UNIVERSITY OF GOTHENBURG
SAHLGRENSKA ACADEMY

WOMEN'S HEALTH AND MENSTRUAL HYGIENE MANAGEMENT IN ILEMBULA, TANZANIA

- A nursing perspective

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Program	Bachelor Program in Nursing Science
Course	Bachelor Thesis in Caring Science
Scope	15 higher education credits
Semester/Year	5th Semester/3rd year, 2018
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Acknowledgements

This study would not have existed if it were not for the contribution of several of people. First of all, we would like to acknowledge the Swedish International Development Authority (SIDA) and Sahlgrenska Academy at the University of Gothenburg, Sweden, for giving us the opportunity to travel to Ilembula, Tanzania, and conduct this study. We also extend our thanks to the nurses who volunteered to take part in the study and ultimately made this research possible. We would particularly like to acknowledge and thank our supervisor Sepideh Olausson whose feedback has been of great value and inspirational for the inclusion of new content. Finally, we thank those who have helped us by giving constructive criticism and influenced our revisions.

Sammanfattning

Kvinnohälsa och hygienhantering i samband med menstruation i Ilembula, Tanzania – ett sjuksköterskeperspektiv

Bakgrund: Många flickor i Tanzania startar sin menstruationsdebut oinformerade, oförberedda och utan stöd. Kvinnor och flickor tvingas hantera sin menstruation utan varken tillgång till adekvata mensskydd eller information om detta ämne vilket leder till förödande konsekvenser för deras hälsa, välbefinnande och livskvalitet. Reproduktiv hälsa och hygienhantering i samband med menstruation är ett ämne som behövs mer forskning på, speciellt i utvecklingsländer. Denna studien gjordes vid Ilembula Lutheran Hospital i Ilembula, Tanzania där sjuksköterskor blev intervjuade för att undersöka hur de arbetar med kvinnohälsa och hygienhantering i samband med menstruation. **Syfte:** Studiens syfte var att undersöka sjuksköterskornas arbete med kvinnohälsa och hygienhantering i samband med menstruation i Ilembula, Tanzania. **Metod:** En kvalitativ explorativ design användes. Data samlades in genom semi-strukturerade intervjuer och med hjälp av en intervjuguide. Det insamlade materialet analyserades enligt kvalitativ innehållsanalys. **Resultat:** Sjuksköterskornas arbete med kvinnohälsa och hygienhantering i samband med menstruation bestod av tre huvudfynd; att informera, sjuksköterskans roll och utmaningar. En signifikant del i sjuksköterskans roll var att informera kvinnor och flickor om mensskydd, att hålla god hygien och hur de bör uppföra sig efter deras menstruationsdebut. Varje dag ställs sjuksköterskorna inför många utmaningar i deras arbete med detta ämne, vilka bottnar i den låga ekonomiska status, låga kunskapsnivå och tabu som råder i samhället. **Slutsats:** Kvinnohälsa och hygienhantering i samband med menstruation är en fråga för mänskliga rättigheter och måste angripas med kraft på alla nivåer, av såväl kvinnor som män. För att detta ska kunna främjas så måste kulturella, sociala och religiösa tabus brytas och alla, i synnerhet sjuksköterskor, behöver få adekvat information om kvinnohälsa och menstruation samt om olika hanteringsalternativ som grundar sig i evidensbaserad och vetenskapligt beprövad forskning.

Nyckelord: Kvinnohälsa, hygienisk menstruationshantering, omvårdnad, Ilembula, Tanzania

Abstract

Women's health and Menstrual Hygiene Management in Ilembula, Tanzania - A nursing perspective

Background: A large number of women and girls in Tanzania start their menstrual period uninformed, unprepared and unsupported. Many times, they are supposed to manage their monthly menstruation without either adequate menstrual hygiene materials or access to information, severely impacting their health, wellbeing and quality of life. Especially in developing countries, this topic has remained under-researched and under-addressed. This study was made at Ilembula Lutheran Hospital in Ilembula, Tanzania, where nurses working at the hospital were interviewed in order to explore their work with women's health and menstrual hygiene management (MHM). **Aim:** The aim of this study is to explore nurses work with women's health and menstrual hygiene management in Ilembula, Tanzania. **Method:** A qualitative explorative design was used and semi-structured interviews were conducted with the help of a topic guide. The collected data was analyzed with qualitative content analysis as the methodology. **Result:** Nurses work with women's health and MHM includes, as identified in this study, three central findings; providing information, nurses' role and challenges. A significant part of the nurse's role is to inform women and girls about menstrual hygiene materials, hygiene management and foster them how to behave after menarche. In their work with women's health and MHM, nurses face many challenges regarding low economic status, low knowledge level and taboo. **Conclusion:** Women's health and MHM is a human rights issue and a public policy issue which needs to be tackled head on, by all community members and on all levels. Cultural, social and religious taboos need to be overcome and all, especially nurses, must be ensured information about this subject and on evidence-based management options in order to promote women's health and hygiene associated with menstruation.

Key words: Women's health, Menstrual hygiene management, Nursing, Ilembula, Tanzania

List of abbreviations

EU	European Union
EBN	Evidence-based Nursing
HIV	Human Immunodeficiency Virus
ICN	International Council of Nurses
MHM	Menstrual Hygiene Management
RCH	Reproductive and Child Health
SDGs	Sustainable Development Goals
SRHR	Sexual and Reproductive Health Rights
STI	Sexually Transmitted Infections
TSS	Toxic Shock Syndrome
UN	United Nations
WHO	World Health Organization

Definition of important terms

Menstruation	Biological process in the reproductive cycle of women
Menarche	First menstrual bleeding
Menopause	Last menstrual bleeding
Menstrual Hygiene Management	"Women and adolescent girls using a clean menstrual management material to absorb and collect blood, that can be changed in privacy as often as necessary for the duration of the period, using soap and water for washing the body as required and having access to facilities to dispose of used menstrual management materials" (Sida, 2016 p. 1)

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1. Introduction

For many girls worldwide, life changes dramatically when they get their first period. Without having access to clean water, appropriate toilet facilities or information about what is happening with their bodies, this change is even more noticeable (Sommer & Sahin, 2013). Research show that girls in under-developed countries are starting menarche uninformed. Many times, unprepared and unsupported, they are supposed to manage their monthly menstrual periods (Sommer, Sutherland & Chandra-Mouli, 2015). Poor menstrual hygiene management (MHM) and limited access to safe and hygienic menstrual absorbent materials have severe outcomes impacting women's health, wellbeing and quality of life – it represents a crucial human rights issue (Ssewanyana & Bitanihirwe, 2017). Furthermore, MHM is essential to ensuring sustainable development and Sexual and Reproductive Health Rights (SRHR) for all individuals, which are based on the right and ability to decide over one's own body, and to live a healthy and productive life. (Sida, 2016).

Menstruation has remained under-researched and under-addressed in developing countries such as Tanzania (Sommer, 2010). This study was made at Ilembula Lutheran Hospital in Ilembula, Tanzania where nurses working at the hospital were interviewed in order to explore their work with women's health and MHM.

2. Background

2.1 Women's health

A review article comprising of qualitative and quantitative studies describes women's health as an evolving mosaic composed of multiple intermingled parts such as ethnicity, race, age, socioeconomic status and gender (Karney, 2000). According to the author, women's health is key to preserve wellness and to prevent illness in women. For it to be successful, planning, innovations and interdisciplinary collaboration is required (Karney, 2000). The World Health Organization (WHO) further links components such as gender and social determinants with women's health by their statement that gender-related differences and discrimination rooted in sociocultural factors cause inequitable health outcomes for women and girls (WHO, 2018). These inequalities result in women's reproductive health being neglected which in turn prevents women and girls from attaining the best possible level of health (WHO, 2018).

