

**FACTORS IMPACTING ON THE MENSTRUAL HYGIENE AMONG SCHOOL
GOING ADOLESCENT GIRLS IN MONGU DISTRICT, ZAMBIA**

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KEY WORDS

Adolescent

Culture

Health

Infections

Menstruation

Menarche

Menstrual Hygiene

Reproductive Health

Taboos

Water Supply and Sanitation

ABBREVIATIONS AND ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
CSO	Central Statistics Office
DEBS	District Education Board Secretary
FGD	Focus Group Discussion
HIV	Human Immunodeficiency Virus
MDGs	Millennium Development Goals
MOCTA	Ministry of Chiefs and Traditional Affairs
MoE	Ministry of Education
MoH	Ministry of Health
MLGH	Ministry of Local Government and Housing
NGO	Non-Governmental Organization
NRWSSP	National Rural Water Supply and Sanitation Programme
RTI	Reproductive Tract Infection
STI	Sexual Transmitted infections
UNICEF	United Nations children Emergency Fund
UTI	Urinary Tract Infection
TCA	Thematic Content Analysis
WASHE	Water Supply, Sanitation and Hygiene Education
WHO	World Health Organization
ZDHS	Zambia Demographic and Health Survey

DEFINITION OF WORDS

Adolescent: Transitional stage of physical and psychological human development from puberty to adulthood.

Chilombola: Initiation counselors in Luvale or Mbunda people of Western Province.

Chitenge: Traditional cotton shawl which African women wrap around their waist.

Culture: The learned behaviour of a group of people that is generally considered to be the tradition of that people and is transmitted from generation to generation.

Experience: Events regarded as affecting someone, the facts or processes of being affected.

Health: A state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity.

Litunga: His Majesty, the Lozi king of Barotseland.

Lozi: The largest and dominant ethnic group in Western Province of Zambia.

Luvale: Small ethnic group in Western Province of Zambia.

Mbundas: Small ethnic group in the Western Province of Zambia.

Menarche: The first menstrual period, or the first menstrual bleeding indicating transition from girlhood to womanhood.

Menstrual hygiene: Effective management of menstrual bleeding by women and girls.

Menstruation: Normal vaginal bleeding or discharge of blood mucosal tissue from the uterus and vagina that occurs as part of a woman's monthly cycle.

Mwalanjo: The girl undergoing initiation rituals.

Nanoko: Initiation counselors in Lozi.

Perception: Impression(s) or interpretation(s) based on the understanding of something.

Sikenge: Period of initiation rituals.

Siyemboka: The ceremony when the girl undergoing initiation is coming out of isolation and is presented to the public.

Taboos: Vehement prohibition of an action/behaviour based on the belief that such action/behaviour is contradictory to socio-cultural norms. Violation of such norms is punishable.

DECLARATION

I hereby declare that this study of “*Factors impacting on the menstrual hygiene among school going adolescent girls in Mongu District, Zambia*” is my own work and it has not been submitted for any degree or examination in any other university, and that all sources I have used or quoted have been indicated and acknowledged by referencing.

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Date: 30th May 2013

Signed:



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ABSTRACT

Background: Globally about 52% of the female population is of reproductive age. In the lives of girls and women, there is that adolescence stage marked by the onset of menarche, and from this stage onwards they menstruate every month between two to seven days. From menarche until menopause, reproductive health and menstrual hygiene are important aspects of their lives.

In the Western Province, Zambia, menstruation, though a natural process, has been, and still is a taboo and dealt with in secrecy. Hence information and knowledge about menstruation and menstrual hygiene among adolescent girls there is inadequate.

The study explores the factors influencing the understanding, experiences and practices of menstrual hygiene among adolescent girls in secondary schools in Mongu District, Western Province of Zambia.

Methodology: A Qualitative Exploratory Study was used to reveal the participants' perceptions, practices and experiences relative to menstrual hygiene. Six Focus Group Discussions (FGDs) were conducted to gather information from 51 girls aged 13 to 20 from three secondary schools. The FGDs were audio-taped and transcribed verbatim. Data analysis was undertaken by means of Thematic Content Analysis. The patterns of experiences were derived from the transcripts, either from direct quotes or through paraphrasing common ideas. Data from all the transcripts relating to the classified patterns were identified and placed under the relevant theme. Thereafter, related patterns were combined and listed as sub-themes. The analysis involved linking discussions on similar themes and examining how they relate to the differences between the six groups that assisted in understanding the phenomenon of menstrual hygiene.

Results: The study revealed that the girls' understanding of the menstrual process prior to the onset of menarche was inadequate, thereby causing panic, anxiety and embarrassment among them. The inadequacy of information and lack of knowledge and awareness about the coming of age was induced by cultural beliefs and taboos associated with menstruation. Poverty, both personal and structural, emerged as important socio-economic barriers and impacted negatively on the menstrual hygiene practices adopted by the girls. Other factors found to be impacting on menstrual hygiene were inadequate water supply, gender-unfriendly sanitation facilities in the schools and homes and gender discrimination.

Conclusion: The mentioned factors were found to lead to infections and other health problems among the girls. They also lead to inconveniences and infringement on their rights. Both individually and in combination, they created an atmosphere of emotional and psychological stress, ultimately leading to poor school performance and dropping out. From this research it has been discovered that we are a long way from having a proper menstrual management system for our girls. It is recommended therefore that all stakeholders, i.e. parents, teachers, children, government and the community cooperate to generate solutions for creating safe menstrual care and hence a better and dignified future for our adolescent girls. This calls for an all-out advocacy for policy changes at national level wherein menstrual hygiene is to be incorporated into the Public Health Act CAP 295 of the laws of Zambia under Section 75 regulation 81 (school sanitation) and the national water and sanitation strategy. The Ministry of Education should include menstrual hygiene and management in the school curricula both in primary and secondary school levels. Last but not the least, there should be conducted further studies in the area of reproductive health and menstrual hygiene in schools.

CHAPTER 1: INTRODUCTION

1.1. BACKGROUND

1.1.1 OVERVIEW OF MENSTRUAL HYGIENE

Globally about 52% of the female population is of reproductive age, meaning menstruation is part of their normal life and menstrual hygiene is therefore an essential part of basic hygienic practices (House, Mahon & Cavill, 2012). In most developing countries, including Zambia, menstruation, though a natural process, has been, and still is, dealt with in secrecy (Warenius, Pettersson, Nissen, Hojer, Chishima & Faxelid, 2007; Patkar & Bharadwaj, 2004; Mahon & Fernandes 2010). Mainly this is due to cultural taboos related to sexuality and reproductive health. This demonstrates poor knowledge and information about reproductive functions and reproductive health and associated problems amongst adolescents (Warenius *et al*, 2007; Mahon & Fernandes 2010).

Adolescence is understood as a stage in the lives of females, which indicates their transition from girlhood to womanhood. This also constitutes an important milestone, which is marked by the onset of menarche (Dhingra, Kumar & Kour, 2009; Nagar & Aimol, 2011). From this stage onwards until menopause, reproductive health and menstrual hygiene are important aspects in the lives of females. There is however not much attention paid to adolescent girls' specific health needs, notwithstanding that doing so would lay a good foundation for their physical and mental wellbeing and their ability to cope with the heavy demands of reproductive health later in life (Narayan, Srinivasa, Pelto & Veerammal, 2001; Nagar & Aimol, 2011; House, Mahon & Cavill, 2012). In a worst case scenario, the latter may include unwanted pregnancies, urinary tract infections (UTI) and pelvic inflammatory diseases (MoH, 2000; Omidvar & Begum 2010; Narayan *et al*, 2001).

Important aspects of reproductive health services, which include information dissemination, guidance and support, are challenging responsibilities for the health care and education systems in Zambia (MoH, 2000; Warenius *et al*, 2007). Warenius *et al*. (2007) also found that gender norms and values related to culture and religion are influential barriers to communication on reproductive health issues among adolescents in the Zambian society.

Menstrual hygiene, which refers to the effective management of menstrual bleeding by women and girls, is an important aspect of reproductive health, which if not handled

appropriately can cause infections of the urinary tract, pelvic inflammatory diseases and vaginal thrush, as well as bad odor, soiled garments and ultimately shame, leading to infringement on the girls' dignity (Oche, Umar, Gana & Ango, 2012).

Even though women spend around six to seven years of their lives menstruating (meaning on the average, a mature woman menstruates 3-5 days every month), key conditions necessary to understanding the process tend to be neglected by the authorities in charge of the relevant sectors of education, health, and water and sanitation. This includes knowledge of menstrual hygiene, presence of the necessary facilities and the proper social and cultural environment to manage menstruation hygienically and with dignity, (Mahon & Fernandes 2010; Lawan, Nafisa & Aisha, 2010; Ten, 2007; Patkar & Bharadwaj, 2004).

Despite its significant link to water, sanitation and hygiene promotion, menstrual hygiene is not properly addressed in the sanitation and hygiene component of the [Zambian] National Rural Water Supply and Sanitation Programme (NRWSSP) of 2007 (MLGH, 2010). Menstrual hygiene is not mentioned either in the National Sanitation and Hygiene Component document on gender mainstreaming despite the fact that one of the document's objectives is to reduce morbidity and mortality caused by exposure to agents of disease, which are exacerbated by environmental hazards (MLGH, 2009). Priority areas in the sanitation component are mainly on sanitation, solid waste management and hygiene education; there is no consideration, not even mention of the special demands of adolescent girls (and women) on the design and construction of latrines. The same applies to the hygiene education packages for school sanitation (MLGH, 2010). Add to this the fact that Zambian preventive health programmes fail to address the demands of girls and women and in the majority of cases, just ignore them (Warenius *et al*, 2007).

Another important aspect of menstrual hygiene is its interrelationship with the Millennium Development Goals (MDGs) wherein menstrual hygiene has rarely been acknowledged, despite it being a matter of fact that 'measures to adequately address menstrual hygiene, will directly contribute to MDG-7 on environmental sustainability (target number 10 on basic sanitation)' (Shanbhag, Shilpa, D'Souza, Josphine, Singh & Goud, 2012: p.1361). Menstrual hygiene also has an environmental impact in that it creates a waste problem if there are no proper management strategies at hand (Ten, 2007). Furthermore, 'due to its indirect effects on school absenteeism and gender discrepancy, poor menstrual hygiene may seriously hamper the realization of MDG-2 on universal education (target number 3) and MDG-3 on gender

equality and women's empowerment (target number 4)' (Shanbhag *et. al*, 2012: p.1361). However, this issue is far from being attended to sufficiently (Ten, 2007).

Traditional norms and beliefs, socio-economic conditions, and the physical infrastructure, influence the practices related to menstruation. For example, according to cultural traditions, a woman must abstain from cooking and salting food, as it is a taboo to do so when menstruating. Women and girls in villages and from poor families cannot get hold of and/or afford sanitary pads which would normally be changed around two to four times a day during menstruation. Instead, the majority of women and girls use rags, usually torn from old blankets, or chitinges (traditional cotton shawls which African women wrap around their waists) and tissue of any kind. The rags are washed often with inadequate and unsafe water and without soap, and used repeatedly. The gender- unfriendly general infrastructure, especially in educational institutions, and the lack of adequate menstrual protection alternatives in terms of clean, safe and private sanitation facilities for girls in schools undermine girls' right of privacy, resulting in a fundamental infringement of their human rights (Patkar & Bharadwaj, 2004).

Some of the described practices, especially when coupled with poor or lack of knowledge are responsible for significantly high rate of school absenteeism, as well as seclusion from social activities, illness and infections, and bad reproductive health of adolescent females and women in Zambia (Warenius *et al*, 2007).

1.1.2 DESCRIPTION OF RESEARCH SETTING

The study is set in Mongu District, one of the seven districts in the Western Province of Zambia, situated 620 kilometers to the West of the capital of Zambia (Lusaka). The district covers an area of 10,075 square kilometers. It shares boundaries with four other districts namely Kalabo, Kaoma, Lukulu and Senanga.

To the West of the district are the Barotse flood plains and to the East there is higher land savannah type bushy/forest areas with deep Kalahari sandy terrain. The plains are flooded from December to July; the plain inhabitants shift during the flood period to higher lands, in the dry season to lower lands, respectively.

There are three administrative structures in the district: District Administration or the Central Government headed by the District Commissioner; Local Authority (Municipal Council) and

Traditional Authority headed by the (Litunga) Lozi king. In the Western Province, the traditional structure is very influential, amongst others because of the colonial history. The Western Province before independence was not a colony but a protectorate and an independent kingdom. Upon independence, the Protectorate Barotseland joined Zambia. The king still has certain powers under the Barotseland Agreement of 1964. The dominant ethnic group in Mongu District is the Lozis, who are known for their conservatism and traditionalism. In the lives of the majority of them, old beliefs, superstitions and taboos remain important.

According to Zambia Demographic Health Survey (ZDHS, 2007), poverty levels in Mongu District, just like in any other district in the Western Province is high; it is estimated at 62%. The economy of the district is dominated by subsistence farming, meaning that maize and cassava are grown for consumption and rice for sale. There are also some fishing activities along the Zambezi River. Livestock is mainly sold when the need to raise large sums arises such as paying for school fees or for hospital bills. There are very few big industrial enterprises, which are limited to the provincial capital Mongu, the biggest town in the province. Among the bigger enterprises are Mongu Joinery, a cashew processing plant and APG Milling, each of them having less than 50 employees (CSO, 2010).

The district's health system is grossly insufficient, with only one hospital serving as a Provincial General Hospital with a capacity of 65 beds. The HIV/AIDS rate in the district is very high at 19%, and so is the rate of teenage pregnancies at 44% (ZDHS, 2007).

The district has nine secondary schools with a total enrolment of 3,961 pupils, of which 1,886 are girls aged 12 to 22 (MoE, 2012). This study was conducted at three of the nine secondary schools. The first, Lukalanya High School is a core education government boarding secondary school about 100 kilometers from Mongu. The school has neither electricity nor running water. It uses pit latrines for sewage disposal. The second school, Sefula Secondary School, is a mission core education institution situated about 15 kilometers from Mongu along the Mongu-Senanga road. The school has electricity and is connected to the municipality's water and sewerage system. Holy Cross Girls' Secondary, the third school, is another mission school, run by catholic nuns. It is situated along the Mongu-Limulunga road about 15 kilometers from Mongu. The school is a day school for girls only. It is connected to the electricity network and to the municipality's water and sewerage system.

1.2. PROBLEM STATEMENT

Menstrual hygiene is an issue that every woman of reproductive age is faced with in Zambia. School-age girls in Zambia are insufficiently informed about reproductive health in general and in particular about the process of menstruation as well as the physical and psychological changes associated with puberty and coming of age. In Zambia, the issue of menstruation is rarely mentioned publicly, due to cultural taboos. Furthermore there is no mandate in the Zambian educational institutions to help girls in managing their menstruation. Neither are there gender-friendly school toilets, nor is there readiness on the part of the teachers to assist menstruating girls through the provision of advice or information (Warenius *et al*, 2007).

1.3. RATIONALE FOR THE STUDY

Since there is inadequate information on menstrual hygiene among adolescent girls in Zambia, this study will identify issues relevant to perception, practices, social and health factors and challenges of menstrual hygiene among school going adolescent girls. The study also intends to identify necessary actions to be taken at local and national levels, through which the menstrual hygiene problems of adolescent girls can be addressed. At least in the long term, reproductive health problems of women in rural Zambia may be diminished by these actions. It is also hoped that the findings from the study will generate further interest in the research field of reproductive health and menstrual hygiene in the context of rural Zambia.

1.4. THESIS OUTLINE

Chapter one describes the background, the problem statement, and the rationale for the research topic. Furthermore the chapter explains how important knowledge and adequate water and sanitation facilities are in relation to menstrual hygiene locally and globally.

Chapter two looks at the literature, providing an overview of menstrual hygiene, factors impacting on menstrual hygiene and problems associated with poor menstrual hygiene. The chapter also explores the context of the research problem through a critical review of past and recent studies of menstrual hygiene in other developing countries.

Chapter three describes the methodology which includes research aims and objectives, study design, sampling procedures, data collection methods, data analysis and ethical considerations.

Chapter four presents the results of the study and their interpretation.

Chapter five contains the discussions of the study findings.

Chapter six provides the conclusion and recommendations.

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

This chapter reviews studies pertinent to menstrual hygiene of adolescent girls, all of them recently conducted in developing countries. The main emphasis is on examples from Africa and Asia.

2.2 OVERVIEW

A number of globally conducted studies on reproductive health found that supporting menstrual hygiene is vital for females in relation to Water Supply, Sanitation and Hygiene Education (WASHE) (Lawan *et al*, 2010). The studies disclosed that access to adequate information on menstruation and reproductive health can help girls and women in understanding their menstrual cycle and in relation thereto, practicing proper menstrual hygiene. This would enable females to live healthy, productive and dignified lives (Joshi & Fawcett, 2001; Ten, 2007; Nagar & Aimol, 2011). The studies also observed the necessity of girls and women having adequate access to clean water for bathing and laundering of their menstrual paraphernalia, and space for drying such materials. They also need privacy for changing sanitary napkins and proper facilities to dispose of them (Joshi & Fawcett, 2001; Ten, 2007; Lawan *et al*, 2010; Nagar & Aimol, 2011).

