
Ho, R., 2006. *Handbook of Univariate and Multivariate Data Analysis and Interpretation with SPSS.* CRC Press, Taylor & Francis Group.
Holliday, A., 2007. *Doing and Writing Qualitative Research* 2nd ed. London: SAGE Publications Ltd.
Hongladarom, S., 2015. *A Buddhist theory of privacy.* Springer Singapore.
House, S., Mahon, T., Cavill, S., 2012. "Menstrual hygiene matters A recourse for improving menstrual hygiene around the world", WaterAid.
Hylland Eriksen, T., 2000. *Små platser – stora frågor: en introduktion till socialantropologi,* Nya Doxa.
Hyttel, M., Faldt Thomsen, C., Luff, B., Storrusten, H., et al. 2017. "Drivers and challenges to use of menstrual cups among schoolgirls in rural Uganda: a qualitative study", *Waterlines* Vol. 36, No. 2, pp. 109-124.
IASC., 2006. "Women, girls, boys and men: different needs – equal opportunities", Gender Handbook in Humanitarian Action. Available: https://interagencystandingcommittee.org/gender-and-humanitarian-action-0/documents-public/women-girls-boys-men-different-needs-equal-5 (Accessed 2017-06-16).
IBRD., World Bank., 2016. "Forcibly Displaced – Toward a development approach supporting refugees, the internally displaced, and their hosts", advance edition. Available: https://openknowledge.worldbank.org/bitstream/handle/10986/25016/978146480938 5.pdf?sequence=2&isAllowed=y (Accessed 2017-06-13).
IFRC., 2016. "Menstrual Hygiene Management (MHM) in Emergencies: Consolidated Report". Available: http://watsanmissionassistant.wikispaces.com/file/view/Menstrual+Hygiene+Mana gement+in+Emergencies_+Consolidated+Report+2016.pdf (Accessed 2017-01-23).
Johns Hopkins., IFRC., 2008. "Public health guide in emergencies" 2nd edition.
Kaiser, T., 2016. "Risk and social transformation: gender and forced migration" in Sharoni, S., Welland, J., Steiner, L., Pedersen, J. (eds.) 2016. *Handbook on Gender and War,* Edward Elgar Publishing.
Kjellén, M., Pensulo, C., Nordqvist, P., Fogde, M., 2012. "Global Review of Sanitation System Trends and Interactions with Menstrual Management Practices", Report for the Menstrual Management and Sanitation Systems Project, Stockholm Environment Institute. Available: https://www.sei-international.org/mediamanager/documents/Publications/SEI-ProjectReport-Kjellen-GlobalReviewOfSanitationSystemTrendsAndInteractionsWithMenstrualManagementPractices.pdf (Accessed 2017-06-30).
KoBoToolbox 2017. "Map" Available:

https://kf.kobotoolbox.org/forms/#/forms/atasbc5Wwsyt4EaFz4VKu8/data/map)[6] (Download date: 2017-06-13).
Krause, U., 2016. "Limitations of development-oriented assistance in Uganda", *Forced Migration Review* Vol. 52, pp 51-53.
Krishnan, S., Twigg, J., 2016. "Menstrual hygiene: a 'silent' need during disaster recovery", *Waterlines* Vol. 35, No. 3, pp. 265-276.
Kulb, C., Hennink, M., Kiiti, N., Mutinda, J., 2015. "How Does Microcredit Lead to Empowerment? A Case Study of the *Vinya Wa Aka* Group in Kenya", *Journal of International Development* Vol. 28, No. 5, pp. 715-732.
Lahiri-Dutt, K., 2014. "Medicalising menstruation: a feminist critique of the political economy of menstrual hygiene management in South Asia", *Gender, Place and Culture* Vol. 22, No. 8, pp. 1-19.
Lahme, A. M., Stern, R., Cooper, D., 2016. "Factors impacting on menstrual hygiene and their implications for health promotion", *Global Health Promotion,* 1757975916648301.
Lee, J., 2009. "Bodies at Menarche: Stories of Shame, Concealment, and Sexual Maturation", *Sex Roles* Vol. 60, No. 9-10, pp. 615-627.
Mahon, T., Fernandes, M., 2010. "Menstrual Hygiene in South Asia: a neglected issue for WASH (water, sanitation and hygiene) programmes", *Gender & Development* Vol. 18, No. 1, pp. 99-113.
Martin, S. F., 2016. "The Global Refugee Crisis", *Georgetown Journal of International Affairs* Vol. 17, No. 1., pp. 5-11.
Mason, L., Nyothach, E., Alexander, K., Odhiambo, F. O., et al. 2013. "*'We Keep It Secret So No One Should Know'* – A Qualitative Study to Explore Young Schoolgirls Attitudes and Experiences with Menstruation in Rural Western Kenya", *PLoS ONE* Vol. 8, No. 11.
Merchant, J., 2001. "Microcredit in International Development", *Hinckley Journal of Politics* Vol. 3.
Mills, E., Singh, S., Wilson, K., Peters, E., Onia, R., Kanfer, I., 2006. "The challenges of involving traditional healers in HIV/AIDS care", *International Journal of STD and AIDS* Vol. 17, pp. 360- 363.
Ministry of Health 2015. "National Village Health Teams Assessment in Uganda", report 2015, March 2015, Kampala. http://library.health.go.ug/publications/service-delivery-public- health/health-education/national-village-health-teams (Access date: 2017-01-07).
Montgomery, P., Hennegan, J., Dolan, C., Wu, M., et al. 2016. "Menstruation and the Cycle of Poverty: A Cluster Quasi-Randomised Control Trial of Sanitary Pad and Puberty Education Provision in Uganda", *PLoS ONE* Vol. 11. No. 12.
MSF., 2013. "Gender and Sanitation Tool for Displaced Populations, WatSan Working Group.
Mulumba, D., 2010. *Women Refugees in Uganda – Gender Relations, Livelihood Security and*