As an ongoing public health issue and a human rights issue, healthcare sectors amongst other institutions have a responsibility to address problems regarding women's health and MHM. Since being a part of the healthcare sector, it is included in the nurse's profession to make sure that this is handled on a local level, a national level and finally, on a global level (Sommer, Hirsch, Nathanson & Parker, 2015).

2.2 Menstruation and Menstrual Hygiene Management (MHM)

Menstruation is a biological process that is a normal and an important part of the reproductive cycle, in which blood is lost through the vagina. About 52 percent of the female population worldwide is in their reproductive age, which for women is the age between menarche (first menstrual bleeding) and menopause (last menstrual bleeding). Puberty, marked by the onset

of menarche, varies between eight and 16 years of age with a median of around 13 years. Menopause typically occurs between 49 and 52 years of age. Normally, women menstruate each month between two to seven days (House, Mahon & Cavill, 2012), which means that women entering menopause at 50 years of age have had approximately 2400 menstrual days in their lifetime. To put this in perspective, more than 800 million women and girls between the ages of 15 and 49 are menstruating each day (Sommer, Phillips-Howard, Mahon, Zients, Jones and Caruso, 2017). A project about women's health and menstrual education, confirm that during these menstrual days, reproductive health and menstrual hygiene practices are important aspects in women's life (Raines, Garner, Spies, Riley & Prater, 2017; House et al., 2012). When managing menstruation, many women and girls face various barriers, such as not having access to either affordable hygienic materials or proper water- and sanitation facilities (Sida, 2016). It is further explained that these barriers in managing menstruation can have life-changing consequences related to health, mobility, safety and socio-cultural practices like education and work for many women in low- and middle-income countries such as Tanzania. MHM is defined as: "women and adolescent girls using a clean menstrual management material to absorb and collect blood, that can be changed in privacy as often as necessary for the duration of the period, using soap and water for washing the body as required and having access to facilities to dispose of used menstrual management materials" (Sida, 2016 p. 1).

Not given the possibility to keep an adequate MHM, menstruating women and girls are often left wearing the same menstrual pad for a long time, resulting in plausibly long-term effects on reproductive health. Additionally, these barriers associated with menstruation commonly results in girls not attending school. In fact, girls in developing countries miss approximately five days of school per month due to insufficient MHM (Menstrual Hygiene Day, 2018). This information highlights the connections between MHM and Agenda 2030 for the Sustainable Development Goals (SDGs) since insufficient MHM consequently collides with the goal: "Ensure inclusive and equitable quality education and promote life-long learning opportunities for all" (Sustainable Development Goals, n.d.).

2.3 Tanzania and Ilembula village

Tanzania is situated along the eastern coast of Africa just below the equator and has a total area of 945 000 km^2, making it more than double the size of Sweden. Official languages in Tanzania are Swahili and English. The population of about 55,6 million (2016) represents a great mixture of ethnic groups, where almost half of the inhabitants are under the age of 15 (Landguiden, 2016). About 49 percent of the people residing in Tanzania are living in extreme poverty (The World Bank, 2018). Moreover, the society in Tanzania is male dominated where women are in a subordinate position. For example, there is no prohibition against discrimination of women. Marriage against women's will, polygamy and female genital mutilation are not uncommon. Approximately a third of the female population in Tanzania has experienced sexual assault before the age of 18 and many are frequently being raped and beaten in their homes, sometimes to the extent of death (Landguiden, 2016).

Ilembula village is part of the Iringa region in Tanzania and is located about 700 kilometers from the city of Dar Es Salaam. The hospital where this study was conducted, is named Ilembula Lutheran Hospital and was founded by Swedish missionaries in 1950 (Juntunen & Nikkonen, 1996).

2.3.1 Healthcare system

There is no free healthcare in Tanzania and there is a shortage of accessibility to healthcare system services due to low economic status and insufficient institutions, medical equipment and medications (Landguiden, 2016). In addition, there are five levels of care in the country which consists of different types of healthcare facilities. Level 1 includes Primary Healthcare service comprises of health centers, clinics and dispensaries. Levels 2 to 5 consists of District hospitals, Regional referral hospitals, Zonal referral hospital and National hospitals. These can either be public (74%), private (14%) or faith based (13%) (PharmAccess Foundation, 2016).

2.3.2 Nursing education

According to Tanzania Nursing and Midwifery Council (TNMC), there are different education levels within the nursing education in Tanzania. These education levels consist of three diverse programs which are Certificate Program, Diploma Program and Degree Program and the length of each program range between two and four years. Ordinary level of secondary education is mandatory for studying Certificate Program and Diploma Program, and advanced level of secondary education is required for Degree Program (TNMC, 2014).

2.4 Menstrual Hygiene Management (MHM) in Tanzania

2.4.1 Cultural and social aspects

In many cultures, menstruation is considered as something negative, shameful and dirty (WASH United, 2012). The continued silence combined with limited access to information results in women and girls having very little knowledge about what is happening with their bodies when menstruating and how they should manage their hygiene during this time (WASH United, 2012). A comprehensive, peer-reviewed article further shows that cultural norms and religious taboos on menstruation are often compounded by traditional associations with evil spirits, shame and embarrassment surrounding sexual reproduction. In Tanzania, some believe that if a menstrual cloth is seen by others, the owner of the cloth may be cursed (House et al., 2012). A comparative case study comprised of in-depth interviews and participatory research, also reports that confusion, fear and shame are common experiences at the onset of menarche (Sommer, 2009). The author clarifies that menarche is not uncommonly associated with thoughts about disease or death. It is further described that there is a significant gap in the level of knowledge among the population when it comes to understanding the emotional and physical changes that occur when menstruating (Sommer, 2009). According to the latter, social aspects are also to be considered when discussing menstruation, since menarche is linked with inappropriate sexual behavior, and early onset of menarche is sometimes hidden by girls for fear that they will be accused of premarital sexual activity (Sommer, 2009). In conclusion, women and girls' condition and capacity to manage their periods is, as mentioned, affected by several factors.

2.4.2 Hygiene aspects

Cultural and social aspects are not the only thing affecting MHM, limited access to affordable hygienic sanitary materials and disposable options are also immense factors that contribute to

this issue. In some cases, natural materials such as mud, leaves, dung or animal skins are used to manage the menstrual flow (WASH United, 2012). Moreover, it is not uncommon that items like old cloths, cotton wool and other unhygienic items are being used instead of recommended sanitary pads due to shortage of money (Phillips-Howard et al., 2016). In fact, about 78 percent of the women and girls in Tanzania use cloths for menstrual protection and four percent use cotton wool (Baisley et al., 2009). These items do not only leak and smell causing stigma, shame and discomfort, they are also associated with outcomes like sexually transmitted infections (STI), Reproductive Tract Infection and possibly fatal outcomes like Toxic Shock Syndrome (TSS) and Vaginal Staphylococcus Aureus (Phillips-Howard et al., 2016). Using cloths or cotton wool for menstrual protection is furthermore associated with Bacterial Vaginosis, which in turn is significantly associated with Human Immunodeficiency Virus (HIV) and Trichomonas Vaginalis Infection. According to research done by Baisley et al. (2009), women with Bacterial Vaginosis have a twofold higher risk of getting HIV and the prevalence of Bacterial Vaginosis is significantly lower among those who use sanitary pads. This finding is in line with the study done by Phillips-Howard et al. (2016) which highlights the connection between inadequate MHM and prevalence of HIV. Their research show that adolescent women in Sub-Saharan African countries, engage in sexual activities to obtain money to buy sanitary pads. These sexual activities can, according to the authors, lead to several dangerous outcomes and are linked with increased susceptibility and exposure to STI, Reproductive Tract Infection, HIV and pregnancy among women (Phillips-Howard et al., 2016).