2.3 CULTURAL BELIEFS, TABOOS AND RITUALS

The following paragraph is dealing with cultural prejudices and misconceptions associated with menstruation and menstrual hygiene.

The string of examples of misconceptions and prejudices, starts with two cross-sectional studies undertaken in India which report insufficiently acknowledged problems with menstruation in general, based on social, cultural and/or religious taboos concerning blood, menstruating females and menstrual hygiene (Ten, 2007; Kumar & Srivastava, 2011). A main finding is that when women and girls are menstruating their mobility and behaviour are restricted or controlled, due to myths, misconceptions, superstitions and [cultural and/or religious] taboos, that menstruating females are found to be unclean (Ten, 2007; Kumar & Srivastava, 2011). As explained in the two studies, taboos and rituals surrounding menstruation exclude women and girls from important aspects of the social and cultural life. For example, Hindu women when menstruating must abstain from cooking and worshipping. They are obliged to stay away from their families because of the notion of impurity and

pollution (Ten, 2007; Kumar & Srivastava, 2011).

The myth and hence the belief that menstruating women are unclean and polluting, is widespread in the cultures of many developing countries. It includes the myth that women's excretions are considered to be polluting during menstruation (and childbirth as well) (Joshi & Fawcett, 2001; Ten, 2007; Ahmed & Yesmin, 2008; Kumar & Srivastava, 2011). Such myths have a long history, amongst others they are even sustained in the Bible, in Leviticus; 15 verses 19 to 20, where it is mentioned that, 'if a woman is menstruating she should be excluded from the community for seven days, and whoever comes into contact with her or whatever she touches is considered unclean and impure'. This kind of social exclusion of women during menstruation in Jewish tradition is further mentioned by Patkar and Bharadwaj (2004) and Ten (2007). These authors also reveal that similar taboos apply under Islamic law, wherein it is stated that menstruating women are prohibited from touching the Koran, from praying, and from entering the mosque, as well as from fasting and having sex.

The studies undertaken by Bosch and Hutter (2002), Patkar and Bharadwaj (2004) and that of Ten (2007) reveal that exclusion of menstruating women from public is a wide-spread phenomenon in developing countries. The study by Ten (2007) also reports that menstruating women are prevented from moving freely and from preparing food for others but themselves, and from working in the rice fields. Another study, this time of Creoles and Maroons in Surinam at the Western coast of South America, shows an even higher degree of exclusion than the first mentioned examples. Not only are menstruating women not allowed to do domestic work i.e. cooking, or to share the bed or a room with their partner. They are either isolated in separate huts at the far end of the village, or they are confined to a room in the house. Furthermore, menstruating women must use their own crockery to cook their meals. After menstruation they must wash the clothes they were wearing when menstruating, and they must clean themselves using a vaginal steam bath before re-joining the family (Ten, 2007).

There are many examples of the exclusion of menstruating women from public and social life. Other examples come from the (Meso-American) Mayas and from ancient Japan. In both cases menstruating women were confined to sacred huts for rituals. The rituals were termed by the communities as exchange of experiences and wisdom. According to Ten (2007: p.6) 'such custom still exists in some Asian and African cultures... it is believed that menstrual

blood pollutes the home'. Another example is described from North America, from where it is reported that the traditional doctors forbid menstruating women to enter their sacred huts, as they are considered unholy, and as such polluting (Ten, 2007).

A major concern highlighted in several studies is the impact of cultural practices related to menstrual hygiene on girls' access to education, or more precisely, lack of access to it. A study undertaken in South India reports a case in which half of the girls attending a school were withdrawn once they had reached menarche, so that they could be married off. This is either because of the shame and danger associated with being an unmarried pubescent girl or because menstruation is regarded as a sign of readiness for marriage (Ten 2007), or because of a combination of both. In line with this, Sommer (2008) in his study of girls' experiences of menstruation and schooling in Kilimanjaro, Northern Tanzania, revealed that in sub-Saharan Africa social pressure is also frequently employed to force girls, once they have reached reproductive age, to enter into early marriages, which also forces them to quit school.

A cultural practice in Bangladesh is when a girl comes of age, an initiation ritual is performed. This is considered a big occasion where relatives and friends are invited (Ten 2007). Similar findings are reported from the Creoles and Maroons of Surinam, Ten (2007), where girls who have come of age would be provided with gifts such as jewelry as a sign of maturity, and from a study of the social dimensions of the ritual celebrations of menarche and menstruation in India (Narayan *et al*, 2001). The latter study reports in particular about the so called turmeric bathing ceremony, which is popular in Tamil Nadu/South India. Here relatives and friends are invited to celebrate and the girls also receive expensive gifts (Narayan *et al*, 2001). This traditional ritual includes strict rules of seclusion, one of which is that the girl is confined to a hut or room, where she undergoes ritual bathing. During the seclusion the girl is not supposed to go out unaccompanied. Women help her bathing and she is not allowed to touch particular food items, such as salt, rice and tamarind (Narayan *et al*, 2001).

Coming-of-age related cultural and ritual practices are also described in a study undertaken in Malawi (Pillitteri, 2011). Among certain ethnic groups in Malawi the first menarche is characterized by puberty rituals, which signify a form of separation in that the girls can no longer share their parents' or families' bath shelters, but are instructed to use their own. As seen in other cultures, the girls are also advised to stop playing with friends who have not

reached menarche. Other rituals common to these ethnic groups have grave negative impacts on girls' sexual maturity. It is not an uncommon practice that girls are forced to have sexual intercourse with a *Fisi* (traditional doctor) in order to initiate them sexually (Pillitteri, 2011). This proves that traditionally, when a girl reaches menarche she is found to be ready for marriage. It is beyond doubt that among the many other physical and mental hazards associated with being forced to have sexual intercourse, there is a high risk of attracting STIs and HIV infections. Add to this the risk of unwanted pregnancies and the ultimate threat of illegal abortions (Pillitteri, 2011).

In the cited study on Surinam it is also reported there is a belief that menstrual blood can be dangerous as it can be used for black magic; it is also believed that it can be used for making love potions (Ten, 2007). This again coincides with the Malawian study by Pillitteri (2011), wherein it is reported that there is a belief that menstrual blood can be used for witchcraft leading to prolonged bleeding, sterility or even death (Pillitteri, 2011). In Southern Africa, there is the creed that 'menstrual blood is... dangerous to men and also to the fertility of cattle and of crops' (Kuper, 1982: p. 19 as cited by Ten, 2007). This is confirmed by plentiful examples not only from Southern Africa, but also from West, East and Central Africa and from South America as well. They have in common the belief that menstrual blood, or used pads and cloth, are assigned magical powers and even witchcraft: In Surinam, a menstruating woman may not touch a dead body, because her being unclean is believed to make the body smell (Ten, 2007). Ten, (2007) further reports that in Western Uganda, menstruating women are not allowed to drink milk, as this would turn cow milk bloody; in Eastern Uganda menstruating women are not allowed to plant groundnuts, out of fear that this would affect the yield; and in Sierra Leone, it is believed that spent sanitary pads can be used by witches to bring about sterility (Ten, 2007). Similarly, Oche *et al.*'s (2012) cross-sectional study of Sokoto, Nigeria reports the belief that menstrual blood can attract witches who use it in black magic rituals, if not disposed of properly. Hence it is believed that used pads must be burnt. This is contrary to the findings of a study from South Eastern Nigeria, reporting the myth that burning of used pads or other absorbent materials can result in cancer and infertility (Umeora *et al*, 2008 as cited by Oche *et al*, 2012).

There are many examples of myths espousing the belief that menstruating women and their blood cause pollution. Amongst others, a gender survey done in West Bengal/India among Gujjar communities, reports the belief that menstruating females are impure and pollute the

water sources; hence they are therefore forbidden to use them. This means that the majority of the menstruating girls in this case would abstain from bathing (Fernandes, 2008). Add to this the report that many Muslim girls share the conviction that bathing during menstruation increases the flow of menstrual blood and causes complications during pregnancy (Kumar & Srivastava, 2011). Hence they also abstain from bathing regularly. The Kumar and Srivastava's study is in line with a cross sectional study done in Mansoura, Egypt by El-Gilanya, Badawib & AL-Fedawyb (2005), reporting the belief that bathing during menstruation is to be avoided. It is also believed that taking a cold shower retains blood, while a hot shower would increase its flow. From Saudi Arabia the same study reports the widespread superstition that bathing during menstruation is painful, or it stops blood from flowing.

The Patkar & Bharadwaj (2004) study observed that lack of policy debate; action and investments regarding menstrual hygiene and management were widespread in developing countries. The lack of policy debates was mainly due to cultural issues especially in Africa and Asia. The study recommended policy advocacy, investments and action, in terms of education and improved facilities (such as gender- friendly toilets, and access to sanitary pads) in order for adolescent girls and women to manage their menstrual needs adequately (Patkar & Bharadwaj, 2004).

These findings highlight the fact that although proper menstrual hygiene requires access to water and sanitation facilities, myths and cultural misconceptions block access to these facilities, rendering the intended users unable to use them, resulting in the risk of compromising the girls' hygienic needs (Ten, 2007; Kumar & Srivastava, 2011).

A rare and somewhat positive misperception of menstruation and menstrual blood is reported from Australia. Female aboriginal healers are said to apply cloths soaked in menstrual blood to wounds, as it is believed that wounds heal quicker and no scars occur owing to the notion of the healing powers of menstrual blood (Ten, 2007).

2.4 KNOWLEDGE AND PRACTICES OF MENSTRUATION

Other studies report inadequate or lack of knowledge about menstruation and consequently, poor menstrual hygiene practices among adolescent girls (Dasgupta & Sarkar 2008; WaterAid, 2009; Dhingra *et al*, 2009; Adinma & Adinma, 2008; Mahon & Fernandes 2010;

Thakre *et al*, 2011; Nagar & Aimol, 2011; Shanbhag *et al*, 2012). A cross-sectional study undertaken in West Bengal with 160 respondents reports that the majority of the girls did not fully understand the physical process of menstruation hence were not prepared for their first period (Dasgupta & Sarkar, 2008). The study further highlights that many girls were ignorant of scientific facts about menstruation and proper hygienic practices. The findings of the Dasgupta & Sarkar (2008) study coincide with the findings of a WaterAid (2009) cross-sectional study of adolescent girls in four government secondary schools in Nepal about girls' level of knowledge of the physiological and psychological processes of menstruation. The study used mixed methods to collect data (self-administered questionnaires, FGDs and in-depth interviews) of 204 respondents. The study reported inadequate knowledge of the process of menstruation among the respondents, and revealed that the girls' perceptions were mainly influenced by cultural beliefs (WaterAid, 2009). This complies with the findings of yet another study on the knowledge of menstrual hygiene issues, this time amongst Gujjar girls in a semi-nomadic tribal group in the states of Jammu and Kashmir in India. The study was based on data collected from 200 girls aged between 13 and 15 years. It presented the respondents' knowledge of these issues to be very poor - the common belief being that menstruation is the removal of bad blood from the body necessary to avoid infections (Dhingra *et al*, 2009). Evidence gathered from these studies in South Asia reveal that formal education about reproductive health is very limited among girls attending school (WaterAid, 2009). Mahon and Fernandes (2010), in another study, revealed that girls' information on menstruation is mainly about ritual practices, cultural issues and behavioural cautiousness towards males. There was very little or no information regarding the physiological process. The study also revealed the lack of awareness of menstruation management practices, and a very limited access to facilities needed to maintain good menstrual hygiene (Mahon & Fernandes, 2010). Furthermore, in yet another study Shanbhag *et al*. (2012) testified inadequate knowledge of the menstruation process among school girls. The majority of the girls in the study have heard about menstruation, but none of them understood its process (Shanbhag *et al*, 2012).

A descriptive study undertaken by Anjum, Zehra, Haider, Rani, Siddique and Munir (2010) at Isra University Hyderabad in India to determine knowledge and different attitudes towards menstruation among local young women, indicated that adolescent girls, compared to their age mates in Western societies, were not prepared for the menstrual process. The study revealed that the girls responded very emotionally when they were faced with their first

period; about 53% of them felt embarrassed. The study recommended early education about menstruation before puberty to prepare the girls emotionally.

The findings of the South East Asian studies are consistent with the findings of a cross-sectional study carried out by Adinma and Adinma (2008) among 550 secondary school girls in Southern Nigeria. In this study, it was reported that the poor or lack of understanding of menstruation among school girls is a result of a lack of information. This is supported by the findings of a cross-sectional study by Thakre *et al.* (2011) carried out in Nagpur District/India, wherein the girls' knowledge of menstruation was reported to be poor, with a majority of them not being aware of the causes of bleeding (81% of 397 respondents) (Thakre *et al.*, 2011). The Thakre *et al.*'s study coincides with Nagar and Aimol's (2011) study of the adolescent girls' knowledge of menstruation in the tribal area of Maghalaya in India. Most of the 100 adolescent school girls aged 13 to 18 in the study did not understand or know the meaning of the phenomenon of menstruation. The two last mentioned studies confirm that knowledge of the female menstrual cycle is an important reproductive health issue for adolescent girls and should be incorporated in schools' curricula and home education, to enable girls to manage their menstruation adequately and live a healthy life (Thakre *et al.*, 2011; Nagar & Aimol, 2011). Other studies such as Lawan *et al.* (2010) of Kano in Nigeria report differences in the levels of knowledge among urban and rural school girls, which are related to different levels of exposure to information about reproductive health. Due to their exposure to various media borne information, girls in urban schools were found to be better informed and more knowledgeable than rural girls (Lawan *et al.*, 2010). This is in line with a cross-sectional study carried out in nine secondary schools in Sokoto/Nigeria among 122 girls which aimed to assess knowledge and practices related to menstruation by Oche *et al.* (2012). The study reported that urban girls applied better hygienic practices than rural girls, the reason being that knowledge-wise the urban girls were better off than their rural sisters.

Only one recent study of women and girls in Eastern Nigeria indicates an adequate level of knowledge of menstruation and menstrual hygiene, though the community still lacked confidence to discuss the issue openly. During the FGD, which was undertaken in the course of the study, the women were quiet for a while before one of them broke the silence by saying that, 'every woman in the village knows that she has to wash her private parts with soap and water daily to avoid bad odor, especially during the time of her flows (menses)' (Nkandi, 2011: p. 5). In general however women were not very keen to discuss issues such as

menstruation and female body organs, which they regarded as social taboos and hence shameful to be mentioned in public (Nkandi, 2011).

The above studies confirm the value of adequate information, and further, the fact that knowledge can influence attitudes towards good hygiene, behavioural practices and proper menstrual hygiene significantly. Therefore it is very important to prepare adolescent girls prior to menarche sufficiently by educating them on menstruation and menstrual hygiene.

2.5 SOCIO-ECONOMIC FACTORS

Several studies show that the socio-economic status of a girl or her family can affect behaviour related to menstrual hygiene (Ten, 2007; Dasgupta & Sarkar, 2008; Omidvar & Begum, 2010; Nagar & Aimol, 2011; Kumar & Srivastava, 2011; Thakre *et al.*, 2011; Shanbhag *et al.*, 2012). A study undertaken in West Bengal revealed that only few of the responding girls (11% out of 160 participants) could afford disposable sanitary pads due to their families' low socio-economic status, hence they used rags torn from old clothes (Dasgupta & Sarkar, 2008). Kumar & Srivastava's (2011) cross-sectional study of 117 adolescent girls and 41 mothers in Ranchi, India shows similar findings indicating that the socio-economic status has direct influence on the menstrual practices of girls. The study made it clear that girls from rich families could afford sanitary pads easier than girls from poor families. UNICEF (2005) reports practices among girls in Bangladesh, similar to the practices in West Bengal which are caused by poverty. Studies undertaken in Nepal and South India, specifically the one undertaken by Nagar and Aimol (2011) also underline the importance of socio-economic factors and their direct influence on girls' knowledge of reproductive health and their menstrual hygiene practices. Those girls whose parents or families were highly educated and well off had better knowledge and awareness, and therefore applied better practices than girls from low class families (Nagar & Aimol, 2011). The higher the family income, the more knowledgeable were the family female members about the various aspects of reproductive health and menstrual hygiene (Nagar & Aimol, 2011). The Nagar and Aimol (2011) study coincides with yet another study done in India by Shanbhag *et al.* (2012), reporting similar findings. There was a case in which a large majority of the participants (about 98%) reported practicing poor hygiene, which was clearly due to inadequate knowledge, limited water supply and inadequate sanitary pads, which again could be associated with low income.

The links between low income/low social status and lack of knowledge, leading to poor menstrual hygiene practices, and correspondingly between high income/high social status and good knowledge, leading to proper menstrual hygiene, is also disclosed in a very recent study by Oche *et al.* (2012) from Sokoto in Nigeria. The authors report that very few girls used unsanitary absorbent materials, and that high costs or non-availability of absorbent materials were seemingly not an issue. This was found to be attributable to the high socio-economic status of the respondents' mothers in terms of education and gainful employment. Once again, similar findings are reported in yet another study from Southern India (Omidvar & Begum, 2010 as cited by Oche *et al.*, 2012).

