

**MENSTRUATION MANAGEMENT OF SCHOOLGIRLS IN RURAL
ZIMBABWE**

SINESISA BHEBHE
50259164

A full dissertation submitted in fulfilment of the requirements for the degree of
Master in Public Health (MPH 9001) at the University of South Africa

SUPERVISOR: Professor L Roets

FEBRUARY 2021

DECLARATION

I hereby declare that this study of “**MENSTRUATION MANAGEMENT OF SCHOOLGIRLS IN RURAL ZIMBABWE**” 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.

Full Name: Sinesisa Bhebhe
50259164

Date: 26 February 2021



Signed:

DEDICATION

This dissertation is dedicated to my husband, three children, and my mother.

ACKNOWLEDGEMENTS

I would like to thank the Almighty God for this great opportunity that He has granted me to conduct and complete this study. It has been a great journey of intense study, and I would not have made it if it was not for the grace of God. I further extend my sincere gratitude to my supervisor, Professor Lizeth Roets, for her unwavering support, guidance and tireless effort from the time I started this study, to the end of what I would call a long but interesting journey.

My sincere thanks go to my beloved husband, Mr Clifford Bhebhe, for his input and support throughout my studies, my three children, Buhlebenkosi Shalom Bhebhe, Clifford Junior Bhebhe, and Sinenkosi Princess Bhebhe, my mother, Sikhanyisiwe Gumbi, and my late father, Tompson Ndlovu. You never complained about the long hours I spent on this journey, but only showed your love and encouraged me.

STUDENT NAME: SINESISA BHEBHE
STUDENT NUMBER: 50259164
SUPERVISOR: PROF L ROETS
DEGREE: MASTER OF PUBLIC HEALTH
DEPARTMENT: HEALTH STUDIES (UNIVERSITY OF SOUTH AFRICA)

ABSTRACT

Menstruation is a natural event throughout women's lives. However, in developing countries, the management thereof remains a health concern. Schoolgirls aged between 13 and 17 years in rural areas are affected by menstrual management in various ways.

The purpose of the study was to explore and describe rural schoolgirls' experiences, practices and challenges in managing their menstruation.

A qualitative explorative and descriptive design was utilised and data were gathered by means of semi-structured interviews, which were conducted with 32 participants between the ages 13 and 17. Purposive sampling was used to select participants who were knowledgeable and experienced on the phenomenon under study in order to answer the research question and provide data.

The findings revealed that participants experienced a lack of knowledge about menstruation; that cultural beliefs, perceptions and traditions influenced their experience in some negative ways; and there is a lack of required resources for menstrual management. Most significantly, menstrual management challenges resulted in girls dropping out from school, which can potentially impact women's education level in Zimbabwe.

It is recommended that the research findings be shared with various appropriate departments, such as the Ministry of Education and the Ministry of Health. The latter should advocate for changes in these respective departments pertaining to

menstruation and menstrual management. There should also be direct involvement and discussion with religious leaders and educators in the community to address the need for more knowledge about menstruation and menstrual management.

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LIST OF ABBREVIATIONS

AIDS	Acquired Immunodeficiency Syndrome
BRAC	Bangladesh Rural Advancement Committee
FAWE	Forum For African Women Educationalist
GAPS	Gender And Primary School
GUIU	Girls Up Initiative Uganda (GUIU)
HIV	Human immunodeficiency Virus
JMP	Joint Monitoring Programme
MDG	Millenium Development Goals
MoE	Ministry of Education
MoH	Ministry of Health
NGO	Non-Governmental Organisation
RTIs	Reproductive Tract Infections
SADC	Southern Africa Development Corporation
SDG	Sustainable Development Goals
SNV	Stichting Nederlandse Vrijwilligers
STI	Sexual Transmitted Disease
UN	United Nations
UNESCO	United Nations Educational Scientific And Cultural Organisation
UNFPA	United Nations Population Fund
UNICEF	United Nations Childrens Fund
USD	United States Dollar
WHO	World Health Organisation
Zim Stats	Zimbabwe Statistics

CHAPTER 1: INTRODUCTION

1.1 BACKGROUND

Menstruation is defined by Lysaght (2016:21) as a natural event occurring throughout women's lives; on average, it happens 3 000 days over their lifetime. However, menstrual management remains a significant health concern in third-world countries (Sommer, Caruso, Sahin, Calderon, Cavill, Mahon & Phillips-Howard, 2016:52). According to UNICEF/WHO (2015:45) Menstrual management is defined as the use of clean menstrual management material to absorb and collect blood; the material is changed in privacy. Moreover, it is also important that menstrual material, such as sanitary towels/pads, are properly disposed of (UNICEF/WHO, 2015:45).