Aspects that further exacerbates and contributes to the complexity of MHM in Tanzania is the insufficient access to safe and private toilets together with the lack of water and soap (WASH United, 2012). Many Tanzanian schools lack latrines and clean water, and access to sanitation facilities and affordable sanitary materials is scarce. This further complicates and inhibits an adequate MHM, resulting in women wearing the same cloth for a long period of time (Sommer, 2010).

2.5 Theoretical framework

Theoretical framework is according to Polit and Beck (2017), the framework in a study based on a theory underpinning a conceptual model. Theoretical framework can be used when accentuating the question of issue, the complexity of the study and its phenomenon, and should always originate from the aim of the study (Henricson, 2017). Since the aim of this study is characteristic of nursing, it is highly relevant to refer to International Council of Nurses (ICN) which represent the voices of nurses worldwide on an international level, regardless of national laws (Svensk sjuksköterskeförening, 2014). The ethical codes of ICN are based on the envisions of a world where human rights are protected. Through partnership and collaborations, ICN strive for the improvement of wellbeing and are working for a safe, healthy and sustainable environment for present and future population. To ensure these envisions, the ethical codes are constructed to guide and unite nurses around the world to a mutual approach when promoting an environment in which human rights, values, customs and religious beliefs are respected. On a local level, every single nurse has a responsibility to provide and allocate health care resources and care in an equal and just way, especially when it comes to ensuring the health of people in vulnerable situations (Svensk sjuksköterskeförening, 2014).

Another essential element in nursing is to reduce patients' suffering. In fact, it is not simply significant, it is one of the most important parts of the nursing profession (Eriksson, 1994). According to the latter, suffering inhibits the dignity and freedom of human beings which contributes to a feeling of hopelessness and shame, and might be a cause of unfair treatment by the nurse or if he or she does not tend to the patient's needs. In addition, suffering is often a result of the nurse's lack of knowledge and reflection rather than ill will (Eriksson, 1994).

Healthcare facilities should be women-friendly spaces that enables nurses and other healthcare workers to reach out to women and girls with support, materials, and information about MHM (Sommer, Schmitt & Clatworthy, 2017). All healthcare service should cover topics about the importance of healthy MHM practices, including the importance of regularly cleansing and routinely changing, washing, drying and disposing sanitary materials. The important and natural part of menstruation such as menarche, menopause and fertility are examples of subjects that need to be discussed regarding female reproductive health. Furthermore, the healthcare service needs to ensure that the population is informed about adverse misconceptions regarding menstruation that may exist within different cultures and communities. Since patient contact is a major part of the nursing profession, all nurses have a crucial role in assuring these requirements and must be both knowledgeable and professional when discussing these topics (Sommer et al., 2017). Furthermore, the nurse needs to combine scientifically proven research with other knowledge such as knowledge about specific need of patient among information about economic conditions and potential resources within the organization. By working in accordance with evidence-based nursing (EBN), the nursing profession can be united worldwide which is a fundamental prerequisite for providing the best possible care for everyone, regardless of location (Willman, Bahtsevani, Nilsson & Sandström, 2016). Ingersoll (2000) further defines evidence-based nursing practice as "the conscientious, explicit and judicious use of theory-derived, research-based information in making decisions about care delivery to individuals or groups of patients and in consideration of individual needs and preferences" (Ingersoll, 2000, p. 152).

2.6 Problem statement

Inadequate information about MHM not only affects women in Tanzania, it is an immense issue in many other countries worldwide. An explorative questionnaire study from Iceland in Scandinavia made by Sveinsdóttir (2016), reveals that women's menstrual-related experiences influence their experience of objectification. "Menstruation is surrounded by a culture of silence: you have it but you hide it" (Sveinsdóttir, 2016, p. 1391). Previous research also stresses the significance of reproductive health and adequate MHM for women's health and life, and reports that further research on the subject is needed. Hence, further research on how healthcare professionals such as nurses work with women's health and healthy MHM practices is highly requested. This public health issue must be openly discussed and knowledgeable, especially in Tanzania and other developing countries, in order to ensure the global goals of the United Nation (UN) and Agenda 2030 for sustainable development. Thus, women's health and adequate MHM are keystones to ensure the goal "Good Health and Well-being" for all (Global goals, 2015). This statement combined with other facts from previous mentioned studies, clearly points out the importance of promotion and exploration of this subject so that all women, regardless of origin, can manage menstruation in a hygienic and non-stigmatized way.

3 Aim

The aim of this study is to explore nurses work with women's health and menstrual hygiene management in Ilembula, Tanzania.

3.1 Question of issue

- How can nurses work to promote women's health and hygiene associated with menstruation?

4. Method

4.1 Design

A qualitative explorative design was used in order to investigate the full nature of the phenomenon of interest with regards to the aim of the study (Polit & Beck, 2017). According to the authors, this method is designed to shed light on various factors of the phenomenon in a narrative and subjective way and to capture the informant's experiences in its entirety. Another reason for selecting a qualitative explorative design is because of its usefulness when exploring little-understood phenomenon (Polit & Beck, 2017), such as nurses work to promote women's health and menstrual hygiene management.

The study which was conducted at Ilembula Lutheran Hospital in Ilembula, Tanzania via the University of Gothenburg and Sahlgrenska Academy in Gothenburg, Sweden, included semi-structured interviews of the nurses working at the hospital. Semi-structured interviews are interviews with open questions that are being adjusted depending on the answers given (Danielson, 2017). The reason why this method of data collection was selected, is because of its combination between standardization and structure. It has a low grade of standardization which enriches the contents variety and is at the same time somewhat structured which contributes to an authentic characteristic answer (Trost, 2010). To sum up, semi-structured interviews provide rich and detailed information about the phenomenon (Polit et al., 2017), and enables the most valuable outcome; giving the participants the possibility to convey their own thoughts, feelings and experiences of the subject (Malterud, 2009).

The content of data retrieved from the semi-structured interviews, were transcribed and analyzed with qualitative content analysis as the methodology. Qualitative content analysis is defined as "any qualitative data reduction and sense-making effort that takes a volume of qualitative material and attempts to identify core consistencies and meaning" (Patton, 2002 p. 453). As described by Elo and Kyngäs (2007), especially in nursing research content analysis has been a significant factor and well-suited method when analyzing complex and sensitive qualitative data. Thus, this method was used as a way to efficiently reduce the large amount of qualitative material collected from the interviews by breaking down and condensing the data into smaller content categories and units. By converting masses to smaller and manageable segments, prominent themes and patterns could be identified (Polit & Beck, 2017). Another reason why qualitative content analysis was selected is because it is a good method to start with when learning how to recite, structure and describe data in an objective and systematic way (Danielson, 2017). Furthermore, this method allows the researcher to test theoretical issues which enhances the researchers' understanding of the collected data (Elo & Kyngäs, 2007). Since there was not enough former knowledge about the phenomenon, the qualitative

content analysis was used in an inductive way in concurrence with Elo and Kyngäs (2007) recommendations.

4.2 Sample

A purposive sampling with a goal for representativeness was used to recruit the population who would be representative for the dimensions of interest and that would benefit the study the most (Polit & Beck, 2017). The inclusion criteria were: registered female nurses working at Ilembula Lutheran Hospital with a minimum of five years of working experience and speaking relatively good English. A mutual approval from everyone participating was also a criterion to be included in the study. Male nurses were excluded from the study with regard to requirements and directives from the Hospital staff in charge. Negotiations with a gatekeeper provided by the hospital was made when selecting the informants who met the inclusion criteria. The gatekeeper was the nurse in charge (the matron), whose insight and authority allowed the researchers to gain entrée to a suitable information-rich research site (Polit & Beck, 2017). The specific time interval was between 22nd and 29th of October 2018. The target sample size was eight and consisted of the first eight accessible and eligible nurses present at the Hospital. All informants were registered female nurses working at Ilembula Lutheran Hospital. The workplaces differed between Maternity ward, Labour ward, Female Medical ward and Reproductive and Child Health (RCH) department. The informants were between 35 and 66 years of age and their work experience varied from five to 44 years. This large diversity in work experience and age is something that Graneheim and Lundman (2008) explain increases the variety aspects in participants' answers. Information about the participants are shown in Table 1.