2.6 LACK OF SERVICES AND FACILITIES

Other studies look at how the lack of services and facilities required for menstrual hygiene impacts girls' access to education (Fernandes, 2008; WaterAid, 2009; WRC, 2011). In the previously quoted cross-sectional study of Nepal, over half of the girls reported regular absence from school during menstruation, the reason being schools' inability to provide privacy for cleaning and washing on the days when they bleed heavily. On these days they need to change cloth or pads at least two or three times during school hours. There was further the lack of disposal systems for used cloth or pads, forcing the girls to store their used applicators in pockets or school bags. Furthermore since there were no water facilities in the toilets, the girls had to fetch water, which reduced their time for classes (WaterAid, 2009). The girls also revealed that they tend to perform academically poor when having their periods out of fear that boys might get onto their condition. Hence, they were more concerned about concealing the same than concentrating on learning (WaterAid, 2009).

The above complies with the findings of Pillitteri's (2011) previously quoted study of menstrual hygiene and management of school going girls in Malawi. The study reported that poor menstrual hygiene and management in schools in Malawi contributes to girls' high rates of absenteeism and poor performance. In the same study it was also observed that the sanitation facilities and infrastructures for girls in all schools were inadequate as they do not meet the required minimum standard ratio of 1:30 for toilets as suggested by World Health Organisation (WHO, 2010). Pillitteri (2011) in the cited study also reported that as opposed to schools in rural areas there were quite often, enough toilets in urban schools, but most of them were blocked due to inadequate water supply and/or poor maintenance. Most of the interviewed girls reported that 'We go to the toilet, and then we eat with shit or blood on our

hands' (Pillitteri, 2011: p.10). Further, toilet design was poor and did not provide privacy. 'Nobody cares about the toilets here... We have no doors and [no] water. It's better to stay at home when you menstruate' (Pillitteri, 2011: p.9). This means that most girls were absent from school during menstruation (Pillitteri, 2011). Similar findings were reported by a survey in India in which 28% of the female students disclosed missing school while menstruating, due to lack of facilities for maintaining proper menstrual hygiene (WaterAid, 2009).

Lack of or inadequate facilities are reported in many other studies, among them the earlier-quoted study by Sommer (2008), which reported gender- unfriendly conditions in schools in Kilimanjaro, Tanzania, and again in a cross-sectional study undertaken in Nigeria by Adinma and Adinma (2008). The latter also mentioned that many girls feared staining their dresses, resulting in mental stress, which ultimately can lead to depression (Fernandes, 2008; Adinma & Adinma, 2008). As for South Africa, the National Research and Surveys of 2011 reported up to 30% of girls being absent from school for about four days in a month while menstruating due to the lack of sanitary pads and fear of staining their uniforms (WRC, 2011). This coincides with the findings of the earlier quoted study done in Malawi (Pillitteri 2011). During the FGDs on which the study is based, many girls reported that they feared staining their school uniforms, which regularly resulted in teasing and harassment by their male school mates. If they had stained their garments, or generally on the days they were having heavy flows, they would not rise from their seats until everybody else had left the classroom, out of fear that standing up would reveal the stains, or even worse would disclose drips on the floor. The girls were also embarrassed as the rags they were using as absorbent materials were bulky and could be seen through their uniforms (Pillitteri, 2011). The FGDs also revealed that girls lost about one to three school days per month due to menstruation.

Pillitteri (2011) moreover disclosed that boarding school girls usually go to their dormitories to change and wash, as there rarely are sanitation facilities at the classroom blocks. They also wash their used menstrual cloth at night and dry them under their beds. This shows that maintaining good menstrual hygiene is very difficult. The girls do not have adequate facilities for washing themselves and laundering their menstrual cloth, let alone a place for drying them. The girls reported that sometimes the cotton rags they wear as absorbents are damp, causing itching and bad smell (Pillitteri, 2011). The FGDs carried out by Pillitteri also revealed that schools lack sanitary disposal bins and incinerators so that the girls have no option but to hide the used sanitary materials under their mattresses or in bags, in order to

dispose of them at a more convenient time (Pillitteri, 2011). Furthermore the girls said that due to lack of privacy in their boarding schools, they have to get up as early as 04:00 a.m. to shower, out of fear of being noticed. This shows that lack of facilities and services for menstruating girls is prone to cause psychological stress, which, as stated elsewhere, can lead to depression (Pillitteri, 2011).

Add to this that similar findings on lack of or inadequate facilities were also reported in a cross-sectional study done in Egypt among adolescent school girls. 97% of the study participants complained about lacking facilities and privacy in schools for disposal and changing of pads. Only 6.7% of the participants reported that they changed pads in school (EI-Gilanya, Badawib & AL-Fedawy, 2005).

Menstrual hygiene also has an environmental impact, in that it constitutes a waste problem, which again is a result of the fact that adequate waste management infrastructures are rare in developing countries. According to Patkar and Bharadwaj (2004) an average woman generates 125 to 150 kg of tampons, pads and other applicators in her lifetime. In the developing world, this bulk ends up in garbage dumps. Putting it another way, the problem on menstrual hygiene is not adequately acknowledged with regard to MDG 7 (which is about ensuring environmental sustainability) in that most of the schools do not consider the issue of providing environmentally friendly disposal of tampons, pads and applicators (Ten, 2007).

In the quoted studies, it was noted that inadequate facilities and services have a negative impact on menstrual hygiene of school girls. In addition, these studies show there is an unfortunate relationship between the neglect of menstrual hygiene within development initiatives for WASHE, and low levels of awareness amongst the respondents. The negative effects of this neglect are far-reaching in the lives of the individual girls and women and in a greater context on the achievement of wider development goals (Ten, 2007).

2.7 INFECTIONS AND OTHER HEALTH PROBLEMS

Other studies identify clear links between poor menstrual hygiene and health problems such as Urinary and Reproductive Tract Infections (UTI) (Narayan *et al*, 2001; Ahmed & Yesmin, 2008; Omidvar & Begum, 2010). There is a higher risk of infections during menstruation when the cervix opens up and creates a pathway for bacteria to enter the uterus and pelvic cavity. In scientific terms the pH in the vagina is less acidic and this creates a good

environment for yeast infections such as Candidiasis during this period (House, Mahon & Cavill, 2012).

Moreover, as reported in a cross sectional survey, an additional source of infection is presented by 'the type of absorbent used during menstruation,' which is said to be 'of paramount importance since reusable materials could cause infections if improperly cleaned and poorly stored' (Oche *et al*, 2012: p. 416).

In developing countries, the health risk potential posed by improper absorbents is significant. Several studies report that a majority of girls in rural areas use unsanitary absorbent materials, such as rags and toilet paper, which can harbour infectious agents. Such agents thrive under blood culture medium hence constitute a source for UTI and pelvic infections. Maintaining a high standard of hygiene practices under such circumstances is difficult (Dasgupta & Sarkar, 2008; WaterAid, 2009; Dhingra *et al.*, 2009; Adinma & Adinma, 2008; Mahon & Fernandes, 2010; Thakre *et al*, 2011; Oche *et al*, 2012). The above is confirmed by a Bangladesh survey and a cross-sectional study undertaken in South India. All four studies report vaginal scabies, abnormal discharge and UTI associated with poor menstrual hygiene (Narayan *et al*, 2001; Ahmed & Yesmin, 2008; Omidvar & Begum, 2010; Shanbhag *et al*, 2012). The findings of the above studies are confirmed by yet another study done in the Warha District in India, reporting that a majority of the girls who developed genital tract infections were using cloths, instead of sanitary pads (Oche *et al*, 2012).

To maintain good hygienic standards, it is important to kill harmful bacteria that cause infections by washing cloths used as sanitary pads properly with soap and water and drying them under the sun. However, it has been shown that this is most often not possible for school girls in developing countries. The lack of necessary facilities, including safe water and appropriate toilet facilities, and the absence of opportunities and proper amenities to keep clean and change pads and menstrual cloths as needed hinder many of the girls from putting to use proper practices of menstrual hygiene. This poses a health risk to them (Narayan *et al*, 2001; Ahmed & Yesmin, 2008; Dasgupta & Sarkar, 2009; Dhingra *et al*, 2009; Omidvar & Begum, 2010; Kumar & Srivastava, 2011).

As a conclusion of this sub-chapter, the study by Shanbhag *et al.* (2012) shall be quoted. As they rightly say, coming to terms with, or 'understanding the health problems related to menstruation and the health seeking behaviour of adolescent girls, their awareness about

pregnancy and reproductive health will help in planning programmes for this vulnerable group' (Shanbhag *et al*, 2012: p.1359).

2.8 SUMMARY

Ignorance of or being unable to apply proper means of menstrual hygiene has a negative impact on the physical and mental wellbeing of girls, as well as their educational opportunities in developing countries (Ten, 2007). Improving girls' menstrual hygiene practices and providing more insight in the female reproductive cycle are hence of paramount importance (Dasgupta & Sarkar, 2008).

CHAPTER 3: METHODOLOGY

3.1 INTRODUCTION

The following chapter describes the methodology employed in this study. It outlines the study's aim and objectives, its design and describes the research setting; it further delineates the study population, as well as the sampling, the data collection and analysis. Last but not least it explains and discusses rigour and ethical considerations underlying the study.

3.2 AIM

The aim of the study was to explore the factors influencing the understanding, experiences and practices of menstrual hygiene among adolescent girls in secondary schools in Mongu District, Zambia.

3.3 OBJECTIVES

The objectives of the study were:

- To explore the understanding and awareness of menstrual hygiene among adolescent school girls.
- To explore the cultural factors influencing the perceptions the girls have about menstrual hygiene.
- To describe the practices of managing menstrual hygiene among adolescent school girls.
- To describe the experiences and circumstances at school that impact on the girls' menstrual hygiene.

3.4 STUDY DESIGN

An **explorative study** design was used to look into the perceptions, practices and experiences of girls associated with menstrual hygiene. This design was found most appropriate as it employs qualitative methods to gain an understanding and insight of the phenomenon of menstrual hygiene. It also has the benefit of a naturalistic approach, meaning the researcher and her assistant could interact with the participants and understand them. The latter were also taken seriously and appreciated as human beings (Pope & Mays, 1995). The researcher and her assistant conducted the interviews within the participants' own environments (the schools), which helped make them feel at ease and respond authentically. The researcher used

multiple approaches for collecting data, namely tape recording and note taking of discussions, combined with interactions with participants and observations of their non-verbal communications (Pope & Mays, 1995).

The employment of a variety of data collecting approaches enabled the researcher to explore in-depth the problems related to menstrual hygiene of adolescent girls, understand their perceptions and sources of information about menstruation, as well as their practices and experiences during menstruation (Brink *et al*, 2006). Further relevant factors associated with menstrual hygiene, including social factors and challenges the girls were facing could be explored in-depth through an iterative process (Green & Thorogood, 2004). This would allow the study to identify necessary actions to be taken at local and national level for addressing the problems the girls were facing (Pope & Mays, 1995).

3.5 STUDY POPULATION AND SAMPLING

Brink (1999) defined a study population as a group or groups consisting of persons that are important for the research. In this study, the inclusion criteria for the study population consisted of the following: girls aged 13 to 20, in grades 9 and 12, who had reached menarche. The study participants were from three secondary schools in Mongu District. They volunteered and signified their willingness to participate in the FGDs. The exclusion criteria for the study population were girls who had not reached menarche, were pregnant or had given birth. The study units were secondary schools in the district (one government and two mission schools).

3.5.1 SAMPLING PROCEDURES

The sampling criterion for this study was purposeful sampling, meaning it was not about numbers, but about informants who could provide in-depth and rich information about experiences and meanings of the phenomenon of menstruation. Furthermore a maximum variation sampling strategy was adopted (Rice & Ezzy, 1999; Liamputtong & Ezzy, 2005), meaning the girls were divided into two groups: one group comprising of 13 to 15 years old girls (without much experience), and the other one of girls aged 16 to 20 years (with more experience). The separation into age groups was meant to help especially the 13 to 15 years old girls to discuss more freely amongst themselves and with the researcher than it would have been possible if they had been merged with the older girls, who might have dominated or even intimidated them.

The researcher held preliminary meetings with the school authorities in each of the schools to explain the purpose of the study. Each school principal was asked to assign a female teacher to help the researcher in identifying the respondents meeting the inclusion criteria within identified grades. The purpose of the study was then explained to the participating girls. For potential participants below the age of 18 the researcher obtained permission from the parents/guardians (Morrow & Richards, 1996), who were met in their homes. The purpose of interviewing their daughter/dependent was explained to the parents/guardians in the language they were comfortable with (Lozi or English). All parents consented and signed the consent forms developed for this purpose.

The researcher met with the school authorities to agree on the dates for the FGDs. The participants, i.e. the girls who had declared their willingness to participate, and, if needed, whose parents had consented, and as specified, were neither pregnant, nor had given birth, were handed out the Participant Information Sheet (Appendix 2) for perusal. On the day of the FGD they also signed Appendices 3 and 5.

3.5.2 SAMPLE SIZE

According to Patton (2002), the goal in qualitative research is not to get a sample representative of the population, meaning large numbers, but rather a sample rich in information. This study follows the approach described by Patton, by using a small sample population to study the phenomenon of menstrual hygiene in-depth and in detail. Hence a total of six FGDs were conducted with 51 respondents from the three secondary schools in the Western Province of Zambia. Two FGDs were conducted in each school (one for grade 9 and the other one for grade 12), each group comprising of eight to ten respondents. Out of the 51 girls, 26 were in grade 12, and 25 were in grade 9. The respondents were within the age limit of 13 to 20 years. They were a mixture of boarders and day scholars. They all had attained menarche and none of them had experienced pregnancy. The respondents' age at menarche span 11 to 15 years.

3.6 DATA COLLECTION

The data for this study was collected through FGDs using a guide (see Appendix 1). The FGDs were conducted both in English and in the local language (Lozi) with the researcher as the moderator. With the help of the research assistant, the FGDs were tape recorded. Notes were also taken during the FGDs. Before data collection the research assistant had been

trained in the process of note taking, operating the tape recorder, observing non-verbal communication and providing feedback to the researcher. The researcher and the research assistant were fluent in speaking and writing Lozi. The recorded data was transcribed verbatim by the researcher after each FGD. FGDs were the chosen data collection method because they enabled the girls to discuss menstrual hygiene issues among themselves, and to interact and to build on each other's comments in an open and collective way. The FGD method also enriched the data background of the study (Liamputtong & Ezzy, 2005).

The FGDs were conducted in the school halls during school hours. This was to utilise a natural setting (empathic neutrality), where the girls felt comfortable to discuss their experiences and express their opinions freely in an environment they were used to (Patton, 1990; Green & Thorogood, 2004). Data was collected from the 12th to the 15th February 2013. Each day, two FGDs were conducted with each FGD taking about one hour to one hour and 45 minutes.

3.7 DATA ANALYSIS

Data analysis is the process of structuring and bringing order and meaning to the bulk of data collected (Marshall & Rossman, 1995). This necessitates breaking up the data into manageable codes and categories and establishing themes (Mouton, 2001).

In this study a Thematic Content Analysis (TCA) was used for analysis. TCA is a process in which the text is broken down into themes and the pattern in the data is categorized (Terre-Blanche, Durrheim & Painter, 2006; Strauss & Corbin, 1990). Data analysis was done concurrently with data collection. The tape-recorded information from the FGDs was transcribed and to the extent needed, translated from Lozi into English, and organized as a thick description including both the manifest and the latent content. This was important as it helped formulating interpretations, as well as understanding hidden meanings.

After transcribing the FGDs, a thematic framework was established leading to familiarization with the data, as well as to the identification of themes, open coding, creation of categories and abstraction or interpretation of the data. This was done in order to bring meaning to the responses (Pope, Ziebland & May, 2000; Elo & Kyngas, 2007). Familiarization with the data necessitated going over the transcribed data and field notes repeatedly to give the researcher a grip of the kinds of interpretations that the data will most likely support step-by-step (Terre-

Blanche, Durrheim & Painter, 2006).

In the case of the present study, after familiarization with the data, it was possible to extract the key issues and the categories and sub-categories pertaining to menstrual hygiene, and thereafter to code and to group and arrange them as themes and sub-themes in accordance with the study objectives (Elo & Kyngas, 2007).

3.8 RIGOUR

Rigour is very important in qualitative research. It is a means of validating or judging the quality of a study in order to insure that its results and interpretations are both valid and reliable. To judge the quality of this qualitative research study, the strategies of credibility and trustworthiness or dependability were applied. In order to increase the trustworthiness or dependability of the study results, the means of member checking, triangulation, reflexivity, peer debriefing and collaboration were utilised (Malterud, 2001; Creswell & Miller, 2000).

3.8.1 CREDIBILITY

The strategies that underlie rigour for this study included internal validity and quality in all stages. There was thus utilised a systematic process of identifying questions or problems, and of setting forth plans of action to answer questions or solving of problems respectively, in order to increase the credibility of the research (Gifford, undated).

There was also applied a rigorous method of collecting data, the means being the FGDs. Furthermore the limitations of the chosen research method were outlined, and it was explained why FGDs were preferred over other research methods. The limitations of the chosen method were also discussed.

There was a clear identification of the study population in combination with the sampling procedures, together with the reason for choosing a particular procedure. Also the sample size was explained (Gifford, undated).

The training of the research assistant was another measure of rigour adding to the credibility of this study.