[6] Password required in order to access this webpage.

Reproductive Health, Fountain Publishers: Kampala.
Nawaz, J., Lal, S., Raza, S., House, S., 2010. "Oxfam experience of providing screened toilet, bathing and menstruation units in its earthquake response in Pakistan", *Gender & Development* Vol. 18, No. 1, pp. 81-86.
Ndlovu, E., Bhala, E., 2016. "Menstrual hygiene – A salient hazard in rural schools: A case of Masvingo district of Zimbabwe", *Jàmbá: Journal of Disaster Risk Studies* Vol. 8, No. 2.
Novartis, 2011. "Improving access to effective malaria treatment: The ACCESS project in Tanzania", Available: http://www.novartisfoundation.org/_file/238/access-en.pdf (Accessed 2017-06-02).
NRC., 2017. "Uganda: Inadequate response for women and girls" Available: https://www.nrc.no/expert-deployment/2016/2017/uganda-inadequate-response-for-women-and-girls/ (Download date: 2017-06-22).
Neergaard, M. A., Olesen, F., Andersen, R. S., Sondergaard, J., 2009. "Qualitative description – the poor cousin of health research?", *BMC Medical Research Methodology* Vol. 9, No. 1.
Obrist, B., Iteba, N., Lengeler, C., Makemba, A., Mshana, C., et al. 2007. "Access to Health Care in Contexts of Livelihood Insecurity: A Framework for Analysis and Action", *PLoS Med* Vol. 4, No. 10.
Olive, J. L., 2014. "Reflecting on the Tensions Between Emic and Etic Perspectives in Life History Research: Lessons Learned", *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research* Vol. 15, No. 2.
Orach, C. G., De Brouwere, V., 2005. "Integrating refugee and host health services in West Nile districts, Uganda", *Health Policy and Planning* Vol. 21, No. 1, pp. 53-64.
Parker, A. H., Smith, J. A., Verdemato, T., Cooke, J., Webster, J., Carter, R. C., 2014. "Menstrual management: a neglected aspect of hygiene interventions", *Disaster Prevention and Management* Vol. 23, No. 4, pp. 437-454.
Patkar, A., 2001. "Menstrual Hygiene Management", *Preparatory Input on MHM for End Group,* WSSCC.
Peräkylä, A., 2016. "Validity in Qualitative Research" in Silverman, D. (eds) 2016. *Qualitative Research* 4th ed., SAGE.
Phillips, B. D., 2014. *Qualitative Disaster Research: Understanding Qualitative Research,* Oxford University Press.
Pillitteri, S. P., 2011. "School menstrual hygiene management in Malawi: More than toilets", Report, WaterAid.
Punch, K. F., 2005. *Introduction to social research – quantitative and qualitative approaches*, 2nd ed., SAGE Publications Ltd.
Radley, A., 2002. *Worlds of illness: Biographical and cultural perspectives on health and disease.* Routledge.
Ramathuba, D. U., 2015. "Menstrual knowledge and practices of female adolescents in Vhembe district, Limpopo Province, South Africa", *Curationis* Vol. 38, No. 1.
Rani, A., Kumar, V., Karya, U., Chand, D., Singh, H. K., 2016. "A Study to Know the Attitude, Knowledge and Practices about Menstrual Hygiene in School going Girls", *Indian Journal of Public Health Research & Development* Vol. 7, No. 2.