Table 1. Information about the participants.

Nurse	Age	Education level	Work experience	Workplace
1	41	Diploma, 9 years in total	14 years	Labour
2	38	Assisting nursing officer (ANO), 4 years in total	9 years	Labour
3	53	Diploma, 6 years in total	25 years	Female medical ward
4	35	Diploma, 3 years in total	7 years	Reproductive and child health (RCH) department
5	35	ANO, 4 years in total	5 years	Maternity ward
6	44	Diploma, 11 years in total	25 years	Maternity ward
7	43	Diploma, 9 years in total	17 years	Female medical ward
8	66	General, 4 years in total	44 years	RCH department

4.3 Preconceptions

As defined by Friberg and Öhlén (2017), preconceptions are the viewpoints, the suppositions and the knowledge one use in order to understand a phenomenon. According to the authors, preconceptions can both have a positive and a negative impact on the research since it equally can be an obstacle and an opportunity for the study (Friberg & Öhlén, 2017). Malterud (2009) further explains that preconceptions are of importance when analysing data and clarifies that it should be reported before engaging in a project. Before conducting the study, the preconceptions of the researchers were therefore documented in order to increase transparency. For example, one preconception was that many women living in Tanzania lack knowledge about reproductive health and menstrual hygiene management. This combined with a preconception that many women cannot afford menstrual hygiene materials, ultimately resulted in a preconception that inadequate MHM leads to negative outcomes such as infections, a feeling of shame and alienation for menstruating women.

4.4 Data collection

The data was gathered between 22nd and 29th of October 2018. The duration of each interview varied between 31 and 52 minutes with an average of 39 minutes. The setting was the same for all the interviews; each interview was held in a separate room in the same part of the Hospital, at the same time of the day (1 pm), only one researcher was present (4 interviews per researcher) and the researcher was wearing scrubs just as all the informants. Only one researcher was present during the interviews as to minimize the risk that the informants would feel undermined and in a subordinate position (Trost, 2010). By wearing the same clothes as the informants, the outfit was adapted to the interviewer's situation in order to keep a neutral and a non-noticeable approach. This tactic is in line with Trost (2010) recommendations about choice of clothing when interviewing. Furthermore, all informants were given the opportunity to have a translator present during the interviews. This opportunity was given with consideration to language barriers and as a part of the intention of creating an environment in which the informants would feel comfortable, allowing them to provide authentic and representative answers. With this said, only one of the informants chose to have a translator present. All interviews were registered by audio recording to make sure that everything from the interviews such as words, tone of voice and pauses was saved and could be reused (Kvale & Brinkman, 2014). According to Kvale and Brinkman (2014), recording is the most common way of registering interviews and is highly suitable since it enables researchers to concentrate on the subject and the dynamics of the interviews. In addition, demographical information such as age, gender, years of working as a nurse and work experience as nurse was registered at each interview. Differences in work experience and age etcetera, increases the variety aspects in participants' answers (Graneheim and Lundman, 2008).

A topic guide (Appendix 1) consisting of an A4-paper including warm-up questions, opening questions and follow-up questions written in large font size, was used as a resource during the interviews to ensure that the informants could talk freely about the subject while at the same time guarantee that all questions and topics were covered (Polit & Beck, 2017). All interviews had the same opening question *How would you describe the menstrual hygiene management in Ilembula?,* which was then followed up by diverse questions depending on the participants answers.

4.5 Data analysis

Elo and Kyngäs (2007) divide qualitative content analysis with an inductive approach in three main phases comprising of a preparation phase, an organizing phase and a reporting phase. The preparation phase includes selecting units of analysis in order to get a better understanding of the collected data. The organizing phase refers to organizing the qualitative data by using open coding to create categories and abstractions. The reporting phase refers to present the result in a reliable manner in which its trustworthiness has been taken in to consideration.

After each interview, the researchers analyzed the data in accordance to the methodology recommended by Elo and Kynäs (2007). Firstly, the researchers transcribed the raw data and immersed themselves in it by reading the material several times using open coding before combining the particular instances into a larger whole. The open coding consisted of taking notes and highlighting different statements and phrases that seemed essential in order to bring out all aspects of the phenomenon. In the second stage of the analyzing process, the researchers organized the data by transferring the collected notes on to coding sheets, identifying and formulating categories and abstractions to generate an overall description of the research topic, so as to make a general statement of the finalized result emerged from the interviews. The researchers attempted to improve the trustworthiness of the content analysis study throughout the whole process by regularly evaluating each phase (preparation, organization and reporting) in order to ultimately present a reliable result when reaching the final stage. Aside from this, a checklist recommended by Elo, Kääriäinen, Kanste, Pölkki, Utriainen and Kyngäs (2014) consisting of step-by-step questions specifically designed for the selected methodology were further used as a guide to ensure and enhance the quality of the study.

Table 2. An example of the analyzing process.

Meaning units	**Codes**	**Sub-category**	**Category**
Because of the economic situation most of the people are using kanga, the big sheets.	Unaffordable menstrual materials		
You can say that it is not affordable. For those who are not, who are having a low economic status. Yeah. So they are using only cloth.			
People may take even dirty sheets. I have seen it. They take it from the outside without washing and then use it. Even to afford kanga is difficult.			
Economic situation is			

difficult. The women can agree to be hygiene but they don't have money to buy material.	Impoverished population	Low economic status and low level of knowledge	**Challenges**
There is some poor families. It is very difficult. Even to afford to use the kanga.			
What they need is qualified trustiest in medicin. So whenever the students get any problems or they suffer so this one can be able to prescribe the medications. So yeah. Though it is really low education. One year course of medicine, doesn't matter.	Lack of knowledge among nurses		
I didn't learn in school. I use my own experiences.			
We had little of it in the education so I give advise from experience.			
She takes pieces of cloth from nowhere because she thinks that, in the vagina, there is dead because it is dripping blood.	Lack of knowledge in the society		
It is challenging to work on because for example you talk about menstrual period but the one who you want talk with she does not have enough knowledge.			
I think knowledge, they haven't. Women haven't.			
Important of not showing menstrual hygiene material so not to make anyone uncomfortable.			
It is dirty. It is dirty so someone is not eager to see it hanging around.			

You are dead during the menstrual period. When you have menstrual period you don't bath, for whole body. Til five or seven days, you can bath.	Menstruation is dirty	Taboo	
When you are on menstruation, there are some people who are invited to come and teach you about how to take care of yourself and your personal hygiene. So you have to listen to them and you have to follow this taboo. You are not allowed to show. For example if you're married, so it means that even your husband is not allowed to see that menstrual blood.	Menstruation is secret and private		
These issues are secretly, they are not supposed to be talked about with people.			
They educate girls that they should hide the kanga under beds or in the closet, nobody can see. It can't dry there.			
It is our habit which we are given since we are delivered. That you are not allowed to show anybody, to know that you are on menstruation. So, the women hide themselves.			

4.6 Ethical consideration

Ethical consideration is essential and should always be integrated in every part of the research. As a researcher one is obliged to follow the four ethical principles which are to respect peoples' *autonomy, justice, non-maleficence* and *beneficence* (Kvale & Brinkmann, 2014). However, according to the Swedish Law (SFS 2003:460 2§, The Swedish Riksdag, 2003), a bachelor thesis is not required to be ethically reviewed. Nonetheless, ethical consideration regarding information, consent, confidentiality and use is of significance before engaging in a project (Codex, 2002). Before conducting the interviews, a template developed

by WHO (2018) was therefore used to verify the mutual approval from everyone participating. The template consisted of two parts, one information sheet (Appendix 2) and one consent form (Appendix 3) in which the informants agreed to participate on voluntary basis and to be recorded during the interview (WHO, 2018). Moreover, they received information about the study, why they were invited and that they would not be identifiable in any presentations of the findings. The template also included contact information on the researchers, should the participants have any questions or comments about the study. Since anonymity is of essence, all interview material was coded accordingly to reduce the risk of having unauthorized readers being able to identify respondents in the study. This approach when applying a study reduces the risk of people being used, hurt or offended (Danielson, 2012).