3.8.2 TRUSTWORTHINESS

This study obtained trustworthiness through applying the below described procedures of member checking, triangulation, reflexivity and peer debriefing (Malterud, 2001; Creswell & Miller, 2000).

3.8.2.1 Member checking or member validation

Validity in a research study deals with the truth of an interpretation, meaning the study's credibility. A critical reader of a scientific study based on qualitative research will ask: Have the right conclusions been drawn from the correct data or have only singular (anecdotic) data been selected and then interpreted (Malterud, 2001; Green & Thorogood, 2004; Shenton, 2004)? To show the reader that in this study the data was validated, and that the researcher did not fall into the trap of reporting on anecdotes, the conclusions were tested by checking the data with both the participants and the research assistant. In the case of misunderstandings or doubts, the researcher re-addressed the participants to validate her findings. Where there was need, data was rectified and conclusions were drawn in conjunction with the participants (member validation) (Sandelowski, 1993; Malterud, 2001; Green & Thorogood, 2004; Shenton, 2004). During member validation, in case the participants changed their views, the researcher just thanked them and made notes on what was said (Sandelowski, 1993).

Another approach serving to improve trustworthiness is transparency. This was sought to be achieved by making the methodological approach of the study understandable to readers using plain language, by explaining the basics of the FGDs and how the FGDG was composed. Also the data analysis was explained in clear language (Malterud, 2001; Green & Thorogood, 2004; Shenton, 2004).

3.8.2.2 Triangulation

'Triangulation is a validity procedure where researchers search for convergence among multiple and different sources of information to form themes or categories in a study' (Creswell & Miller, 2000: p.126). Two types of triangulation were used in this study: The first type is the data source triangulation, in which the researcher collects data from three schools, which are checked with a view to similarities or differences (Creswell & Miller, 2000). The second type is the comparison of the data with relevant cases in literature (Malterud, 2001; Green & Thorogood, 2004).

3.8.2.3 Reflexivity

Reflexivity is the general acknowledgement of the fact that all research is influenced by the researcher, the latter being ‘part of producing the data and their meanings’ (Green & Thorogood, 2004: p.194). In the present case the research would necessarily reflect the researcher’s gender, her social standing, values and other particulars pertaining to her as a human being, as a woman and as a mother (Malterud, 2001; Green & Thorogood, 2004). This entails the risk of the research becoming biased. The means to cope with such risks is applying reflexive awareness (Gifford, undated; Green & Thorogood, 2004), which in the present case was achieved by recording and entering into a diary all events that happened during the FGDs, as well as any feelings shown during their conduct.

The researcher is a Lozi from Western Province and has worked as a Health and Hygiene Promoter in schools and communities in Mongu District. There was thus the danger of her research being biased by her personal background, her vast experience and her values and opinions. The researcher sought to limit this bias by applying reflexive awareness, as described above. On the other hand, she greatly benefited from her experience as co-implementer of a variety of school health programmes in the district, allowing her to build cordial relationships with schools, communities and authorities. Hence the locals, the schools and the education authorities trusted her.

3.8.2.4 Peer debriefing

Peer reviewing and the process of external verification to improve trustworthiness was employed by engaging the supervisor (Dr Ruth Stern) to reading the transcripts and comparing the themes that the researcher derived from the scripts. When differences occurred in interpretations of data and transcripts, the supervisor gave feedback to the researcher and then both (researcher and supervisor) would seek consensus.

3.9 ETHICAL CONSIDERATIONS

Permission to conduct the study was obtained from the University of Western Cape (UWC) Senate Higher Degrees Committee, UWC Senate Research Committee (Appendix 6) and MoE/District Education Board Secretary’s office in Mongu District (Appendix 7). Voluntary participation in the study was ensured by explaining its indirect benefits to the parents/guardians of the participants before obtaining written consent. Informed Consent

Forms (Appendix 4) were handed out to the parents/guardians who agreed to let their daughters participate in the study. The parents/guardians were also instructed verbally. Before embarking on the FGDs, each participant was given a Participant Information Sheet for perusal (Appendix 2). Those who agreed to participate were given Informed Consent Forms (Appendix 3) both in writing and verbally. They were asked to sign the FGDs Binding Form (Appendix 5), which requested them to respect the confidentiality of the other respondents. The participants were informed that participation in the study was voluntary and that they were free to withdraw any time, without any explaining or giving reasons and without repercussions. The participants were further informed that a recording device would be used for data collection and they were assured that the recording was entirely for the purpose of verifying and clarifying and for ensuring that the information they provided was obtained accurately.

Anonymity and confidentiality were strictly adhered to by assigning numbers and pseudonyms to participants rather than using their names. Both raw and processed data were kept under lock and key and transcripts were protected by a password.

Given the sensitive nature of the study and the risk of upsetting anyone of the participants by touching sensitive issues during the FGDs, a psychosocial counselor from MoH was made available for support. However, the FGDs went on well and leaving no need to provide psychosocial counseling to any participant.

CHAPTER 4: RESULTS

4.1 INTRODUCTION

In this chapter the findings and information that emerged from the analysis of the FGDs are presented and arranged as themes and sub-themes. Quotes are used frequently to illustrate the comments made by the participants in the FGDs, henceforth also called respondents. The quotes are taken from the word-by-word transcriptions of the FGDs, which also provide more details about the participants and the interviews. After each quote the grade of the quoted girl is indicated (for example G9 means that the quote stems from a girl in grade 9, G12 indicates that the quote stems from a girl in grade 12).

4.2 DESCRIPTION OF PARTICIPANTS

Table 1 below presents a summary of relevant data of the participants in the FGDs. The first four columns are self-explanatory, column 5 (no & age of participants) shows the total number of participants in the particular FGD and their age distribution. For example, “8 (=3*18, 4*19...)” means that there were eight participants, of which three were 18 and four 19 years old, and so forth. Column 6 displays the participants’ age at menarche, following the same approach as used in column 5. Column 7 indicates the language used during the six FGDs (L= Lozi, E= English).

Table 1: Overview of participants

no	school	date & time of FGD (Feb 13)	grade	no & age of participants	age at menarche	language of FGD
1	Lukalanya High School	12; 16-17.30h	12	8 (=3*18, 4*19, 1*20)	2*11, 4*12, 1*14, 1*15	mainly L
2	Sefula Secondary School	13; 16.15-17.15h	12	8 (=3*16, 4*17, 1*18)	4*12, 2*13, 1*14, 1*15	only E
3	Sefula Secondary School	13; 17.15-18.15h	9	9 (=1*13, 4*14, 3*15, 1*16)	1*11, 3*12, 3*13, 1*14, 1*15	L and E
4	Holy Cross Girls' Secondary School	14; 13.45-15.00h	9	8 (=2*13, 3*14, 3*15)	4*12, 2*13, 2*14	only E
5	Holy Cross Girls' Secondary School	14; 15.25-16.35	12	9 (=2*16, 3*17, 3*18, 1*19)	3*12, 2*13, 3*14, 1*15	only E
6	Lukalanya High School	15; 16.55-18.35	9	9 (=3*13, 2*14, 4*15)	3*12, 3*13, 3*14	mainly L

4.3 THEMES

The main themes that emerged from the analysis of the FGDs were: knowledge, culture and traditions; facilities and services; socio-economy; gender discrimination; health and physical, mental and social wellbeing, and ultimately school performance.

4.3.1 KNOWLEDGE, CULTURE AND TRADITIONS

4.3.1.1 The standard of knowledge of the process of menstruation among mission and government school girls

The six FGDs revealed that the knowledge of the process of menstruation of girls in the government schools was quite inadequate, whilst in the case of girls at the mission schools, though not perfect either was much better. This is caused by differing curricula. In Zambian government schools the topic of menstruation and reproductive health is not part of the curriculum. It is not taught at primary level at all, and at secondary level only in biology and home economics, which are not compulsory. Several girls attending government schools made it clear to the interviewer that they found it deplorable that this subject is not dealt with at the right time, meaning when they are at the age when they need to be introduced into it.

“At this school we don’t learn how to take care of ourselves in classes” (G12, government school).

Most of the girls participating in the FGDs revealed that they did not have enough or adequate information on the process of menstruation and reproductive health prior to joining secondary school, the reason being that this topic is first covered in grade 9. Some participants had scanty information, but could not describe the process of menstruation in full. The following quotes reflect the standard of knowledge of government school girls on the one hand, and girls from mission schools on the other:

“I understand or know the process of hygiene but not the menstrual or menstruation process” (G12, government school).

The other information, which came out strongly was that most of the girls participating in the FGDs, revealed that prior to menarche they had lacked adequate information about what they soon were going to be faced with. As one of the interviewed girls pointed out:

“Before I started menstruating I didn’t know about menstruation..., this issue is very secretive; it is not supposed to be discussed with young ones who have not yet started menstruating” (G12, government school).

In the FGDs the girls talked very openly about how surprising the experience of coming of age without knowing anything about it had been to them. In the eyes of the interviewer (and the note taker as well) it was as if they used the FGDs as an opportunity to voice their frustrations about having been exposed to such a surprising and shaking experience, without being properly prepared. As one of the girls talked, the others were nodding in agreement:

“I came to know about it when I started menstruating. Before, I didn’t know anything. I had to ask my mother whether I was sick or bewitched (laughter)” (G9, government school).

Another girl reported that, when she noticed blood on her bed sheet in the morning, she was afraid she had hurt herself, but was confused because she could not see a wound. But then her mother noticed the stains on her dress and asked:

“... if I was bleeding from the vagina. I refused (to answer) and was surprised when she told an auntie from the neighbourhood to check me. My auntie noticed that I was bleeding. Then I was put in the bedroom for 3 days, during that time some elderly women used to come, telling me that I now was a grown up woman”(G9, government school).

Another girl remembered:

“I was scared, I was even crying (all laugh)” (G9, government school).

Yet another girl said:

“Yes. I thought I had hurt myself I also started crying and went to mom” (G9, government school).

A third girl remembered:

“I was terrified as I did not know what was happening to me ... I had seen blood on my pants” (G9, government school).

The quotes clearly show that when girls are inadequately informed about the menstrual process prior to menarche, this will lead to confusion, anxiety and sheer terror. It must be stressed that this only can be avoided through adequate information about the process of menstruation in due time, meaning before menarche.

The girls knew how limited the issue of menstruation was dealt with in the curricula of government schools. One girl noted that:

“Reproductive system is a topic which is taught in home economics in term 2, in grade 9. So only those, who do home economics classes, can learn about it” (G9, government school).

While another girl said she was in a class which was not taking home economics, hence there were no lessons on the biological cycle of females for her. She hoped however, that she would learn about it in the upcoming environmental science sessions, where there is a topic on female reproductive health:

“As for me I am in a class which is taking office practice” (G9, government school).

The girls broadly agreed that putting the female reproductive cycle on the curriculum is a necessity for girls to be adequately prepared for their first menstruation:

“Yes. I personally feel it is very important because had my mother not been at home at that time, I don't know what I could have done” (G9, government school).

Whilst government school girls deplored their lack of knowledge, mission schools girls demonstrated a relatively well-developed knowledge level of the female cycle, as the following quotes show:

“Menstruation is the shedding of the uterus. It is about a woman's monthly cycle, meaning that a woman's uterus is shedding off some blood. It is normal for any woman's uterus to shed off (blood)” (G9, mission school).

When the girls were asked why the uterus sheds itself, they answered, equally knowledgeable:

“...because the eggs have not come into contact with sperms to fertilise them. We also learnt that menstruation is caused by hormones which are found in our bodies” (G12, mission school).

When the girls were asked where they learned about the process of menstruation they responded:

“From school or from certain books at school and the library in grade 9 environmental science and home economics” (G12, mission school).

Another girl summarized the main themes of the mission school curriculum on the menstrual cycle in few words:

“They teach about the anatomy of the uterus, the process of menstruating, of fertilisation of the eggs and how eggs move from the ovary into the uterus. They also talk about the importance of keeping yourself clean by bathing and changing of pads, regularly” (G9, mission school).

4.3.1.2 Inadequate consideration of coming of age issues by close female family members

As mentioned earlier, the people in Zambia’s Western Province are known for their attachment to conservative cultural traditions. Communal life is guided by rules and taboos, therefore menstruation and menarche are topics which, if at all, are not properly discussed in homes or with close family members. The FGDs revealed that most girls learn about such issues from friends and at school, but not at home. There are also cases when grandmothers are helpful, as shown in the following:

“...grandma. She told me ... when blood is coming out, don’t think that there is something bad when it happens, you should know that you are grown up” (G12).

Grandma even showed the girl how to fold the chitenge material and how to use and wash it. Another girl had similar positive memories of her grandma supporting her amongst others by preparing her in due time:

“She told me when I was about 10 or 11 that when I see blood coming out of my private parts I should let her learn about it” (G12).

The girl followed her grandma’s advice. Strangely, however mothers were only mentioned by 2 of the 49 girls participating in the FGD as the ones who supported their daughters. But most common seems to be that the girls learn about coming of age from their friends:

“Mostly we hear about it from friends and at school, when those who have started their periods are discussing it”.

The girl continued:

“It is rare to discuss such issues at home” (G9).

How valuable a knowledgeable and experienced friend can be is shown in the following example:

“I was so scared ... I told my best friend, who really laughed at me ... Apart from laughing at me she was so helpful and supportive since she already had had it. She advised me that when I got home I should let my parents especially mom know about it” (G9).

The girl followed her friend’s advice. Again it feels strange that the girl did not address her mother immediately and only did so when her friend advised her to do so. Apart from that there is a danger that this kind of peer advice can be wrong, as most of the girls have little knowledge of menstrual hygiene.

Close family members do not seem to be very supportive. The girls mentioned some negative experiences from close members of the family when they were having problems with menstruation such as abdominal pains:

“When you have menstrual pains and sleep, elders at home say you are lazy” (G9).

In other terms, there is quite frequently a lack of basic assistance on menstruation and menstrual hygiene from close family members, which, as shown before is left to grandmas or friends, and to elderly women in the neighborhood. Despite the topic of menstruation being a

frequent taboo, there were two cases of families who reportedly discussed such issues with their daughters. It seems that to do so, mothers need to have a certain level of education. In families where this is the case parents also give moral support to the girls when they are facing problems:

“My mother who is a nurse used to tell me and all my sisters that when you start seeing blood on your pants or stain yourself, do not be afraid ... So when I saw my first blood I was really not afraid ...” (G12).

Another girl also praised her parents for the support they provide when she is having her period:

“My parents are helpful. When having my period they give me panadol (a pain killer) and tell me to sleep. They also advise me to drink hot beverages such as tea” (G12).

4.3.1.3 Ignorance of menstrual issues by male family members

The FGDs also showed that a majority of fathers, if not all of them, would not talk to their daughters about menstruation, and vice versa, as it is considered a taboo. This of course also pertains to other male family members, who by the same reasons would not discuss such issues with female family members.

One girl reported an incident, which showed a high degree of ignorance by a male family member, which, as it was mixed with intolerance and even brutality, caused a young girl to suffer a mental trauma paired with deep humiliation. The girl visited her brother in Lusaka for a holiday:

“When I was having my menstruation that day, I was not feeling well and started vomiting. He (my brother) forced me to go the hospital... At the hospital he told the nurses that I think this girl is pregnant, please check her properly” (G12).

The girl concluded that she felt very humiliated.

4.3.1.4 The taboo of menstruation

In all the FGDs the interviewed girls reported that menstruation in their communities is considered a secretive process, and that speaking about it is breaking one of the taboos

mentioned earlier. This of course also affected the FGDs in that the girls in the beginning were too shy to talk about it and needed special encouragement by the interviewer to “break” this taboo. Several girls reflected the following comment:

“Madam, menstruation is secretive ... it is a taboo to discuss menstruation with men or those who have not yet started menstruating” (G9).

The taboo contains more than only the mention or discussion of menstruation. As the interviewer learnt:

“It is a taboo for men to see menstrual blood ... (and) menstrual cloth are not supposed to be seen by men or children” (G12).

The conclusion was:

“So - one has to be very careful” (G12).

When the girls were asked why menstruation is kept so secret, they could not name a concrete reason. They just said that they were told by elders that it is a taboo to talk about it, which shows how cultural norms impact negatively on the knowledge of the process of menstruation.

Another taboo and at the same time myth identified during the FGDs was that menstruating girls are forbidden to do certain things when preparing food, as doing so is believed to transmit a variety of diseases to men. Most seriously, and known to all girls participating in the FGDs, is the belief that when menstruating females add salt to a dish, and when the dish is consequently consumed by a man, the latter might develop chest pains and/or pneumonia or even contract TB. Some participants mentioned:

“Yes, they say that when you are having your period you should not add salt to the relish. It causes chest pains in people” (G12).

Another girl identified the diseases men can develop when consuming food salted by a menstruating female:

“Elders say that when a girl is having her period ... you may not add salt to food, as it will cause other people to start coughing. They might have TB or pneumonia especially men (laughter)” (G12).

However, and one has to add, fortunately, there were girls in the FGDs, who did not believe these myths. They were skeptical, as shown in the following:

“But some of us we have noticed that it does not affect us much when we put salt in the relish because I have tried it before only to experiment if one would cough in the family (laughter) and nothing happened” (G12).