Yeo, A., Legard, R., Keegan, J., Ward, K., McNaughton Nicholls, C., Lewis, J., 2013. "In-depth interviews" in Ritchie, J., Lewis, J., Nicholls, C. M., Ormston, R., (eds.) 2013. *Qualitative research practice: A guide for social science students and researchers.* Sage.

Rizvi, N., Ali, T. S., 2016. "Misconceptions and Mismanagement of Menstruation among Adolescent Girls who do not attend School in Pakistan", *Journal of Asian Midwives (JAM)* Vol. 3, No. 1, pp. 46-62.

Robinson, A., Obrecht, A., 2016. "Improving menstrual hygiene management in emergencies: IFRC's MHM kit", HIF/ALNAP Case Study. London: ODI/ALNAP.

Rohwerder, B., 2016. "Women and girls in forced and protracted displacement", GSDRC Helpdesk Research Report 1364.

Rohwerder, B., 2014. "Non-food items (NFIs) and the needs of women and girls in emergencies", GSDRC Helpdesk Research Report 1107.

Rosenquist, L. E. D., 2005. "A psychosocial analysis of the human-sanitation nexus", *Journal of Environmental Psychology* Vol. 25, No. 3, pp. 335-346.

Rossman, G. B., Rallis, S. F., 2003. *Learning in the field: An introduction to Qualitative research.* SAGE.

Scorgie, F., Foster, J., Stadler, J., Phiri, T., Hoppenjans, L., 2016. "'Bitten By Shyness': Menstrual Hygiene Management, Sanitation, and the Quest for Privacy in South Africa", *Medical Anthropology* Vol. 35, No. 2. Pp. 161-176.

Secor-Turner, M., Schmitz, K., Benson, K., 2016. "Adolescent Experience of Menstruation in Rural Kenya", *Nursing Research* Vol. 65, No. 4, pp. 301-305.

Skovdal, M., Cornish, F., 2015. *Qualitative Research for Development – A guide for practitioners.* Rugby: Practical Action.

Sommer, M., Phillips-Howard, P. A., Mahon, T., Zients, S., Jones, M., Caruso, B. A., 2017. "Beyond menstrual hygiene: addressing vaginal bleeding throughout the life course in low and middle-income countries", *BMJ Global Health* Vol. 2, No. 2.

Sommer, M., Caruso, B. A., Sahin, M., Calderon, T., Cavill, S., Mahon, T., Phillips-Howard, P. A., 2016a. "A Time for Global Action: Addressing Girls' Menstrual Hygiene Management Needs in Schools", *PLoS Med* Vol. 13, No. 2.

Sommer, M., Schmitt, M. L., Clatworthy, D., Bramucci, G., Wheeler, E., Ratnayake, R., 2016b. "What is the scope for addressing menstrual hygiene management in complex humanitarian emergencies? A global review", *Waterlines* Vol. 35, No. 3, pp. 245-264.

Sommer, M., Hirsch, J. S., Nathanson, C., Parker, R. G., 2015. "Comfortably, Safely, and Without Shame: Defining Menstrual Hygiene Management as a Public Health Issue", *Framing Health Matters* Vol. 105, No. 7, pp. 1302-1311.

Sommer, M., 2012. "Menstrual hygiene management in humanitarian emergencies: Gaps and recommendations", *Waterlines* Vol. 31, No. 1&2, pp. 83-104.

Sphere Project, the., 2017. "The Sphere Project in brief" Available: http://www.sphereproject.org/about/ (Accessed 2017-06-25).

Sphere Project, the., 2011. "Humanitarian Charter and Minimum Standards in Humanitarian

Response", 2011 edition. http://www.sphereproject.org/resources/download-publications/?search=1&keywords=&language=English&category=22 (Download date: 2017- 03-01).

Sumpter, C.,Torondel, B., 2013. "A Systematic Review of the Health and Social Effects of Menstrual Hygiene Management", *PLoS ONE* Vol. 8, No. 4, pp. 1-15.

Tan, D. A., Haththotuwa, R., Fraser, I. S., 2017. "Cultural aspects and mythologies surrounding menstruation and abnormal uterine bleeding", *Best Practice & Research Clinical Obstetrics and Gynaecology* Vol. 40, pp. 121-133.