5. Results

The data analysis resulted in seven sub-categories and three categories accompanied with quotes from the nurses, which all collectively shed light on the aim of the study.

Table 3. Overview of finalized sub-categories and categories.

Sub-category	**Category**
- Menstrual hygiene materials - Hygiene management - Fostering	Providing information
- Responsibility - No need for improvement	Nurses' role
- Low economic status and low level of knowledge - Taboo	Challenges

5.1 Providing information

5.1.1 Menstrual hygiene materials

The information provided about women's health and MHM along with the advisements regarding what material to use when menstruating diverged among the nurses. The most significant finding regarding nurses' work with informing about this subject was that the nurses view of what the information should consist off, differed widely on all aspects. When it comes to menstrual hygiene materials, some nurses advised women and girls to use washable material such as cloth, others recommended disposable pads and some counseled the women to decide for themselves what to use. In addition, the perceptions of the different materials varied greatly among the nurses, whom all described different pros and cons. For example, the nurses who recommended the usage of cloth described it as the most inexpensive and the most comfortable option available at the market. Because of its soft material it is highly absorbable and will not cause itching, rashes, wounds or pain in the lower region, which disposable pads

might do. In contrast to this, other nurses explained that one should most definitely not use cloth because of the side effects it might cause. Side effects such as infections, fungus and bad smell were given as examples. Instead, one should use pads because it is the best alternative due to the fact that it is disposable which is a prerequisite for adequate MHM, according to these nurses. Furthermore, many highlighted the correlation between women's choice of menstrual material with education level and economic status. Finally, the nurses who counseled the women to decide for themselves what to use, emphasized the importance of being hygienic rather than the choice of material itself. More specifically, they explained that it does not matter what kind of material that is being used, as long as it is managed hygienically.

"Those who are educated and those who are having money think it's better to use those pads from the shop […] because most of them who are using this kanga they will get tetanus because of the blood" (Nurse 5)

5.1.2 Hygiene management

All nurses consistently clarified that frequent change and adequate washing, drying and storage of the menstrual material is of essence. Even so, a diverged definition of what it actually means to manage the menstruation hygienically was found. For instance, some nurses explained that the menstrual material needs to be changed every five to eight hours, while others implied that there is no specific time interval to consider. Instead, one should change the material when it is completely soaked or when the women feel that it is ready to be changed.

"If you are dirty even the flies are coming. Yeah. Flies will just be roaming around you. So, it means you have not changed cloth for long, long time." (Nurse 2)

The interviews also revealed that adequate washing of menstrual materials, sanitation facilities and the body are the keystones of adequate MHM during menstruation, according to the nurses. To illustrate, most nurses revealed that warm water and soap is needed when washing. However, some explained that it is enough to soak the menstrual material in cold water for a few minutes whereas others described that it needs to be washed at least twice. Besides this, it was also revealed that most women get infections when visiting unhygienic latrines and that the nurses feel an obligation to inform women to flush the toilet after use in order to get rid of bacteria. Regarding the washing of the body, most nurses informed about cleaning the lower region and a few accentuated the significance of shaving when menstruating.

"You need to wash and be very clean. Hygienically. So that people won't laugh or run from you because of the smell." (Nurse 4)

When it comes to drying menstrual materials, several nurses stated that it must be hanged out in the sun in order to kill bacteria while others stated that the place for drying is not of importance as long as it gets ironed before reuse. In contrast, a few of the nurses explained that one should most definitely not hang it outside, instead one should hang it to dry in a separate room where no one is entering.

"For some, their bathroom is outside so you cannot hang it to dry there. The dogs they may come and collect it. Yeah. Because it smells of blood." (Nurse 6)

The majority of nurses explained that they advise women to hide the menstrual material in places such as handbags, small boxes or in closets to avoid contamination such as dust or other microorganisms. Furthermore, they recommended the women not to keep the materials under the bed, in corners or other dark places.

"You cannot dry it in the sun because everyone that will pass by there will see. So that is why you always hide it. Sometimes you put it in the bedroom where it is impossible for other people to see it, under the beds." (Nurse 7)

5.1.3 Fostering

Cultural fostering related to women's health and MHM were displayed in the interviews in many ways. To exemplify, it was shown that nurses guide women how to be able to afford menstrual materials. More specifically, it was identified that nurses counsel women to engage in activities such as collecting firewood and sewing clothes in order to get money. Even to sell items like beans, eggs and hens is being recommended. Moreover, it was also acknowledged that nurses' advice to women includes more than guidelines regarding adequate MHM. For example, it was revealed that they encourage women to hide the menstrual materials and they educate women how to behave properly, especially around men.

"I must educate them […] that they are not supposed to be with men. Because the men, they can conceive to be pregnant in a young age […] to avoid an undesirable pregnancy." (Nurse 1)

The interviews also made known that a part of the cultural fostering is that nurses inform women that menstruation is something secret and private. Some nurses even reported that one is not allowed to show the menstrual material to anyone, under any circumstances.

"It is dirty. It is dirty so someone is not eager to see it hanging around. […] For example, if your husband is there so he will not feel comfortable to see that. That bad, bad cloth." (Nurse 8)

5.2 Nurses' role

The most prominent result was that all nurses highlighted the connection between inadequate MHM and negative outcomes concerning women's health. Negative outcomes such as redness, irritation, wounds and bruises in the lower region, Urinary Tract Infection, Pelvic Inflammatory Disease, fungus, tetanus, low abdominal pain and sepsis were presented. The mentioned number of concerns related to inadequate MHM is something many of the nurses explained as something they face every day in their work. However, the view on what role they have as a nurse when working with this subject varied considerably.

5.2.1 Responsibility

The majority of the nurses explained that in their role as a nurse, they have a responsibility to educate women about how to be clean, how to wash, where to buy and how to afford menstrual hygiene materials. They feel that it is an obligation when working as a nurse to have knowledge about different risks that may occur if not having an adequate MHM.

"Because it is our role, all nurses are supposed to teach the patient and she is supposed to know." (Nurse 6)

Despite this consistent approach, the interviews also revealed an ambiguous view of the nurse's role regarding what, when, where and to whom they should educate. Some nurses explained that it is included in the nurse's role to go out and educate women in villages, schools and church while others described that it is only when the women seek healthcare that one should educate about women's health and MHM. When educating about this subject, some nurses say that both boys and girls can be present during health talks while other states that they must be separated.

"Separate it, the students. Boys, they are supposed to be with other students. We educate female one. The males are not educated about menstruation." (Nurse 1)

5.2.2 No need for improvement

Some of the nurses did not see any need for improving women's health and MHM in the society and did not see themselves having a role in working with this subject due to the fact that they are nurses. Instead, they explained that it is up to the women to manage their own menstruation, that a nurse has nothing to tell them and that it is good the way it is. Additionally, some explained that it is the family's responsibility to educate women and girls about this subject, not the nurse. In fact, it is primarily the mother's responsibility to educate but other female relatives such as sisters and grandmothers can also be the one informing, according to some of the nurses.

"We as a female one, we talk about issues which concerns our women […] Male don't menstruate so they can't know what's going to happen and how we can be handled during that period." (Nurse 3)

Furthermore, other nurses reported that girls learn everything that they need to know in school since it is the school's responsibility to inform about women's health and MHM. Similarly, they did not see themselves having a role in working with this subject and a few of them even explained that people nowadays come from other countries to educate and provide women and girls with menstrual materials. Lastly, it was also explained that no one has a responsibility to inform about women's health and MHM and that there is no need for improvement on the subject.