Other girls just knew better about how TB is transmitted. As they explained nicely:

“Madam some of these (myths) are really hard to understand because we also learnt that ... to have TB you must come into contact with the TB bacteria. And this disease (TB) is airborne. So ... you wonder how it is associated with menstrual blood” (G12).

As opposed to the myth of the danger associated with salting men’s dishes, which the girls were skeptical about, there is another myth all of them believed in. This is the myth that menstrual blood can be used for ritual purposes in the course of which the girls risk being harmed:

“Some people say witches can harm you if they come across (your) menstrual blood. These witches make you have prolonged periods or other complications, e.g. they can make you sterile” (G12).

As a conclusion it can be stated that the girls’ knowledge about issues of menstruation is influenced by cultural beliefs and practices. It can also be concluded that the taboo of menstruation results in silence and causes scant or lack of correct knowledge of the process. When the girls are confronted with the various myths and traditions which are provided by their culture, some of them conflicting with what they learnt at school, they tend to be confused. This again may result in stress and tensions. As can be seen in the next section, some of the mentioned ritual practices also impact negatively on the girls’ menstrual hygiene.

4.3.1.5 Traditional beliefs and cultural practices

It was evident from the FGDs that the cultural norms, i.e. the taboo of menstruation described above, result in families not discussing the issue at home. This results in the girls not being proactive before they reach menarche. However, once they have started to menstruate, there are several rituals and customs that they are required to conform to. Since the traditional culture of Western Province as shown is very strong, myths, beliefs and rituals pertinent to girls coming of age were of high importance in the FGDs. In general these myths, beliefs and rituals impact negatively on girls' education both in the short and the long term, and many of them are combined with considerable intimidation. The ritual, which most of the girls had to undergo, was their initiation. None of the girls who had undergone it liked being initiated; they found it humiliating and even traumatic. As one of the girls, who was initiated at her home said:

“It is embarrassing, especially if there are visitors at home ... you really feel bad” (G12).

The girls reported that being under initiation means being separated from family members and friends and kept in isolation for a period of shorter or longer duration. In the village, the girl to be initiated is put in a hut; in town she is confined to a separate room in the family residence, in both cases out of sight of male family members. This segregation adds to girls' intimidation.

According to the girls in the FGDs, an initiation period can take from 3 weeks to 6 months. During this time a girl undergoes traditional rituals and is taught about traditional practices, the latter obviously constituting the reason why the girls generally feel bad about the initiation. Initiations, whilst performed, not only separate the girl from a number of social activities and family life; after completion they must quit friendships, as they now are expected to be grown up women, as one girl explained in the FGD:

“You lose some of your old friends ... now you are grown up, you should not play or mix with girls who have not started menstruating” (G12).

Furthermore the girls reported that, as now grown up women they also must change their dress codes, again a source of intimidation and frustration:

“You are not allowed to wear short dresses, skirts or trousers” (G9).

The girls also brought some traditional beliefs associated with menstruation to the knowledge of the interviewer, among them that mixing with boys while menstruating has a negative impact:

“Because when you play with boys your periods will be heavy” (G12).

The initiations are overseen by elderly women, who introduce the girls to various issues denoting their leaving the stage of childhood and entering womanhood, among them how to manage their menstruation. During the initiation period, the elderly women called *“chilombola”* in Luvale or *“nangoko”* in Lozi (initiation counselors) teach the girls how to take care of themselves during menstruation. They also teach valuable practical lessons, among others how menstrual cloth or pads must be used. As reported by the girls:

“They teach us how to take care of yourself when you are having your periods” (G9).

In particular:

“...they will teach you how to use menstrual materials (pads or cloth) and the importance of bathing” (G12).

Apart from teaching the girls such practical and rather useful lessons the women also expose the girls to traditional puberty rituals, during which they are intimidated. The girls in the FGDs reported cases in which these rituals turned into bad or even traumatic encounters. Some of these rituals promote unhygienic practices, especially among the Mbundas and Luvale ethnic groups, who forbid the girls to bath for the length of the initiation period, which can span from three weeks to six months:

“According to the Mbunda and Luvale traditions the girl is not supposed to bath for the period she is being initiated” (G12).

There are other traditional practices to which the two just mentioned ethnic groups in the Western Province expose the girls under initiation:

“They also make you do certain types of things which are shameful for example you are supposed to use a certain oil which is so smelling” (G12).

Once again it became clear how much these rituals were disliked by those who were exposed to them.

A major subject taught by the women in charge of initiations, according to the girls participating in the FGD, was that they were prepared to look after a husband. In other terms, the girls were being prepared for marriage, which may be the core reason why girls’ initiation has developed as a cultural tradition over decades or maybe even centuries. This included the girls being introduced to having sex and becoming pregnant, and learning how to perform in bed. Though the girls were very shy to talk about sex, this is substantiated by plentiful of quotes, of which some are presented below:

“Elders say you are now a woman, you are no longer a little girl you can even get married” (G9).

Another girl said:

“What we hear from people is that when you are in sikenge (initiation period) they teach you how to take care of yourself and your husband (laughter). In other words they prepare you to go into marriage (laughter and shyness). The community perceives that when a girl starts menstruating she is ready for marriage” (G12).

Another girl made clear that under initiation, there is a further indication that the initiation rites are marriage preparations:

“They also tell you that when having sexual intercourse with men you can become pregnant since you are now a woman” (G9).

After the initiation, when the elders find the girl ready again to mix with the community, there is a big ceremony called “*siyemboka*” (girls’ initiation ceremony). This is an overnight ceremony with people drinking and dancing the whole night. Then in the morning the girl undergoes an examination by the initiation counselors, in which the girl is checked to see if she is ready for marriage. This is found most intimidating by the girls, because of the

character of these examinations: Not only are their most intimate parts checked, but also their ability and readiness physically to live up to their coming husbands' demands. In the morning the girl is presented to the public in new clothes, and the community gives presents to the girl. The ceremony is very popular among the people of Zambia's Western Province, once again illustrating that the girl now has reached the stage of being marriageable, which is announced in public. As one of the girls concluded:

“Your family will arrange for an overnight ceremony where they play drums ... dance the whole night until the following morning” (G9).

But despite the presents, the girls found that there were many disadvantages associated with the initiation rituals. Apart from being forced to abandon friendships that they had built up during their girlhood, they mentioned that because of their initiation, some of them had to miss school for weeks or even months, and even worse many dropped out after initiation. But they found it worst that many of them were tempted to try out what they had learnt about sex during the initiation:

“What they (the girls) are being taught there, some girls immediately they come out of the initiation ceremonies they start doing ... like having sex ... because of what you are taught during that initiation period (laughter)” (G12).

The FGD participants also said that the information given to the girls during initiation is prone to promote early marriages, for which the girls did not feel prepared:

“A lot of girls after initiation they become pregnant or go into early marriages” (G12).

Though the cultural tradition of initiation still is very strong in Western Province, there are parents who are critical about letting their daughters undergo it. Some parents postpone it and wait, as was reported in one of the FGDs:

“...until their daughters have completed school, colleges and started working. When they are about to get married that's when they do kitchen party or bridal shower” (G9).

The latter are more modern and moderate forms of initiation. All in all, it is important to highlight, that teaching the girls about their behaviour and duties as married women has a

long term negative impact. Not only do the girls feel too young and psychologically unprepared for marriage; they are also aware of the risk such lessons pose to their school careers.

4.3.2 ECONOMIC FACTORS

4.3.2.1 Poverty

Poverty, both personal and structural, emerged as a very important economic barrier to the accessibility of hygienic sanitary materials. According to what was learned in the FGDs most girls could not buy sanitary pads because their families could not afford them hence they resorted to using old clothes and blankets torn into rags, and sometimes toilet paper as means of protection during menstruation. As some of the girls explained:

“Our parents struggle to meet school fees, so money for pads is not a priority. This results in many of us using small clothes or pieces of old blankets” (G12).

They said that such materials can be reused many times. The above quote is just one out of many, all of them indicating that a considerable number of girls participating in the FGDs, probably the majority, were too poor to acquire sanitary pads. Hence they use less suitable sanitary materials, among them the above- described rags torn from old Chitenges and blankets, or simply toilet paper or cotton wool. To the personal poverty must be added the structural poverty of the girls’ homes and the schools they were attending, which is manifested by the non-existence of facilities for drying their menstrual cloths, leaving the girls with no other choice than drying them under their mattresses in the dormitories or in their bedrooms at home. There simply were no facilities to dry their menstrual materials appropriately:

“Us girls in the boarding we wash our menstrual cloth at night and dry them under our mattresses” (G12), as one girl said.

A day scholar explained:

“I wash my menstrual cloth also at night and dry them in my bedroom either on the bedroom window or under my mattress” (G12).

During the FGDs some participants mentioned that they live far from school, and that they cannot afford the bus fare to and from home on a daily basis. For them it was too expensive

using public transport such as buses: They found it:

“...very expensive to use the bus. For me who lives far away from school it is about 10.000 ZMK (approximately 1.8 USD) in the morning from home to school. Walking takes 2 hrs. Most of the time I walk as my parents cannot afford the bus fare every day” (G9).

Walking such distances is not only a burden on a normal day, especially in the rainy season, but a great embarrassment on the days the girls are having heavy flows. Hence, as the before quoted girl continued:

“On the day my flows are heavy, I stay at home” (G12).

Some of the girls also found it generally very uncomfortable to walk long distances with a pad or a rag torn from an old blanket, as this causes friction, and hence there is another good reason for staying at home on such days, and missing out on school sessions:

“Walking for a long distance with a pad or menstrual cloth on causes friction, so when you are menstruating you just stay at home” (G12).

4.3.3 FACILITIES AND SERVICE FACTORS

Due to institutional and domestic poverty, schools’ and homes’ water supply and sanitation is inadequate. Furthermore, sanitation facilities for girls in schools are improperly designed. Add to this that most of the shops in rural areas are inadequately stocked with sanitary materials.

4.3.3.1 Inadequate water supply

The FGDs revealed that due to inadequate water supply in schools and homes girls have difficulties maintaining proper standards of hygiene during menstruation. This is also stressful and inconveniencing as they have to walk long distances looking for water. Sometimes they wake up very early in the morning to draw water for bathing, wasting a lot of time they better could use for studying. One of the girls reported that:

“What we experience here at school is that we don’t have (an) adequate water supply and our school has no running water” (G12).

Sometimes, when the hand pump is broken down, which seemingly happens frequently, they have to fetch water at the nearest river. The above quoted girl continued that under such

circumstances:

“It is very difficult to maintain a high standard of hygiene, maybe you only wash once a day and that’s at night” (G12).

Another girl explained the lack-of-water problem in more details:

“Water is a problem at this school; one has to wake up very early in the morning to go and draw water for bathing” (G12).

The water supply at the one school with a solar pump is equally irregular, though ideally there is a morning, an afternoon and an evening supply. The limitations of the water supply force the girls to fetch and store water in buckets, for emergency. As one of the boarding school girls expressed to the interviewer:

“(At times) we only have water twice in a day, so you have to store water in a bucket if you are having your period” (G12).

4.3.3.2 Inadequate sanitation facilities

None of the three schools at which the FGDs were carried out were found to have adequate sanitation facilities for girls. The types of sanitation facilities found in the three schools are pit latrines and water (flush) toilets, but the flush toilets are normally blocked due to lack of water. All the three schools have girls’ toilets at the classroom blocks, but they are inappropriately equipped. Due to lack of sanitary disposal facilities at the toilets, i.e. lack of bins, the girls usually wrap their used pads in old newspapers, which they put in plastics and hide in their school bags to dispose of after classes in the pit latrine at home, or they burn them. As one of the girls reported:

“You wrap them in a newspaper, which you put in the school bag and burn them in the evening, when back home” (G9).

The bad or lacking toilet facilities tempt many girls to stay at home when menstruating as there is nowhere to wash. The gender unfriendliness of the girl’s toilets brings much stress to the girls during menstruation and it also affects their academic performance:

“On the days when you are having heavy flows, you just stay at home as there is nowhere to wash or clean yourself while at school. Because if you mess yourself it is embarrassing”

(G12).

It also happens that the girls are forced to use the bushes when they are menstruating. They reported:

“Sometimes it is very difficult to use the toilets because you fear to leave stains of blood if there is no water” (G9).

Furthermore lack of or inadequate water for menstrual hygiene causes anxiety and panic among the girls because of their fear of foul smell and of staining their uniforms.

Due to inappropriately equipped toilets at classroom blocks, the girls are forced to walk long distances to the dormitories to change. This makes them miss subjects as moving to and from the dormitories is time-consuming and ultimately causes them to lag behind in their academic performances:

“When one is having her period, you have to go and change at the dormitories.” (G9).

Another girl said:

“Our dormitories are very far ... 500 to 700 meters so you can take about 30 minutes to and from ...s We waste a lot of time when we are having our periods” (G9).

The day scholars fare even worse:

“The day scholars can go to the nearest bush” (G9).

This can take even longer.

4.3.3.3 Inappropriate design of girls toilets and ablutions

Most of the girls identified the toilets in their school as not gender friendly, due to lack of washing facilities at the classroom blocks, which is stressful to the girls and compromises their hygienic standards. One girl made the prudent remark that boys are having more suitable toilet facilities than girls, for the simple reason that the toilet design accommodates boys, but does not when it comes to girls. She said:

“The toilets we have at the classrooms do not have facilities for bathing. I don’t know why this is so if you go into the boys’ toilets you will find urinals, which makes boys urinate well without difficulties”(G12).

As indicated above, the FGDs revealed that the girls' toilets also lack adequate facilities for disposal of sanitary materials. Only one school had an incinerator for the purpose of burning used sanitary materials. The girls were happy and proud to talk about the availability of an incinerator at their school. They said:

“At the dormitories we have also a pad house where we dispose of the used pads. Every Saturday we have to burn these pads” (G9 & 12).

On the other hand, the bathing facilities at all three schools were found to leave much to be desired, as they lack privacy. To compensate for this, the girls when menstruating usually bath when there is nobody around. One girl explained how she goes about it:

“As for me I wake up very early ... and have a bath before others wake up, I take a bath and then go back to sleep” (G12).

Alternatively the girls bathe in the afternoon when others prepare for sessions.

During the FGDs it became evident, that when it comes to managing their periods, boarding school scholars are far better off than day scholars. This is not only because some of them can utilize an incinerator to do away with used pads; as opposed the day scholars, they can also bathe and use the toilets at their dormitories. As already shown, day scholars must carry the used materials home in their school bags. Those of them who have friends among the boarders are better off than those without, as they can use their friends' facilities. As one girl pointed out:

“Others who have friends in boarding go and change at the dormitory and dispose them (the pads) in the pad house” (G12).

Another girl continued:

“Those day scholars, who have friends in boarding, come to school with extra pads. They ask you for a tub and tell you I am not fine and I can't wait for the time when knocking off. So being a friend you are going to help that girl” (G12).

Those girls who are excluded from such facilities must resort to unhygienic practices: Apart from being forced to take home used materials in their school bags, and being unable to wash themselves at school, they report that they:

“...only take a bath at home in the morning. And then again when back home in the afternoon or evening” (G9).

At times it is even more inconvenient for the day scholar girls as they have to bath in the nearest river due to lack of bath shelters at home, which stresses them even more.

4.3.3.4 Inadequate and improperly stocked shops

The FGDs revealed that there are other difficulties menstruating girls attending one of the three schools in Western Province of Zambia have to contend with. Girls attending boarding schools far from town in rural areas have difficulties getting hold of sanitary materials as the shops are far from the schools. Hence those girls who use pads must bring sanitary materials for three months from home. As one of them said, they make:

“A budget for the whole term for the pads we are going to use, because there are no shops to get those things here” (G12).

The FGDs also revealed that, in case the girls run out of sanitary pads, proper sanitary materials are very often, if at all, not available at the local shops:

“Even if one wants to buy the menstrual materials here from our local tuck-shop, most of the time there are not available. We have to bring them from home” (G12).

This forces the girls to use unsanitary materials, leading to embarrassments, anxiety, stress and discomfort, and again contributing to low concentration in class, and ultimately stress and loss of self-esteem. As before, there is only one way to overcome such problems:

“We ... help each other ... if you have extra pads and your friend has not, you give her (murmurs and laughter from participants)” (G12).

4.3.4 HEALTH RELATED PROBLEMS

4.3.4.1 Psychological issues i.e. mental and emotional stress

All participants in the FGDs reported mental and emotional stress during menstruation when at school. The girls have difficulties concentrating on learning, as they concentrate on their condition instead of paying attention to what is being taught. Due to the mental stress, they risk not performing well academically and failing their exams. To quote two of many girls:

“Having your period is so stressful that you do not pay much attention to what is said in class. You risk not doing well under your exams” (G12).

Another girl said:

“No madam, when girls are having their menses, they pay much attention to their periods and not much to what is being taught in class by the teacher (all participants nodding their heads in agreement)” (G12).

In addition, during menstruation, girls are careful about moving around in the classroom, at times even reducing their mobility out of fear of staining their uniforms:

“When you are in class and having your period, when you are about to stand up you might tell your friend to check if you are o.k. or not. You tell your friend, please check me as I am standing (laughter), if you are wet your friend will tell you and give you something to cover (all participants nodding their heads in agreement)” (G9).