Tegegne, T. K., Sisay, M. M., 2014. "Menstrual hygiene management and school absenteeism among female adolescent students in Northeast Ethiopia", *BMC Public Health* Vol. 14, No. 1118.

Trinies, V., Caruso, B. A., Sogoré, A., Toubkiss, J., Freeman, M. C., 2015. "Uncovering the challenges to menstrual hygiene management in schools in Mali", *Waterlines* Vol. 34, No. 1, pp. 31-40.

Uganda: the Refugee Act, 2006. [Uganda], Act 21, 24 May 2006. Available: http://www.refworld.org/docid/4b7baba52.html (Accessed 2017-06-25).

UNDP, 2017. "Migration, refugees and displacement" Available: http://www.undp.org/content/undp/en/home/ourwork/sustainable-development/development-planning-and-inclusive-sustainable-growth/migration-refugees-and-displacement.html (Accessed 2017-06-25).

UNHCR, 2017a. "Uganda" South Sudan Situation, Information Sharing Portal. Available: http://data.unhcr.org/SouthSudan/country.php?id=229 (Accessed 2017-06-25).

UNHCR, 2017b. "Uganda Arua" South Sudan Situation, Information Sharing Portal. Available: http://data.unhcr.org/SouthSudan/region.php?id=48&country=229 (Accessed 2017-06-25).

UNHCR, 2017c. "UNHCR South Sudan situation - Regional Overview of Population of Concern (31 May 2017)" Available: http://data.unhcr.org/SouthSudan/country.php?id=229 (Accessed: 2017-06-22).

UNHCR, 2016. "Uganda: Flash Update on the South Sudan Refugee Emergency 26 November 2016, Info-Graphic" Available: http://data.unhcr.org/SouthSudan/country.php?id=229 (Accessed: 2017-06-21).

UNHCR, 2015. "Global Trends: Forced Displacement in 2015" Available: http://www.unhcr.org/statistics/unhcrstats/576408cd7/unhcr-global-trends-2015.html (Accessed 2017-06-25).

UNICEF., WHO., 2015. "Progress on Drinking Water and Sanitation – 2015 update and MDG assessment" Available: https://www.unicef.pt/progressos-saneamento-agua-potavel/files/progress-on-sanitation-drinking-water2015.pdf (Accessed 2017-06-25).

United Nations, Department of Economic and Social Affairs, Population Division, 2017. "World Population Prospects: The 2017 Revision", custom data acquired via website.

United Nations, 1994. "Report of the International Conference on Population and Development", Cairo, 5-13 September 1994. Available: http://www.un.org/popin/icpd/conference/offeng/poa.html (Accessed 2017-06-30).

USA for UNHCR, 2017. "What we do". Available: http://www.unrefugees.org/what-we-do/

(Accessed 2017-06-25).
Webster, S., Lewis, J., Brown, A., 2014. "Ethical considerations in qualitative research", in Ritchie, J., Lewis, J., McNaughton Nicholls, C., Ormston, R., 2014. *Qualitative Research Practice – A guide for social science students and researchers* 2nd ed., SAGE.
WHO., 2005. "Gender Considerations in Disaster Assessment", Prepared by WHO/GWH 11 January.
WHO., 1946. "Constitution of the World Health Organization", New York. Available: http://apps.who.int/gb/bd/PDF/bd47/EN/constitution-en.pdf?ua=1 (Accessed: 2017-08-05).
Wickramasinghe, D., 2012. "Managing menstrual hygiene in emergency situations: How far from reality?", *Asia Regional Sanitation and Hygiene Practitioners Workshop,* Dhaka, Bangladesh, 31 January –2 February 2012.
WoMena, 2017. "Sustainable solutions to menstrual management in displacement contexts" Available: http://womena.dk/sustainable-solutions-to-menstrual-management-in-displacement-contexts/ (Accessed: 2017-07-05).
WoMena, 2015. "What we do" Available: http://womena.dk/on-going-projects/ (Accessed: 2017-05-05).
Women's Refugee Commission, 2009. "Refugee Girls: the invisible faces of war", Pearson Foundation.
World Humanitarian Summit, 2016. "Changing People's Lives: from delivering aid to ending need", high-level leaders' roundtable, Core Responsibility Four of the Agenda for Humanity, Istanbul 23-24 May 2016. Available: https://consultations.worldhumanitariansummit.org/bitcache/1e8a030537b584bb62c7d75f71062383e24ff542?vid=575820&disposition=inline&op=view (Accessed: 2017-07-04).
ZOA, 2017. "Programmes" Available: http://www.zoa-international.com/content/resultaten-9 (Accessed: 2017-05-08).