"It's good now, because of the background, there was no piece of cloths to use. So, if you started the menstrual period, you are dead. Not meeting anyone, you can sit in the corner of the room. For the whole week, no bath, no water. Until the blood is finished. After that, you go to the river to bath and change clothes. In the corner, you dig a small hole, you sit so the blood is dripping in the hole. During the night, you sleep in the corner. I talk about the background, our grandmothers." (Nurse 4)

5.3 Challenges

The majority of the nurses described that they face many challenges regarding low economic status, low knowledge level and taboo in their work with women's health and MHM.

5.3.1 Low economic status and low level of knowledge

The interviews revealed that many women in the society are poor and therefore cannot afford menstrual materials. Sometimes, they do not even have the money to buy the cheapest option,

resulting in them wearing improper materials such as already used pads or pieces of cloth that they have found on the street or materials such as dirty sheets or weeds.

"They are struggling. I think it is difficult, to find money so you can buy pads for somebody. […] That is the challenge. Water is not a challenge. The challenge is this, economical status. […] We at the hospital are not providing. It is difficult." (Nurse 7)

The interviews also showed that there is a lack of knowledge about this subject among the majority of the women in the society. In fact, the knowledge level was reported to be very low and many nurses stated that few women know what is happening to their bodies during menstruation. As a consequence, many women are suffering and are left feeling confused, uncomfortable and abnormal, according to some of the nurses.

"She takes pieces of cloth from nowhere because she thinks that, in the vagina, there is dead because it is dripping blood." (Nurse 3)

As a potential solution to this challenge, the nurses explained that the knowledge level among the women in the society needs to be increased. One nurse also suggested that it would be good if the nurses started educating women how to sew their own reusable menstrual materials.

Another challenge that was presented is the low knowledge level among the nurses themselves when it comes to women's health and MHM. Some nurses stated that very little knowledge is required when educating about this subject. Sometimes, only one course of medicine is enough. A need for further implementation of this subject in the nursing education was reported. In addition, some explained that the majority of nurses are using their own knowledge and experiences when educating since there is neither accessible nor sufficient information about reproductive health and MHM at their workplace. A few nurses mentioned that it would be beneficial to have information meetings and information sheets regarding this topic at the hospital. Finally, a challenge that was revealed is that no documentation is made and there is no follow-up to ensure that the women manage their menstruation in accordance to the information given.

"It is difficult to know how many women are having problems. But I know it is there, it occurs. But the evidence, is not there. Yeah. No evidence." (Nurse 2)

5.3.2 Taboo

The majority of the informants stated that menstruation is a taboo and they described that women in the society are taught from a young age that menstruation is something secret, something that one is not supposed to talk about openly. According to a few of the nurses, it occurs that some is not even allowed to talk to their family or friends about this.

"It is our habit which we are given since we are delivered. That you are not allowed to show anybody, to know that you are on menstruation. So, the women hide themselves." (Nurse 5)

The existing taboo regarding menstruation is something that the nurses defined as a challenge in their work since they notice that the women are ashamed and uncomfortable when discussing the subject. As an example, they explained that even if the women understand the importance of having an adequate MHM, they still choose to hide the menstrual material in

unhygienic places in order to make sure that no one will see it. This is a result of the high extent in which the taboo is rooted in the society, according to the nurses.

"Our mother, grandmother will tell that when you are on menstruation you are not allowed to show those cloths or pads. Nobody can see. Not allowed. […] You have to go to a place where it is dark and hide it. There, the bacterias are present […] Sometimes instead of hiding it, they go outside and go to the place where nobody can know […] maybe to the place where cows are staying […] so it means cows feces will get on it." (Nurse 8)

6. Discussion

6.1 Method discussion

This study has a number of limitations which might have affected its quality. Documentation on how the researchers have conducted the study is vital for assessing and ensuring trustworthiness and quality of the research (Elo et al., 2014). As explained by the authors, trustworthiness is often presented using terms like credibility (reliability of data), dependability (stability of data), conformability (representativeness of data), transferability (generalization of data) and authenticity (realities of data). These terms were continually taken into consideration in an attempt to meet these limitations.

A qualitative explorative design enabled the researchers to explore the aim of the study and to investigate the full nature of its phenomenon. Thus, the selected methodology was considered to be of strength for the research. However, a challenge with the choice of design is its dependence on the researcher's competence and ability to collect and analyze data in a valid and reliable way (Elo et al., 2014). The trustworthiness of the study might have been affected as an inevitable result of the researcher's inexperience and inadequacies. Nevertheless, the researchers remained flexible, adaptable and open minded during the whole process which are keystones when collecting and analyzing data in an adequate way (Henricson & Bilhult, 2017).

The novelty of this study is its attempt to meet potential limitations by the usage of complementary tools such as access to translator and negotiations with gatekeeper and supervisor. Contact with a gatekeeper was judged to be of great value since it enabled the researchers to establish contact with the hospital and its staff in a comfortable way. Certifying access to a translator was an ambition to minimize the negative effect that language barriers might have on the study. Besides this, the researchers have been faithful to their data and has retrieved feedback regularly from a supervisor during the whole process, which has been essential for the study's objectivity and thus its conformability. To simplify, the researchers' attempt of objectivity by letting independent people such as a supervisor inspect data, is something that further increases its accuracy and relevance which henceforth enhances the conformability and the quality of the research as a whole (Elo et al., 2014).

The sample consisting of only eight informants, might be a further limitation of the study. The researchers are aware that such a low sample size may have produced an incomplete saturation of data which might have had a negative impact of the entire data analysis (Elo et al., 2014). On the other hand, there is no specific definition of an ideal sample size. Instead, it is the aim of the study, the research questions and the richness of collected qualitative

material that indicates well-saturated data and optimal sample size. (Elo et al.,2014). To clarify, even though the sample size was low, it verified and ensured comprehension and completeness of the research due to its diversity regarding workplace (Labour, Female medical ward, RCH and Maternity ward), work experience (5-44 years), education level (3-11 years) and age (35-66 years) (Graneheim et al., 2008). It was therefore considered an appropriate sample size which is essential for the credibility of the qualitative research (Graneheim & Lundman, 2004). Another thing worth mentioning is the fact that male nurses were excluded from the study. This exclusion might be a further weakness of the study since it may inflict with ethical principles such as *The Right to Fair Treatment*, which explains that when selecting participants, one should neither neglect nor discriminate against individuals or groups who may benefit from the research (Polit & Beck, 2017). With this said, the principle also states that the sample should be based on study requirements and not on a group's vulnerability. To specify, it was a requirement from the hospital staff in charge to exclude male nurses from the research. For the reason that it is a researcher's responsibility to maximize benefits for participants and to make sure that they are not subjected to unnecessary risk of harm or discomfort (Polit & Beck, 2017), the researchers proceeded with the implementation of this exclusion criteria. From the perspective of establishing credibility and transferability, the main characteristics of the selected participants were accurately identified and described (Lincoln & Guba, 1985). By choosing purposive sampling as the sampling strategy, participants having the best knowledge concerning the research topic could be acknowledged (Elo et al., 2014). However, the trustworthiness of the sampling is highly dependable on the researcher's ability to provide full details of the study which can be problematic (Creswell, 2013). To address this problem, detailed information about the sampling decisions were provided in order to increase dependability (Elo et al., 2014).