Another girl pointed out that:

“Sometimes the flow is very heavy so that one is afraid of staining your clothes” (G12).

Despite their fears and stress the girls reported that they help each other when in need. They understand each other’s problems. As one girl said:

“When I see that my friend has messed herself, I would get my jersey to give that girl so that she can cover herself when leaving the classroom” (G12).

The FGDs also revealed that there is inadequate support of the girls from some teachers. Most of the teachers were reported to be male, and many girls complained that the male teachers do not really understand girls’ needs and problems. However the girls reported one exemption of a male teacher who showed concern when a girl had her period:

“Mr M., who is our teacher of biology, he would suspect because he has some experience. When someone is attending he would even ask if you are on your period. Let me give an example: last time he even asked me are you attending? And then I said yes I am attending (having period)” (G12).

Other helpful teachers both male and female include those who understand girls’ special

needs and offer psychological support:

“Some teachers would tell the boys to go out and then you remain alone in class (all participants nodding their heads in agreement)” (G12).

Many teachers however are just ignorant and do not know how to handle the situation.

“But some girls do try by all means to go into class (when having their period) but you find that they are just sleeping. You find that when a teacher enters the class he will just ask this girl, if she is sick because of the way she is looking” (G12).

This shows that teachers need to be made aware of the girls’ needs during menstruation, especially the male teachers.

Even health workers at the local clinics can turn down girls when they seek help during menstruation:

“When we go to the clinic, if you are having some period pains, sometimes the nurses shout at us saying that we are lazy (all participants nodding their heads in agreement)” (G12).

4.3.1.1 Abdominal pains and vomiting

The girls also complained about frequent abdominal pains, vomiting and dizziness when having period. The dizziness might be due to anemia caused by the loss of blood, which the girls do not understand. There are other discomforts quite often also preventing them from participating in classes, which also can lead or contribute to poor academic performances:

“At times we have period pains, i.e. we are sick (vomiting), and hence also miss classes” (G12).

Another girl reported:

“I sometimes feel dizzy ... I have some stomach pains, which makes me miss classes” (G9).

4.3.1.2 Vaginal rash and bad odor

Most participants in the FGDs were knowledgeable about the negative consequences of the unhygienic practices applied to managing their menstruation, such as not changing sanitary pads, or not washing regularly, and using unhygienic sanitary materials. They knew that such

practices can lead to rashes and bruises. Furthermore the girls noted that the use of materials such as rags torn from old textiles can cause vaginal itching, especially when not properly washed and dried. But due to their poverty the girls are unable to practice good hygiene during menstruation:

“If you don’t wash and change your sanitary pads regularly you can have rashes and bruises especially. It’s very common to feel itching when you are using old rags or pieces of blankets” (G12).

Moreover:

“Sometimes if you don’t change you might develop bruises or rashes ... you feel very uncomfortable” (G12).

It can be summarized that the girls knew that rashes and bad odor relate to unhygienic practices during menstruation. They were also knowledgeable about the importance of regular bathing and changing, but lacking water supply and other facilities in schools and homes, caused by personal and institutional poverty, prevented them from bathing regularly.

4.3.1.3 Teenage pregnancies, HIV infections and illegal abortions

All the girls in the FGDs reported that rituals of initiation are prone to promote early sexual débuts and immorality and further teenage pregnancies, to which must be added the risk of contracting HIV, and either voluntarily entering or being forced into early marriages. They also indicated that some of the girls, when they become pregnant, in order not to be ousted from school, go for illegal abortions, despite knowing about the dangers of such practices. The girls repeatedly scorned the initiation rituals described above:

“Because most of the girls after initiation want to experiment with what they have learnt and risk ending up being pregnant or contracting HIV” (G12).

Or, as another girls said:

“Other girls when they become pregnant try to abort and risk dying in the process. When the school authorities find out that you are pregnant or have aborted, you are chased out of school” (G12).

All in all, the health related factors span a wide area involving psychological and

physiological issues as well as matters of personal hygiene, and a variety of severe public health problems, including teenage pregnancies, illegal abortions and HIV infections.

4.3.6 SCHOOL PERFORMANCE PROBLEMS

In all FGDs the participants expressed that the above menstruation and menstrual hygiene related factors (social, economic, knowledge and health) contribute to girls' poor school performances and to their high failure rates, which again can lead to short and long term impacts on their educational achievements and hence their future.

4.3.6.1 Absenteeism from school and missing out on subjects

In all FGDs it was revealed that absenteeism from school during initiation and menstruation was very common, and that this normally affects the girls' academic performances. The initiation periods, which can be very time consuming, sometimes make girls miss their exams:

“When the first week of your initiation is during school days, some families would not allow you to go to school so you miss a week's classes. It is worst when it falls into the time of exams” (G12).

The various factors described above lead to the girls missing classes. They miss classes due to lack of proper menstrual sanitary materials, and out of fear of staining themselves; sometimes they miss classes due to inadequate or lacking water for cleaning during menstruation, and sometimes due to too long distances to walk for a menstruating girl. Changing sanitary materials at the dormitories also consumes a lot of time originally dedicated to studying: In the FGDs many respondents revealed that they had to cover long distances to change pads, or in search of water, all the while teachers were continuing teaching. The latter was fully understood by the girls. As one of them said:

“It is not a teacher's business to wait for a pupil ... We have normal breaks” (G12).

The very fact that missing out on subjects and absenteeism affect the girls' academic performance in a negative way is confirmed by their failure rates, which the school authorities however are far from associating with menstrual hygiene problems. As one of the girls said:

“Menstruation tends to be so stressful that you do not care much about learning in the time

you are undergoing it, leading to the risk of not doing well when sitting for exams” (G12)-

4.3.6.2 Dropping out of school

Of the many drawbacks of the initiation rituals, pregnancies out of curiosity and eagerness to try out what was taught, and early marriages imposed on them because they were declared marriageable were found most appalling by the girls. As one of them said:

“Most of the girls after initiation become pregnant and leave school” (G12).

This might be an exaggeration; however it is a matter of fact that there occur many pregnancies among girls after attending the initiation rituals.

School girls’ pregnancies are against the rules of mission schools. As one girl said, whilst others were nodding in agreement:

“It is a sin to be pregnant before marriage” (G12).

Furthermore, mission schools do not allow girls to come back after delivery despite the official (government) policy of encouraging girls to resume school after giving birth. Dropping out can result from other reasons. In one of the FGDs it was revealed that girls drop out of school due to lack of emotional support from both school mates and teachers:

“Last year a grade eight girl stopped school because she messed herself in class and the boys were laughing at her ... boys will always have a negative attitude towards you. So being girls we find menstruating affects us both academically and socially” (G12).

The girls also found that early pregnancies followed by babysitting, are so time consuming that they lead to most teenage mothers losing interest in attending school, even if they are given a second chance:

“You waste a lot of time when you are pregnant and when nursing the baby. You will be at home for about 2-3 years, the interest of attending school will be gone” (G12).

4.3.7 GENDER DISCRIMINATION

Though during the FGDs gender discrimination did not appear as a separate issue, it emerged as a crosscutting factor, having many aspects. As mentioned earlier, due to traditional and cultural beliefs the topics of menstruation and menstrual issues are not discussed with male family members, which is a kind of gender discrimination in silence. In school gender discrimination and infringing on girls' rights regularly takes place by not considering their needs, for instance by not providing privacy for washing, by inadequate water supply, and by the lack of bins and incinerators for disposing of used menstrual materials.

A more direct kind of gender discrimination was the case of a girl who had messed herself, and who was required by her (male) teacher to report on her misfortune in writing, showing the teacher's ignorance of the girl's problems. Events such as these impact negatively on the girls' psyche and add to their feeling of being discriminated. The girls found that their male teachers' behaviour against them when they menstruate is laden with ignorance, which they experience is as a kind of discrimination. Amongst others if a girl messes herself accidentally, she risks being ordered to write a report about her misfortune, causing even more stress and humiliation:

"You can even write a report on that. You know, especially the male teachers, I don't think they understand that when you mess yourself up it is an accident" (G12).

By far the he greatest intimidation the girls experienced was however the behaviour of their male schoolmates. The girls in the FGDs described them as being ignorant bully-boys who take pleasure in teasing, ridiculing and harassing them when they are menstruating, thereby adding to their stress and causing more embarrassment. When they menstruate, the girls live in permanent fear that their male class mates might detect their condition, because:

"The boys ... will be laughing at you ... wherever you pass they will be laughing and talking about you" (G12).

As one of the girls explained to the interviewer, the boys would use every opportunity to ridicule them, referring to them as:

"... careless and dirty, and they would laugh and mock you" (G12).

The girl concluded:

“Girls are affected psychologically and they become stressed, their school performances also can go down. Some even stop coming to school” (G12).

Another girl reported that if boys see a used pad in a girl’s school bag:

“They will laugh” (G12).

The girl rightly commented that this often leads to loss of concentration and self-esteem as well:

“You will make yourself very small” (G12).

This, the same girl concluded:

“Sometimes ... can affect your academic performance” (G12).

Add to this the aforementioned case of a girl, who dropped out of school because of boys’ bullying and mocking her, and it becomes clear how stress- generating boys’ bad behaviour towards girls can be. The impact was described as victimizing and undermining their self-esteem, which again contributes to making their academic performance poor.

4.4 SUMMARY OF RESULTS

The study sought to explore the factors influencing the understanding, experiences and practices of menstrual hygiene among adolescent girls in secondary schools in Mongu District, Zambia. The study was based on six FGDs, during which 51 girls, aged between 13 and 20 years, were interviewed. The study found out that the knowledge about menstruation of girls attending government schools was quite inadequate, whilst in the case of mission schools it was better. It was also revealed that the girls did not have adequate information about the process of menstruation and reproductive health issues before reaching menarche and/or attending secondary school. The other aspect which came out strongly was that the inadequate information and hence lacking awareness about coming of age was influenced by cultural beliefs and taboos associated with menstruation and poor facilities. The girls had difficulties in maintaining proper standards of hygiene during menstruation due to inadequate water and poor and gender unfriendly sanitation facilities in the schools and at home. Poverty both personal and structural emerged as very important economic barriers to getting access to hygienic sanitary materials. These barriers, combined with an environment of gender discrimination, were found to be stressful, inconveniencing and infringing on the girls’ right

to privacy.

All the above factors were found to lead to poor menstrual hygiene and to contribute to girls' poor school performance, as well as to their high failure rates.

CHAPTER 5: DISCUSSION

5.1 INTRODUCTION

This chapter discusses the findings of the study in relation to similar studies conducted in other developing countries in Africa, Asia and South America. The chapter also discusses the study's limitations.

The cultural context of the people of Western province Zambia is central in shaping and colouring their beliefs and values. The research undertaken for this study established that the perception of menstruation, and consequently menstrual hygiene and reproductive health was greatly influenced by inadequate menstrual practices, as well as by lack of or poor knowledge, which was interrelated with cultural norms. It became evident that the majority of the study participants prior to menarche were ill-informed about their coming of age, as well as being ill-prepared for the physical and mental changes this process brings on. Another important factor influencing the girls' standard of menstrual hygiene is poverty. Both at individual and institutional level it was high on the list. These factors, together with inferior facilities and services in terms of inadequate water supply and poor sanitation at home and particularly in the schools, were found to be major obstacles to the respondents adopting healthy menstrual hygiene practices. Combined with an environment of gender discrimination, the factors were inconvenient and embarrassing, and infringing on the girls' right to privacy.

As will be shown in this chapter the different factors, each in its own right and importantly in combination, pose a threat to the girls' physical, mental and social wellbeing. They eventually compromise their academic performances and threaten their school careers. It shall also be mentioned that all the factors, although presented sequentially, were found to be interlinked, overlapping and cross-cutting with each other.

The chapter will examine the factors by reflecting first on the lack of knowledge and then on the cultural traditions. The impact of these key influences will be explored in relation to the girls' physical health, their mental health, and their social wellbeing. These factors, together with the constraints resulting from poverty, both of the girls themselves and the schools, influence their ability to attend school. Finally, and significantly, the detrimental impact of these compounding factors on the girls' futures, and what is therefore a form of gender discrimination is explored.

5.2 LACK OF KNOWLEDGE

The FGDs undertaken in the present study at the three schools in Mongu revealed that the respondents' knowledge of the process of the female biological cycle, especially menstruation and hence the issue of menstrual hygiene was grossly insufficient. This pertained especially to the girls attending government schools, whilst girls in mission schools, in comparison, fared better. This study also revealed that the topic of menstruation and reproductive health in government schools was not part of the curriculum at any level, hence not taught at all. Not unexpectedly this was found to be deplorable by the majority of those respondents who attended government schools, and who consequently expressed their desire to have the topic included in their curriculum, as they felt they needed guidance and support regarding coming of age and reproductive health issues at school and at home. They had no one to talk to about these issues. This made the girls to realise the importance of education on reproductive health and especially menstrual process and menstrual hygiene both in schools and homes for the gaps in knowledge to be filled in.

The revelations of the girls in the FGDs are well in line with what studies on the same issue have disclosed as relevant to girls in other development countries, amongst others: Lawan *et al.* (2010) in their study of a similar target group in Kano/Nigeria, and Dasgupta & Sarkar (2008) in a study of West Bengal/India. The Lawan *et al.* (2010) study reported that girls' levels of knowledge of reproductive health differed because of the varied information they received, whilst the Dasgupta and Sarkar (2008) study disclosed widespread lack of knowledge of the physical process of menstruation among girls at the age of adolescence. Lack of knowledge and poor perception of the menstrual process were also reported in other studies and seem to be a general problem, see, for example, the study of adolescents' girls in secondary government schools in Nepal by WaterAid (2009), and the two cross-sectional studies by Adinma & Adinma (2008) undertaken in Southern Nigeria and by Shanbhag *et al.* (2012) in Bangalore/India. The WaterAid (2009) study emphasized the limitations of formal education in reproductive health issues.

The people of the Western Province in Zambia are a very conservative and secretive society. They value their traditional and cultural norms, and regard discussing issues pertaining to culture in public as disrespectful. In the Lozi culture, it is a cultural practice and belief that girls of pre-menarche and men are not supposed to know anything concerning menstruation or see menstrual blood, and that reproductive health issues are not supposed to be discussed

in public, as this is a taboo. Hence menstruation is kept secret. This culture of silence leads to misunderstandings and lack of knowledge of menstruation and the menstrual process among the men and pre-pubertal girls. There is also a belief that menstrual blood can be used for black magic, hence if somebody knows that a female is menstruating she can be bewitched. This present study has clearly shown that traditional beliefs and practices have strong influence on information and knowledge of menarche and menstruation, especially in Zambia's Western Province, where these topics are not properly discussed in homes and with close family members. Hence it did not come as a surprise that the study revealed that most girls learn about coming of age from their friends. However there is the danger that such peer advice can be wrong, as most of the girls, who provide advice, have limited knowledge of menstruation and menstrual hygiene issues themselves.

The above findings are substantiated by a study of the level of knowledge of menstruation among adolescent girls undertaken by Nagar and Aimol (2011), and by another study by Mahon and Fernandes (2010). Both studies examine menstrual hygiene as a neglected issue in water, sanitation and hygiene programmes in South Asia. The two studies discuss the limited value of the girl-to-girl orientation, in the cases of the two studies mainly pertaining to ritual practices, cultural issues and behavioural cautiousness towards males, whilst there was not much information provided about the physiological process of menstruation, let alone menstrual hygiene.

The above shows that if girls do not understand or are inadequately informed about the process of menstruation, they are not prepared for their first period. This was exactly what most of the girls who participated in the FGDs revealed: prior to menarche, they were not adequately informed about menstruation, the reason being cultural norms associated with menstruation. Since they had not been prepared for this event, most of them experienced fear when attaining menarche, including anxiety and confusion. This study has shown that it is very important for the girls to learn or have access to information about the process of menstruation prior to menarche, so that they psychologically prepare themselves, develop power, self-esteem and understanding of the physiological changes of their entry into womanhood, thereby avoiding the misconceptions surrounding menstruation.

The above findings are substantiated by those of Warenius *et al.* (2007) in their study of vulnerability and sexual and reproductive health among Zambian secondary school students and in the wider context of research undertaken in other development countries by Shanbhag

et al. (2012). The Warenius *et al.* (2007) study reported that menstruation being a taboo subject, was mostly, if at all, dealt with secretly in Zambia, leaving the girls unprepared. Shanbhag *et al.* (2012) and Reddy *et al.* (2006) as cited by Nagar and Aimol (2011) in their studies notice comparable cases from India, based on what Shanbhag *et al.* (2012) concluded was the need for early sensitizing of girls about the menstrual process.

The girls who participated in the FGDs talked openly about how surprising and confusing the experience of coming of age had been for them, the reason being that they had not been appropriately prepared for this event. This shows that access to information about the menstrual cycle, as well as managing menstruation hygienically is important for girls to be provided with in due time, meaning before menarche. This is in accordance with the recommendations of Nkandi (2011), who on the background of a study of Eastern Nigeria found that sufficient knowledge about menstruation and menstrual hygiene was prone to promote good menstrual hygiene practices. The author noted that it is important to adequately inform adolescent girls prior to menarche about menstruation and menstrual hygiene. This is also shown by Anjum *et al.* (2010), who recommend early education about menstruation, i.e. before puberty. The aim is to prepare the girls emotionally and to avoid stress and embarrassment. Other researchers have come to similar conclusions, for example Thakre *et al.* (2011) and Nagar and Aimol (2011), who in their studies of comparable issues in Nagpur District/India and Maghalaya/India, suggested that reproductive health and menstrual hygiene be incorporated in schools' curricula and home education respectively, with the aim of enabling girls to manage their menstruation properly and right from the beginning, in order for them to live a healthy life.

5.3 CULTURAL TRADITIONS

The FGDs undertaken for this study revealed that in the Western Province of Zambia menstruation and menstrual hygiene are closely associated with traditional beliefs, misconceptions and rituals, which have strong influence on the girls' menstrual hygiene practices. The impact of traditional beliefs, myths and coming of age rituals are, as shown by WHO (1999, as cited by Nagar and Aimol, 2011), based on a generally adverse perception of the menstrual process.

The findings of the present study demonstrated that coming-of-age or puberty rituals based on an amalgamation of myths, misconceptions, superstitions and taboos are common in the Western Province. The most widely used ritual was and still is initiation. None of the girls in

the FGDs, who had undergone it, liked it. They all found it to be an embarrassing and intimidating experience. Being initiated meant to them, separation from family members and friends; isolation in the village, confinement to a hut, in town to a separate room; permanent control; change of dress code, i.e. no shorts, no short skirts as they were grown up women now; no mixing with boys. For some of them the worst experience was not being allowed to attend school. According to the girls, an initiation period can take from 3 weeks to 6 months. Not being allowed to attend classes during so long a period of time means that the girls' academic performances are seriously put at risk.

The above described findings of the negative impacts of the traditional initiation rituals are not limited to the Western Province in Zambia. In her study of similar phenomena in Malawi, Pillitteri (2011) reported comparable cases with comparable results, especially showing that traditional initiation rituals' interference with school attendance is seemingly common in sub-Saharan African countries.

Another finding of this present study was that, during the initiation rituals, the girls were taught lessons. Their teachers were elderly women, acting as "initiation counselors". They taught the girls valuable practical lessons, among others how to use menstrual pads and/or cloths, but they also exposed them to traditional puberty rituals. These rituals could be intimidating and even traumatizing for girls at their young age. Among the rituals the girls disliked most was that they were taught how to accommodate a husband, showing the deeper intentions of the rituals: to prepare the girls for marriage. Similar rituals and counseling procedures are reported in a study by Ten (2007), and again in the study by Pillitteri (2011). The latter also reported cases of girls being forced to have sexual intercourse with a traditional doctor, as a proof of their status of now being marriageable.

The FGDs in this study revealed another reason for the girls' disgust of the initiation rituals. The girls revealed that many of them, after that much talk about sex during the initiation, were tempted to go out and experience what they had learnt. This resulted in early marriages and teenage pregnancies, and in many cases, HIV infections as well. This could be a reason for the high rate of teenage pregnancies and HIV infections in Mongu District of Western Province, which are at 44% and 19% as reported by ZDHS (2007). According to the girls in the FGDs, one of the negative results of this was that almost 50% of the girls who had undergone initiation dropped out of school. Related to this, there are reported similar tendencies from other developing countries. A study done in South India reported a case in

which half of the girls attending school were withdrawn by their parents once they reached menarche, as they were found ready to be married off (Ten 2007). Both the case from India, and the described rituals conducted in Western Province of Zambia, indicate that there are regions in the developing world in which coming of age indicates readiness for marriage.

The girls in the study further reported that some ethnicities in the Western Province prevent girls undergoing initiation from bathing. This signifies that there seem to be culturally-based misconceptions that compromise the most basic standards of menstrual hygiene. Kumar and Srivastava's (2011) reported similar cases, not directed at preventing girls from bathing during initiation, but generally forbidding girls and women to bath during menstruation. The Kumar and Srivastava (2011) study is substantiated by a study from Egypt and Saudi Arabia, wherein it is reported that girls and woman avoided taking hot showers during menstruation as this was believed to increase the flow of blood and cause pain (El-Gilanya *et al*, 2005).

During the FGDs the girls revealed that initiation completion ceremonies are quite common in the Western Province. At times such ceremonies can take a day and a night, and the whole community would participate. It is in the morning that the girl's readiness for marriage is physically examined by the aforementioned elderly women, which the girls found most intimidating. The girl is then presented to the public in new clothes, and she is given presents by the community members. Similar ceremonies, once more indicating the public announcement of a girl being marriageable already after her first period, are still widespread among the various cultures of the developing world. Ten (2007) for example has reported such rituals being conducted among the peoples of Surinam and certain ethnic groups in Bangladesh, whilst Narayan *et al*. (2001) reported that they are performed in Tamil Nadu/India. In all cases there were celebrations for families and communities respectively, and gifts for the girls.

One phenomenon, which according to many studies is very common in many countries of the developing world, but nevertheless was not mentioned by the girls in the FGDs, was the seclusion of menstruating girls and women from public and even family life. The Western Province seclusion was only mentioned under initiation, but it was more widely applied for example in Surinam, Bangladesh, Nigeria and Ethiopia (Ten, 2007). In the above mentioned countries menstruation seemingly almost automatically leads to exclusion from family and/or public life.

As for the Western Province, Zambia, the girls also disclosed some strange myths and taboos about food and food preparation by menstruating females. Menstruating girls and women are forbidden to add salt to food, as it is believed that men, when they consume such food, develop chest pains, or pneumonia or even contract TB. The myth was not shared by any of the reviewed studies, and some of the girls participating in the FGDs also found it very doubtful as it was contradictory to what they had learned about contracting TB. This was not the case with another myth, which, though crude and equally unintelligent as the fairy tale about the negative health impacts of a menstruating female adding salt to a dish, nevertheless was found to be true by the girls participating in the FGDs. This is the myth of the dangerous potential of menstrual blood: menstrual blood, said the girls, i.e. pads and cloth was not to be left just anywhere because it could be used for witchcraft and black magic, leading to sterility or prolonged bleedings. The myth was found to have varying equivalents in other countries and cultures respectively. Cases reported from Malawi (Pillitteri 2011), Surinam (Ten 2007) and Sokoto/Nigeria (Oche *et al.* 2012) did not differ from what the participants in the FGDs described, with the Nigerian version of the myth including that menstrual blood can even be used for concocting love potions. In Sierra Leone there were found to be people who believed that used sanitary pads can be misused by witches to impose sterility, and hence they were reported to request used pads being burnt (Oche *et al.*, 2012). This was contrary to the findings of a study from South Eastern Nigeria, in which it was reported that burning menstrual absorbent materials might result in cancer and infertility (Oche *et al.*, 2012).

In the reviewed literature there were various other examples of myths and irrational beliefs about the destructive powers of menstruating women. Ten (2007) in his study reported that according to the beliefs of the people of Western Uganda, menstruating women may not drink milk, as this will make the cow bleed from the udder and cause the milk to become bloody. Reports from Eastern Uganda suggested that menstruating women do not plant groundnuts, out of fear that this would negatively affect the yield (Ten, 2007). The people from Central Uganda believed that menstruation be kept secret, with no one else except the menstruating woman knowing of it (Ten, 2007). The latter was also reported in the Malawian study by Pillitteri (2011), according to which it was forbidden for girls to tell their mothers about their first blood. It was believed that doing so might cause bad omen or even death. Hence they had to inform other female relatives rather than their mothers.

5.4 THREATS TO PHYSICAL HEALTH

Inadequate menstrual practices, combined with inadequate knowledge and traditional cultural rituals and practices as well as lack of sanitation and personal poverty were factors which in the FGDs emerged as having great impacts on girls' physical health. This shall be discussed in the following.

It became evident in this study that inadequate menstrual hygienic practices were poverty related. Both personal and structural poverty posed as an economic barrier to the accessibility of hygienic sanitary materials, threatening the menstrual hygiene of the girls and making them prone to contracting infections. As for the personal poverty the vast majority of the girls participating in the FGDs could not afford to buy sanitary pads and hence they resorted to using cloth torn into rags, and sometimes cotton wool and even toilet paper as absorbent materials. This made them vulnerable to infections such as UTI. In their study undertaken in West Bengal, Dasgupta and Sarkar (2008) revealed similar cases. Only a minority of 11% of the girls involved in their research could afford disposable sanitary pads. Kumar and Srivastava (2011) in their cross-sectional study of adolescent girls and their mothers in Ranchi/India also highlighted the direct influence of the socio-economic status on girls' menstrual hygiene practices, meaning that whilst girls from rich families could easily afford disposable sanitary materials, girls from poor families could not.

Adequate menstrual practices are important to girls' and women's health. It was known by the girls participating in the FGDs, that lacking or poor menstrual hygiene, such as not washing regularly, not regularly changing absorbing materials or using unhygienic sanitary materials can result in health problems such as infections, rashes, bruises and vaginal itching. These findings were substantiated by studies in other developing countries. Dasgupta and Sarkar (2008), Adinma and Adinma (2008), Dhingra *et al.* (2009), Mahon and Fernandes (2010), Thakre *et al.* (2011), Oche *et al.* (2012) all reported that many girls, especially in rural areas, regularly used rags and toilet paper as absorbent materials. These may harbour infectious agents, and hence constitute a source for UTI and pelvic infections. Shanbhag *et al.* (2012) as well as Oche *et al.* (2012) and Kumar & Srivastava (2011) reported similar findings and asserted that for maintenance of good menstrual hygiene standards, reusable menstrual cloth must be washed with soap and water and dried properly, as they can otherwise harbour micro-organisms, which cause vaginal infections. This must be seen in relation to the research of House, Mahon and Cavill (2012) who affirm that during menstruation there is an

increased risk of vaginal infections due to the opening of the cervix, which creates a pathway for bacteria to enter the uterus and pelvic cavity. They also report that such infections are due to the pH in the vagina, which during menstruation turns less acidic than normal, thus creating a good environment for the growth of yeast infections such as Candidiasis (House, Mahon & Cavill, 2012).

Other health problems associated with adolescent girls' menstruation were relatively minor in relation to their health, but more importantly in relation to the girls feeling comfortable. They confirm with the findings of Pilliteri (2011) and included abdominal pains, vomiting and dizziness, the latter probably due to anemia caused by the loss of blood. The FGDs revealed that the girls did not understand this phenomenon, which highlights the importance of knowledge of the menstrual process. This lack of knowledge is lamented not only by this but also by other studies, among them Shanbhag *et al.* (2012). They made the strong point that better knowledge of menstruation and menstrual hygiene must be implemented right from childhood. According to them this also would help implementing better menstrual hygiene practices thereby minimizing the chances of contracting UTI.

5.5 THREATS TO MENTAL HEALTH

Apart from the threat to the girls' health caused by the lack of, or improper menstrual hygiene, the research also showed that the girls experienced a variety of threats to their mental health. The most salient ones were emotional stress and the lack of social wellbeing. Again to this must be added poverty, in this case the structural poverty of their schools and homes, which, as it became evident in the FGDs and shall be shown below, greatly amplified the emotional and social stress they experienced during menstruation.

The girls described how during menstruation they have difficulty concentrating fully on their learning. They made it known that they were more inclined to concentrate on their condition than on the lessons. During menstruation they were also very careful about their movements for fear of staining their uniforms. Other studies confirmed these findings. Among them is that of Adinma and Adinma (2008) undertaken in Nigeria, who argued that the stress the girls are exposed to during menstruation, in a worst case scenario, can result in depression. Also the frequently-cited Malawian study by Pillitteri (2012) highlighted the mental and emotional stress the girls suffer during menstruation.

In Zambia there is no free education system; parents have to pay for their children's

education. Western Province has highest poverty levels (62%) in the country (ZDHS, 2007). With such a high poverty level, communities are struggling for a standard of living. In this study it became evident that poverty both personal and structural posed as an economic barrier to the accessibility of hygienic sanitary materials, threatening the menstrual hygiene of the girls and stressing them emotionally. According to what was learned in the FGDs, poverty was real in Western Province as most girls could not afford to buy sanitary pads and hence they resorted to using cloth torn into rags, cotton wool or toilet paper, as noted above. In their study undertaken in West Bengal Dasgupta and Sarkar (2008) revealed similar cases. Only a minority of 11% of the girls involved in their research could afford disposable sanitary pads. On top of this it became evident in the FGDs that the lack of appropriate sanitary materials not only was an issue of the girl's physical wellbeing and well-feeling, but was also an issue of mental health and wellbeing and well-feeling.

An important finding of this study concerning the facilities was that at the three schools, the sanitation facilities for girls were inadequate, thereby contradicting official Zambian sanitation policies. The toilets did not meet the ratio of 1:25 (toilet/girls) as recommended by the Public Health Act CAP 295, and the drainage and latrine regulations 81 of the laws of Zambia (ZPHA CAP 295). Nor did they meet the 1:30 (toilet/girls) ratio suggested by WHO (WHO, 2010). Add to this the schools' lack of facilities for disposing and incinerating used sanitary pads, compelling the girls to wrap their used pads in old newspapers and carry them home for disposal, which was found to be emotional stressful for the girls. Again, several of these findings were found to be comparable with those of other studies, in this case with the Pillitteri (2011) study in Malawi and the studies by Ten (2007) in Surinam, WaterAid (2009) in Nepal and El Gilanya *et al.* (2005) in Mansoura Egypt. They all reported inferior sanitary facilities for girls in schools, encroaching on their rights to privacy and ultimately causing stress and depression and affecting their academic performances.

Other studies such as that of Sommer (2008) in his study of girls' experiences of menstruation and schooling in urban and rural Kilimanjaro, in Northern Tanzania, revealed similar findings of gender-unfriendly environments in schools. The conclusion was that many of the schools in sub-Saharan Africa lack adequate and privacy providing latrines, which affects the girls' school attendance and participation during menstruation (Sommer, 2008).

Many of the girls participating in the FGDs commented that their toilets and showers were

not appropriately designed, as they did not consider their needs for privacy when they are menstruating. This was also reported by Omidvar and Begum (2010) and Shanbhag *et al.* (2012), who researched comparable cases in India. The girls in the FGDs also reported their problems with laundering menstrual cloth due to inadequate water supply and lack of privacy to do so. Again they found this to be stressful and infringing on their rights to privacy.

As the FGDs revealed, the ultimate emotional threat to the girls was however caused by their fear of not doing well academically and hence being forced to terminate their school careers. This shall be discussed later on, in a separate sub-chapter.

5.6 THREATS TO SOCIAL WELLBEING

Apart from the threats to the physical and mental wellbeing of the girls there is what could be called the threat to their social wellbeing. Compared to physical and mental wellbeing, which can be defined by using relatively clear terms (such as “physical” and “mental health”, or similar) social wellbeing, is a rather diffused expression. It was used neither in the FGDs nor in the literature reviewed for this study. However it became clear that the combination of lacking important facilities at schools and at home; of adverse cultural and socio-economic conditions; the frequent discrimination against the girls by bully-boys, who would tease and ridicule them when they detected their condition, very often resulted in the girls’ feeling of seclusion and exclusion, of aloneness and separation. In other terms, all this, and especially in combination, created a threat to the girls’ social wellbeing, which is beyond physical and mental health. Kirk and Sommer (2006), in their study of sub-Saharan African and Asian cases, describe similar fears of menstruating girls in South Sudan. Ten (2007) also describes cases of threats to girls’ social wellbeing caused by their exclusion from family and social life during menstruation. Ten’s cases pertain to several cultures.

5.7 THREATS TO SCHOOL ATTENDANCE

Despite being overlapping and linked, the above described outcomes can be allocated to individual main factors. There is however one outcome which relates to all factors. It is of such importance that it is worthy of a separate sub-section and heading. As indicated several times in the course of this study, it became evident in the FGDs that the girls felt they might fare poor academically, and that they might even be forced to give up their school careers. The latter posed the ultimate threat to them. They feared that this could happen due to diseases, teenage pregnancies, mental and social stress and problems and a variety of other

reasons, all of them caused either by bad menstrual hygiene or otherwise associated with coming of age and being adolescent. The danger of poor school performances due to ill health of adolescent girls is amongst others substantiated by ZDHS (2007), Adinma and Adinma (2008) in Nigeria and by Pillitteri (2012) in Malawi. Also Kirk and Sommer (2006), in their study from sub-Saharan Africa and Asia, report low participation and poor performance of menstruating girls in class as they are worried about their condition.

Inadequate menstrual hygienic practices reported by the participants in the FGDs of this study were mainly caused by lack of, or inadequate water supply in schools and homes. Too often the girls were forced to compromise on their menstrual hygiene, which caused stress and inconvenience. It also resulted in a waste of time, as the girls had to look for water. During the time the girls were out of class they missed lessons and this negatively affected their academic performances. These findings were in accordance with the WaterAid (2009) study of Nepal, in which many girls reported that due to the lack of facilities in their schools, they missed classes on the days they had their periods, and that this led to poor academic performances. The study by Shanbhag *et al.* (2012) presents similar findings from India, where there was a case in which over half of the girls were regularly absent from school due to improper conditions for their menstrual hygiene. Similar findings were reported from Malawi by Pillitteri (2011), who writes that girls lose 12 to 36 days of schooling annually for the same reasons.