The researcher's preconceptions were assessed having a positive impact on the data collection and considered as an opportunity rather than an obstacle for the study. Preconceptions consisting of theoretical understanding of the subject prior to interviewing enabled the researchers to conduct adequate questions while interviewing. Moreover, the preconceptions were especially necessary in this context due to the researchers' inexperience and lack of skill of performing accurate data collection and data analysis (Lincoln & Guba, 1985). Overall, the researchers' preconceptions were considered a prerequisite for exploring the aim of the study and its phenomenon. Aside from theoretical understandings, the researcher's also gained knowledge by access to field studies prior to interviewing. This enabled the researchers to observe and obtain a wider understanding of the work nurses do to inform about women's health and MHM. With this said, preconceptions retrieved from the field studies were of great value but were not a part of the data analysis.

Challenges were experienced with ensuring the quality of the study and to verify that the trustworthiness would not be jeopardized as a result of the researcher's inevitable part of the data collection (Mårtensson & Fridlund, 2017). To clarify, there is always a potential risk that the researcher might steer the participant's answer too much to obtain requested data, jeopardizing the trustworthiness of the study (Elo et al., 2014). This risk is especially high in studies made by inexperienced researchers due to the fact that they might be unable to perform an accurate analysis, which ultimately can affect the authenticity of the study (Elo et al., 2014). However, the researchers were aware of this risk and therefore continually reflected and discussed different strategies to reduce interviewer bias and privileging of one perspective, so as to confirm the trustworthiness of the research. An example of such a

strategy is the implementation of a topic guide which ensured the participants to talk freely about the subject in their own terms (Polit & Beck, 2017). The usage of a topic guide also allowed the researchers to maintain focus on the interview and enabled them to be present in the meeting during its entirety. Moreover, it supported the researchers' flexibility and adaptability when adjusting and constructing attendant questions (Malterud, 2009). Despite experienced challenges, the data collection was overall assessed to be of success since it allowed the exploration of the question of issue and the aim of the study (Elo et al., 2014).

Challenges were also faced concerning the choice of analyzing method. To demonstrate, qualitative content analysis is a flexible methodology lacking simple guidelines which resulted in the fact that there was no specific manual for the researchers to use when analyzing. Subsequently, the quality of the data analysis and of the finalized result was highly dependent on the researcher's skills, perceptions and analytic abilities (Hoskins & Mariano, 2004). To address this perceived challenge and to ensure trustworthiness of the study, the researchers chose to stick with the qualitative content analysis recommended by Elo et al. (2007) and to ultimately follow their directives. As a further guidance, the analyzing method was complemented with an updated version consisting of a checklist made by Elo et al. (2014). This was assessed to be of great value since it contributed to a sense of completeness.

To further strengthen the trustworthiness, attempt for self-awareness of the researchers was made in order to confirm credibility and conformability (Elo et al., 2014). To provide an example, the researchers continually sought awareness of factors that might impact the study negatively. Such awareness included the fact that one's own interpretation will always influence the result to some extent (Graneheim & Lundman, 2004), which in turn might inhibit the representativeness and the accuracy of the information provided (Polit & Beck, 2017). With this in mind, both researchers therefore analyzed the data in order to find any divergent perceptions so as to provide a sound representation of the data (Elo et al., 2014).

A strength in this study is its constant consideration to ethical principles and ethical approach. For example, mutual approval from everyone participating consisting of an information sheet and a consent form was a requirement to be included in the study. In addition, all data was transcribed and coded directly after each interview in order to guarantee anonymity of the participants. These strategies ensured all participants the right to self-determination and to full disclosure without risk of prejudicial treatment (Polit & Beck, 2017). The fact that the informants were recruited with the help of the nurse in charge, a person in a superordinate position, might however have led to a breach in confidentiality and might ultimately have jeopardized the guaranteed anonymity and right to self-determination. With this said, humans are autonomous beings, capable of controlling and deciding their own actions (Polit & Beck, 2017). Thus, the chosen sampling strategy were considered beneficial when exploring the participants experiences and narratives in an ethical way.

In summary, all parts of the methodology collectively answered and shed light on the aim of the study and its question of issue. Despite the numerous limitations of the study, it can be said that its design may well be of value for further research regarding nurse's work with women's health and MHM.

6.2 Result discussion

The nurses' work with women's health and MHM is, as identified in this study, based on three central findings; providing information, nurses' role and challenges. The majority of the nurses described that it is essential that women and girls get information about menstrual hygiene materials and hygiene management, and that cultural fostering is a significant part in the nurses' role. Many stated that they face challenges regarding low economic status, low knowledge level and taboo when working with this subject. However, there was a polarity in the participants' answers and approach when addressing issues regarding women's health and MHM, reflecting a lack of regulatory frameworks and other national guidelines uniting the nursing profession.

6.2.1 Providing information

The most significant findings regarding nurses' work with providing information about women's health and MHM was that perceptions on what the information should consist of and what it means to manage the menstruation hygienically, differed widely on all aspects. The importance of informing about menstrual hygiene materials and hygiene management is however highly correlated with Jerpseth (2011) statement that all nurses have an obligation to preventively work and inform women on an individual level and on a group level so as to minimize the risk of physical and psychological complications. This finding, as identified in the study, is likewise in line with Ugochukwu, Uys, Karani, Okoronkwo and Diop (2013) description of health education since prevention, early detection and treatment is dependent on an adequate knowledge by the general and affected population, according to the authors.

The excerpts concerning nurses advise to hide menstrual material from men, to avoid men after menarche and to exclude men from all contexts related to menstruation correlates with previous research which reports that menstruation often is framed as "none of men's business" (Peranovic & Bentley, 2017 p. 114) and that men are often excluded from discussions about menstruation and reproductive health in education (Power, 1995), family systems (Kalman, 2003) and research (Courtenay, 2000). This exclusion of men collides with House, Mahon and Cavill (2012) research which shows that men and boys have an essential role to play in supporting women in their MHM. In fact, they report that men's involvement is key and especially crucial in male-dominated countries such as Tanzania since they usually are the head of the household and the one controlling the finances. Ultimately, men's involvement is a criterion for ensuring women access to appropriate menstrual hygiene materials, according to the authors. Inclusion of all community members (both female and male) is thus a prerequisite for changing taboos, social norms, stigma and attitudes inhibiting women's health and adequate MHM (House et al., 2012).

The excerpts emerged from the interviews, reflect a culture of silence residing in the society and henceforth collides with Sommer (2015) statement that public health issues such as inadequate reproductive health and MHM, has to be framed as a social problem on a global agenda in order to implement interventions against this fundamental problem. In order to achieve this, nurses have to play an active role in advocating for increased investments regarding women's health and MHM by raising this issue and by enlightening and inspiring public policies. In fact, nurse's interventions are not only essential, it is within their responsibility and duty to put public health issues and human right issues such as this on a global agenda (Ugochukwu et al, 2013).

6.2.2 Nurses' role

The emerged connection between inadequate MHM and negative impacts on women's health, as identified in this study, is highly related to previous research which shows that poor menstrual hygiene may lead to health outcomes such as Reproductive Tract Infection, Bacterial Vaginosis, Pelvic Inflammatory Disease, abnormal vaginal discharge, infertility, ectopic pregnancy and chronic pelvic pain, making it a public health and policy issue (Sumpter & Torondel, 2013; Jerpseth, 2011). However, additional health outcomes such as Urinary Tract Infection, fungus, tetanus and sepsis as a consequence of insufficient MHM, were also identified in this study. It is of interest that nurses making connections between inadequate MHM and potential life-threatening conditions, stating that this is something that they face every day, still do not feel that they have a role when it comes to address this issue and that they do not feel that there is any need for improvement on this subject. Eriksson (1994) reasons that nurses occasionally and unintentionally cause suffering due to lack of knowledge and reflection rather than immorality and ill will, which might provide an answer to this finding and further stress the significance of increasing the knowledge about this subject in the nursing profession. The link between identified findings and the suffering among women, is additionally correlated with reports from a qualitative study done by Mason et al. (2013) which confirm that absence of emotional and physical support results in women and girls managing menstruation in hazardous ways.