Another stressful and embarrassing issue for girls during menstruation also revealed during the FGDs was the absence of toilets at the classroom blocks, which forced the girls to walk long distances to the dormitories in order to use the toilets there. Again this was found to be time-consuming, resulting in them missing out on subjects and ultimately threatening their academic performances. The conditions found by Pillitteri (2011) in Malawi were similar. She concluded that mature girls lose about one to three days of school per month due to lack of proper sanitation facilities.

There is a further important aspect of poverty affecting the menstrual hygiene of adolescent girls, that of transportation. The FGDs highlighted that there were participants living far from school, who could not afford the bus fares and hence they had to walk for several hours every day. They found this was particularly burdensome on the days they were experiencing heavy flows, hence on these days they quite often preferred staying at home. Some girls also found it generally very uncomfortable to walk long distances with a rag as pad, as this caused

friction, and hence, they also stayed at home on their critical days, missing out on school sessions. Other difficulties caused by the structural poverty the girls were faced with, was that when they were trying to maintain a proper standard of menstrual hygiene, it could be difficult for them to get hold of disposable sanitary materials. Either there were no shops to buy pads from, or pads were not available at the shops. Thus even the girls who use pads, admittedly a minority, were forced to resort to other and less sanitary materials as absorbents.

As for transportation, given the vastness of the sub-Saharan Africa's countryside, transportation, especially at cheap prices constitutes a permanent problem. This is true not only for in-school menstruating girls, but for large parts of the population, among them school children and youths. As for the shops, poverty, especially the lack of cash the majority of people living in rural areas are faced with, prevents the shop owners from keeping items on stock for which they are not sure they can obtain an immediate return on.

5.8 GENDER DISCRIMINATION

Originally gender discrimination was not an issue the study had planned to investigate. However, during the conduct of the FGDs, it emerged as a relevant additional factor greatly impacting on the menstrual hygiene of the girls, their mental and social wellbeing and their school careers. Furthermore, it also became clear that gender discrimination was not just another factor, overlapping with the others, but one which more than any other was crosscutting and as such, is part and parcel of all other factors. It is hence worthwhile to be treated separately, in the below sub-section.

As an example, gender discrimination materialized in the gender-unfriendly design of the school toilets, and in the culture of menstruation as taboo and in some of the rituals described before. A gender survey undertaken by Fernandes (2008) in West Bengal/India among Gujjar communities reported similar gender discrimination associated with menstruation and menstrual blood, mainly influenced by socio-cultural beliefs and also by a gender-unfriendly policy environment. The study recommended that to cope with these barriers a gender sensitive programme should be initiated to recognize menstrual hygiene in the Bengali communities. Furthermore this programme should be led by women (Fernandes, 2008). Gender-related barriers were also reported by Kirk and Sommer (2006), who had come across similar cases in sub-Saharan Africa and Asia. Amongst the cases they described, one is that of female school teachers in Nepal, who were not allowed to teach on the days they were menstruating. This is a very clear example of a gender-unfriendly policy environment.

Sommer (2008) in his study of girls' experiences of menstruation and schooling in Northern Tanzania revealed that the gender-unfriendly environment in the male-dominated schools of sub-Saharan Africa affects girls' school attendance and participation during menstruation.

In the case of this present study, the girls in the FGDs revealed that they felt discriminated both at home and in school and that this was humiliating and could even be traumatizing. Gender discrimination at home materialized in not being allowed to mention menstruation in the presence of males, who at their end were inconsiderate of girls' conditions, and in not being allowed to dry reusable paraphernalia on the family laundry line. In school, the girls reported that gender discrimination and infringing on their rights took place regularly. There was not much support provided by teachers, who were mainly males, and who, according to the girls, were unaware or ignorant of their needs and problems. The experience of the girl who had messed herself accidentally, and was ordered to write a report about her misfortune, causing stress and humiliation not only to her but to all girls in class, is a concrete example. Worst, the girls agreed is the behaviour of their male schoolmates. As indicated sporadically above, they took great pleasure in bullying and teasing girls whom they detected were menstruating, thereby adding to their stress and causing more embarrassment. The girls reported living in constant fear of being ridiculed and harassed. Hence, said the girls they often opted to stay at home when menstruating rather than have boys know that they are. Add to this the aforementioned case of a girl, who dropped out of school because of boys' bullying and mocking her, and it becomes clear how stress-generating boys' behaviour towards girls can be.

Again, the lack of understanding of the girls' conditions during menstruation by their male school-mates is interrelated with the culture of silence and the taboo of not discussing such issues in public.

The findings of the devastating results of boys' bad behaviour coincide with findings made by Kirk and Sommer (2006), who reported similar cases of lack of understanding of girls' needs and conditions during menstruation by male teachers and boys in sub-Saharan African and Asian developing countries. Also Pillitteri (2011) in her study of Malawi reported about girls' humiliation by their male school mates.

Therefore gender discrimination in schools and homes when associated with menstruation and reproductive health has a negative impact on girls' education and threatens their future

careers. In particular missed out sessions and dropping out of school for fear of bully boys have a devastating impact on girl's education and on their prospects in life.

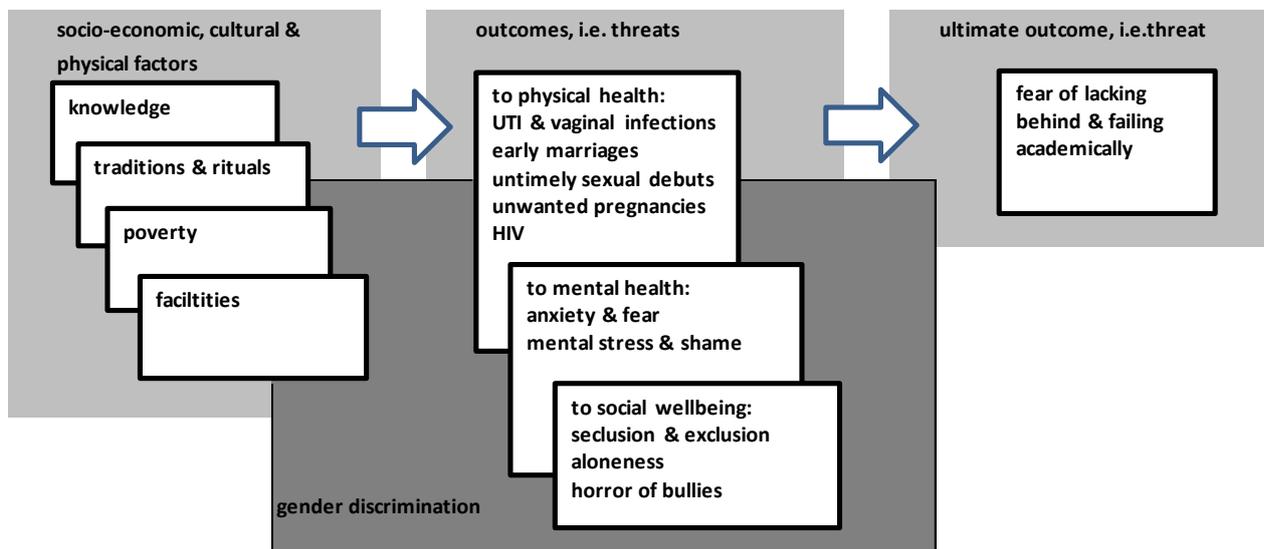
5.9 SUMMARY OF THE DISCUSSION

As established in this chapter, the factors impacting on the girls' menstrual hygiene relate to and threaten the girls' physical and mental health and their social wellbeing. The factors include: applied practices of menstrual hygiene; knowledge (better: lack of knowledge) of the female cycle; the traditional culture of Western Province; existing and/or lacking sanitation facilities and services found at the three schools, as well as personal and structural poverty; to this must be added emotional stress and (lacking) social wellbeing. There is finally the crosscutting factor of gender discrimination, materializing amongst others in the ignorance of the girls' conditions by male family members and teachers, coupled with indifference; and there is the behaviour of the bully-boys at the schools.

Despite their sequential description, the factors highlighted in the preceding sections are inter-linked, overlapping and cross-cutting. This pertains to the majority of cases of research into multi-faceted and complex subject matters as the one this study is dealing with. As an example the traditional initiation rituals practiced by the ethnicities of the Western Province of Zambia frequently prevented the girls from attending school, resulting in their lagging behind academically. Thereby the rituals ultimately put the girls' school careers at risk, and on top of that, they also caused mental stress and, to a lesser extent, created unsuitable hygienic practices, as well as fear and shame. The latter again added to the girls' mental stress. Furthermore the rituals were prone to promote untimely sexual debuts, leading to early marriages, teenage pregnancies and infections, jeopardizing the girls' school careers, as well as their physical and mental health. Another example of a cross-cutting factor worthwhile highlighting was poverty, both personal and structural. In line with the rituals, but to a much larger extent, it also hindered the girls applying hygienic menstrual practices, thereby constituting a health risk, but also prompting shame and fear. At the same time, due to their and their families' poverty, the girls felt discouraged from attending classes on their critical days, as they were unable to walk long distances without proper pads, whilst the schools, out of reasons of structural poverty, could not provide the necessary facilities in terms of water, toilets, showers and disposal sites. In other words, the schools could not offer the girls what they needed most in the days they had their periods – privacy, wellbeing, safety and comfort, and the absence of mental and physical stress.

Therefore, this study has shown that ignoring proper menstrual hygiene has a negative impact on the health and education of girls in the Western Province. The same pertains to their setting, i.e. family and school, which do not provide proper conditions for them to maintain a good standard of menstrual hygiene, although this is found to be of great importance to their physical, mental, and social wellbeing. A main conclusion must be that improved knowledge and practices of menstrual hygiene, as well as a better environment in terms of facilities and services for its proper management will lead to decreased vulnerability to infections and other maladies, higher self-esteem and ultimately to better academic performances at school. The limitation of this study to the Western Province does not allow its results to be generalized, although many of the study’s findings were confirmed by other studies in other developing countries. This highlights the need for more scientific research in the subject matter area of the present study, in order to better understand the negative impacts associated with poor menstrual hygiene on the physical, mental and social wellbeing of girls. Please also refer to the figure below providing a systematic, though simplified overview of the various factors impacting on adolescent girls’ menstrual hygiene and their outcomes, drawn from the findings of the present study and the literature reviewed.

Figure 1: Factors impacting on the menstrual hygiene of adolescent girls and their outcomes



The above figure consists of three columns, indicated by the light-grey areas. The first column, the one to the left, shows the socio-economic, cultural and physical factors, resulting in the outcomes shown in the two other columns, which constitute the threats: the second

column, the one in the middle, shows the three major threats, leading to the overarching outcome depicted in the third column, the one on the right side - the threat to the girls' school performance. This threat is ultimate because it puts the girls' future, the expectations and prospects of their entire lives, in jeopardy. In order to demonstrate its cross-cutting nature, gender discrimination is shown as a dark-grey area box underlying and cutting across not only the other factors, but also the threats, of which it is part and parcel. The way the boxes in the first two columns are drawn up is meant to demonstrate the interrelationship of the various factors and the threats.

5.10 LIMITATIONS OF THE STUDY

This study had both strengths and limitations. It is an Explorative Qualitative Study, meaning that its results cannot be generalized to the whole population. Furthermore, the nature of the study was that of a mini-thesis, which limits the sample size. However, the schools were very different, and so were the pupils, enabling the researcher to work with the required heterogeneous samples in terms of participants in the FGDs (Bonita *et al.*, 2006; Beaglehole *et al.*, 1997). Another limitation was that there were no data collected from school teachers and initiation counselors, who might be considered key informants and thus might have contributed more data on the factors impacting on menstrual hygiene.

A further limitation was the short time allocated to data collection, again due to the study's character of a mini-thesis.

There was moreover the limitation of the researcher in Western Province being known as a health promoter and also a Lozi. This might have influenced the information provided by the girls in the FGDs, for example by withholding relevant data pertaining to menstrual hygiene. There was also the danger of the researcher using her vast experiences and her values and opinions to bias the study results. This was however diminished through the measures described in the rigour section. On the other hand the researcher being a health promoter and a Lozi with past experiences and co-responsibility in implementing a variety of school health programmes in Mongu District also constituted certain advantages. The main ones were the cordial relationships with schools, school authorities and parents that she had established over the years. School authorities and parents trusted and welcomed her, and so did the respondents, who felt at ease and provided the required information without hesitation. It became evident during the FGDs that being a woman was a further advantage.

Another limitation was the possibility of language errors in the course of the FGDs, some of which were held in Lozi and English at the same time. This could have led to misunderstandings, but was minimized by the researcher's mother tongue capacity as a Lozi.

CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

6.1 INTRODUCTION

This chapter offers conclusions and recommendations that respond to the needs uncovered by the findings of this study.

6.2 CONCLUSIONS

This exploratory qualitative study was conducted at three secondary schools in Mongu District of Zambia. At the schools a series of FGDs with girls from grade 9 and 12 was carried out. Furthermore, the researcher undertook a comprehensive literature review. In the pursuit of the study the findings of the FGDs were held against and compared to the findings of the literature, which dealt with other countries in the developing world, mainly in sub-Saharan Africa and Asia. One of the main conclusions of this study was that girls are not treated with fairness when it comes to satisfy their needs in terms of menstrual hygiene. This was also the case in many homes. The study has shown that menstruating girls face many challenges. Managing their menstruation and maintaining a good standard of menstrual hygiene is difficult for adolescent girls because of the factors established in this study, such as inadequate knowledge, culture and traditions, inadequate facilities and services, poverty and gender discrimination. The latter factor was not planned to be explored right from the beginning, but emerged during the FGDs as being of great importance, not the least because of its crosscutting nature

On the whole the findings of the study coincide with the results of the literature review.

6.3 RECOMMENDATIONS

RECOMMENDATIONS

Despite its above described limitations, it can be derived from the study that Zambia is far from providing proper menstrual care for all its school going adolescent girls. Such care is needed for our girls to lead healthy, safe, unmolested and dignified lives. In order to provide the necessary conditions for improving our girls' conditions, there is need for all stakeholders, i.e. parents, teachers, children, government and the community, to act in unity, for the common good and a better future of our children, not the least our adolescent girls.

In order to satisfy the needs uncovered by this present study, there are the below specific recommendations. They can only be preliminary, the reason once again being the limitations

of the study. The recommendations are allocated to the individual stakeholders who, through their mandate, are the girls' guardians and as such involved and ultimately responsible for the girls' health and wellbeing, including their reproductive health and hence also their menstrual hygiene.

National (policy) level

- *Ministry of Local Government and Housing* to incorporate menstrual hygiene and management into the National Sanitation and Hygiene Strategy.
- *Ministry of Local Government and Housing* to mobilise relevant stakeholder ministries (*Ministry of Health, Ministry of Local Government and Housing, Ministry of Chiefs and Traditional Affairs and Ministry of Education*) and to co-ordinate their work on menstrual hygiene and reproductive health of adolescent school girls, either by establishing a new task force, or by re-vitalising the existing National Sanitation Working Group.
- *Ministry of Health* to promote research into the linkages of Urinary Tract Infections and other infections with poor menstrual hygiene, and approximate its magnitude in a Zambian context.
- *Ministry of Health* to initiate that the relevant legislation [PHA CAP 295 of the laws of Zambia, Section 75, Drainage and Latrine Regulation, Reg. 81. Sub-section a, (i)] integrates management of menstruation and menstrual hygiene in the design and the equipment of the girls' school toilets.
- *Ministry of Education* to elaborate curricula for menstrual hygiene education at primary and secondary school level.
- *Ministry of Education* to design toilets in schools which are user friendly for girls.

At district level

- *Ministry of Education optionally in combination with Ministry of Health*, to capacitate teachers (male and female) better to cope with the needs of adolescent girls in schools, amongst others with a view to menstrual hygiene.
- *Ministry of Education* to mobilise (and if need be capacitate) NGOs to advocate that

menstrual hygiene be included in school health programmes.

- *District Educational Board Secretary offices* to oversee rehabilitation and construction works of girl's school toilets.

At school and community levels

At this level we need to move forward step by step. By developing a close dialogue with the girls and their female teachers in selected schools, we further build up our background material and the facts we need to find the answers. We test our written educational material using practical inputs from the girls themselves. We tell their stories and how they solved them. We illustrate. We teach. We enable. We spread our learning through direct intervention and through the written word to educate and provide answers for our girls, so they may fulfill their dreams by performing well in school and beyond. Therefore, this calls for:

- *Ministry of Education in combination with Ministry of Health* to introduce menstrual hygiene in the health and hygiene clubs in schools.
- *School authorities* to provide relevant information to boys, and consequently elaborate rules of good behaviour for them towards girls, and to enforce them.
- *Schools' Parents Teachers Association* to pressure schools to rehabilitate girls' toilets, and provide practical assistance if need be.
- *Ministry of Chiefs and Traditional Affairs through the House of Chiefs* to promote increased awareness of menstruation and menstrual hygiene in the communities.
- *Ministry of Chiefs and Traditional Affairs through the House of Chiefs* to encourage that the traditional initiation curricula are reviewed and amended.
- *Religious and civic leaders and parents* to promote increased awareness of menstruation and menstrual hygiene issues in the communities.

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