6.2.3 Challenges

A prominent finding is that many nurses linked women's choice of menstrual material with education level and economic situation and that they specifically accentuated and described concerns related to low knowledge level and low economic status as a big challenge affecting their work. The number of concerns related to low knowledge level is something Mayhew et al. (2016) reports may reflect an existing gap in the society related to women's access or lack of access to information about women's health and MHM. As described by the authors, this is often underpinned in factors such as minimum exposure to health messages and lack of accessible health clinics focused on women's health (Mayhew et al., 2016). Wado (2013) further explains that women's lack of accessible health service does not solely depend on geographical location, aspects such as economic situation and prevailing gender norms in one's household similarly influence the access of healthcare. The concerns emerged from this study together with previous research, combinedly shed light on the numerous challenges nurses face when working with women's health and MHM, and reflects the need of a united mutual approach based on the ethical codes of ICN. To specify, in order to provide everyone healthcare in an equal and just way and to work in line with human rights, nurses need specific guidance and implementation of a united standpoint so as to fulfill their obligation to give correct and adequate information and to ensure a safe and a sustainable environment for all. Ultimately, putting the ethical codes of ICN to practice is a prerequisite for minimizing negative outcomes correlated with inadequate MHM.

It is clear from the findings that nurses are using their own knowledge and experiences when educating due to insufficient information provided about women's health and MHM in nursing education, at workplaces and in the society. This finding may reflect the "gaps in meeting the health needs of the community and inadequate capacity of health care providers"

(WHO AFRO, 2008) which Ugochukwu et al. (2013) explains as a consequence of limited regulatory national frameworks and other guidelines concerning the nursing profession. The authors stress the significance of developing clear frameworks and guidance, improving the understanding of nursing and promoting regional collaboration in order to improve quality of education and service (Ugochukwu et al, 2013). This statement is further correlated with research done by Rubli (2017) who reports that Tanzania is in need for a large-scale structural change in order to ensure health care professionals information on menstruation and evidence-based management options.

A new finding, as identified in this study, is the major role nurses play in enflaming and preserving existing taboos. A comprehensive, community-based, educational report conducted in Tanzania addressing issues of stigma, myths and lack of knowledge that hamper women from being healthy during menstruation, reports that by advising and ultimately preventing women from hanging their menstrual material in the sun to dry due to it being dirty and shameful, women's' self-confidence, self-image and self-worth might significantly be negatively affected (Rubli, 2017). Furthermore, this research indicates that findings, as identified in this study, may reflect existing myths and misconceptions underpinned in social, religions and cultural taboos residing in the society (Rubli, 2017). A grounded theory study examining sanitation-related psychosocial stress, reports that menstrual related behavior is considered the most stressful for women (Sahoo, Hulland, Caruso, Swain, Freeman, Panigragi and Dreibelbis, 2015). Sommer et al. (2017) further correlates such stress with scarce and insufficient management guidance combined with lack of knowledge. As stated by Ericsson (1994), the most important part of the nursing profession is to reduce suffering and ensure dignity of human beings. Hence, it is included in the nurse's role to continually be aware of and to work with one's own attitudes and perceptions (Jerpseth, 2011), in order to promote and ensure women and girl's experience and hygiene management associated with menstruation.

7. Clinical implications

The findings in this study may increase awareness of the importance to advocate for the right of all and to actively work to promote women's health and adequate MHM. Given the link between gender-related barriers and inadequate MHM, Forssén and Carlstedt (2017) explain that gender is not solely a biological variable, it is a key determent for existing social and financial differences within the society, impacting healthcare priorities and peoples access to care. The author stresses the significance of feminist research within medicine research, especially in research regarding women's health or lack of health as a result of their subordinate position in the society (Forssén & Carlstedt, 2017). This study provides detailed descriptions of the various challenges nurses face when working with women's health and MHM. To address this issue, it is recommended that findings and demonstrations of this study be used and serve as a basis for future research.

8. Conclusion

MHM is not a ‘Women’s health issue’, nor is it something that needs to be handled privately and secretly with the exclusion of men. Women’s health and MHM is a human rights issue and a public policy issue which needs to be tackled head on, by all community members and on all levels. Cultural, social and religious taboos need to be overcome and all, especially healthcare professionals such as nurses, must be ensured information about this subject and on evidence-based management options. Gender health-related discussions and gender-sensitive policies needs to be strengthen in order to promote women’s health and hygiene associated with menstruation. Ultimately, to improve women’s MHM and quality of life.

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Appendix 1 – Topic guide

Warm up-questions:

How long have you been working as a nurse?

What kind of work experience do you have?

What kind of education do you have?

Opening questions:

How would you describe the menstrual hygiene management in Ilembula?

How would you describe your work with menstrual hygiene management?

How can you as a nurse promote menstrual hygiene management?

Follow-up questions:

Can you explain a little bit more?

Can you provide an example?

Can you please elaborate?

How do you mean?

Appendix 2 – Information sheet

Information sheet

Study title: **Women's health and Menstrual Hygiene Management in Ilembula, Tanzania – a nursing perspective**

We would like to invite you to take part in a study/interview. The aim of this study is to explore nurses work with women's health and menstrual hygiene management. Before you decide whether to take part or not, you need to understand what it will involve. Please take time to read the following information and ask us if there is anything that is not clear, or if you would like more information. Thank you for reading this.

Why have I been invited?
You are invited to take part in this study because we believe you have knowledge about this topic and can contribute to a better understanding of the phenomenon of the study. We are interested to know how you as a nurse work with this subject and how this is considered in your profession.

How long will the study/interview take?
The interview takes between 30-40 minutes to an hour and will be recorded.

What about my privacy and confidentiality?
Your contribution and the information will only be accessed by the researchers and possibly the immediate research team. No information will be connected to you as a person when reporting the result.

What are the advantages of taking part in the study?
Participants will have an opportunity to influence the improvement of knowledge about women's health and menstrual hygiene management.

What are the disadvantages of taking part in the study?
There are no disadvantages apart from the time to complete and attend the study.

If I agree to participate in the workshop now, can I change my mind?
Yes, you are able to withdraw your participation at any time throughout completion without providing any reasons.

What will happen to the results of the research study?
The results will help to explore and create knowledge about women's health and menstrual hygiene management. Results may also be included in a report to national program for technical standard and academic publications. You will not be identifiable in any presentation of the findings.

Who is organising and funding the research?

The project will fulfill the requirements for a bachelor's thesis in the Nursing Programme at Sahlgrenska Academy, University of Gothenburg, Sweden. The research is organised by the University of Gothenburg and are funded by the European Union (EU).

Who has reviewed the study?
This study has been reviewed and approved by research supervisor Dr. Olausson at University of Gothenburg.

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What happens after I've agreed to complete the questionnaire?
Please read over and sign the consent form and continue to complete the questionnaire.

Contact for further information:
If you require further information about this study, please contact us on mail or phone.

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Appendix 3 – Consent form

CONSENT FORM

Title of project:	**Women's health and Menstrual Hygiene Management in Ilembula, Tanzania – a nursing perspective**
Aim of study:	The aim of this study is to explore nurses' work with women's health and menstrual hygiene management in Ilembula, Tanzania.
Name of Researchers:	Jennifer Peterson and Tove Sellius

	Initials
I have seen the **participant information sheet** about the project **"Women's health and Menstrual Hygiene Management in Tanzania – a nursing perspective"**	
I have had the **opportunity** to **ask questions** about the **study**	
I understand that **taking part** is **voluntary.** I can choose to **withdraw** from the study **at any time**.	
I understand that **my contribution is anonymous, and I will not be personally identifiable from results of this study.**	
I **agree to take part** in the **project: "Women's health and Menstrual Hygiene Management in Tanzania – a nursing perspective"**	