One of the major problems in managing menstruation is insufficiently available menstrual material for schoolgirls in rural areas (Sharma, 2014:251). Therefore, a comprehensive and sustainable approach is vital to improve communities' knowledge and attitudes, enhance proper infrastructure and sanitation, secure funds to purchase disposable sanitary pads, and address psychological outcomes and their implication in the life of all schoolgirls (Patkar, Rockaya & Anthony, 2017:72; Sivakami, Van Eijk, Thakur, Kakade, Patil, Shinde, Surani, Bauman, Zulaika, Kabir, Dobhal, Singh, Tahiliani, Mason, Alexander, Mamita, Laserson & Phillips-Howard, 2019:77).

If adequate infrastructure and sanitation are not provided, it causes absenteeism in rural schools. This phenomenon is emphasised by WHO/UNICEF JMP (2018:22), estimating that one in ten school-going African girls do not attend school while menstruating (Phillips-Howard, Caruso, Torondel, Zulaika & Sommer, 2016:87). The lack of sanitary ware, sanitary facilities, and the long walking distances to schools are some of the reasons schoolgirls are absent from school. Absences of approximately four days every four weeks are thus recorded owing to inadequate water and sanitation. In this study's context, 32% of schoolgirls are absent from school because the schools lack sufficient infrastructure and sanitation (WHO/UNICEF JMP, 2018:32).

In the rural district Gwanda, Zimbabwe, 72% of girls cannot afford sanitary ware and 70% miss school because of the stigma of menstruation (Zim Stats, 2013:8). This contributes to the challenge of more than half of children dropping out of school before sitting for their school-leaving examinations (Tshuma, Ndlovu & Bhebhe, 2015:52).

Moreover, schoolgirls in Zimbabwe have very little information about menstrual management before menarche, and this lack of knowledge, cultural and traditional influences is significant (Tshuma et al., 2015:57). Menstrual-related traditions exist in different countries, culture, ethnic groups, social classes or families (Patkar et al., 2017:320). The most striking is restricted control. Many women and girls are restricted in their mobility and behaviour during menstruation due to their perceived impurity, myths, misconceptions, superstitions, and cultural taboos concerning menstrual blood and menstrual management (Sommer, Zulaika, Schmitt & Gruer, 2019:67).

The sexual reproductive health of schoolgirls is also interlinked with the use of hygienic menstrual management material as studies have indicated a link between poor sanitary health, cervical cancer and other reproductive health challenges (Paktar, 2017:10; Van Eijk, Sivakami, Thakkar, Bauman, Laserson, Coates & Phillips-Howard, 2016:619; Zaidi, Sivakami & Ramasamy, 2015:72). Furthermore, Hennegen and Montgomery (2016:20) assert that schoolgirls resort to using unhygienic and unsafe materials during their menstruation as a result of the unavailability of money to buy sanitary ware. Some girls use rags, cow dung, mattress stuffing, leaves or newspapers and papers from used school exercise books to manage their menstruation (Mutunda, 2016:45). These unhygienic menstrual materials can lead to reproductive tract infections, vaginal rashes, and cervical cancer (Sommer et al., 2016:76).

The country's political climate, extreme poverty, and ongoing economic instability fuel menstrual management challenges in rural Zimbabwe. Political issues also contribute to funders withdrawing support for menstrual management material such as sanitary pads (Ndlovu, 2016:31). The SNV Netherlands, Forum of African Women Educationalist (FAWE Uganda) (2003), and a few other non-governmental organisations (NGOs) have partnered with government in an attempt to sustain menstrual management, but it is difficult to reach all schoolgirls in rural Zimbabwe.

The proven lack of sustainable, systematic, and adequate menstrual management in rural schools in the Gwanda District is a neglected public health concern that requires prioritisation, coordination and recommendations to improve accessibility. The voices of those who are affected, namely schoolgirls, should thus be heard (Sommer et al., 2016:14).

1.2 RESEARCH SETTING

Zimbabwe is situated in the Southern African Development Community (SADC) region, comprising over 390 767km² (Zim Stats, 2013:3). To the east of Zimbabwe is Mozambique, to the south is South Africa, to the west is Botswana, and to the north and north-west is Zambia. The country comprises of ten provinces. These provinces have a total of 59 districts and 1 200 wards, as shown in Figures 1.1. and 1.2, respectively.



Figure 1.1: Neighbouring countries to Zimbabwe

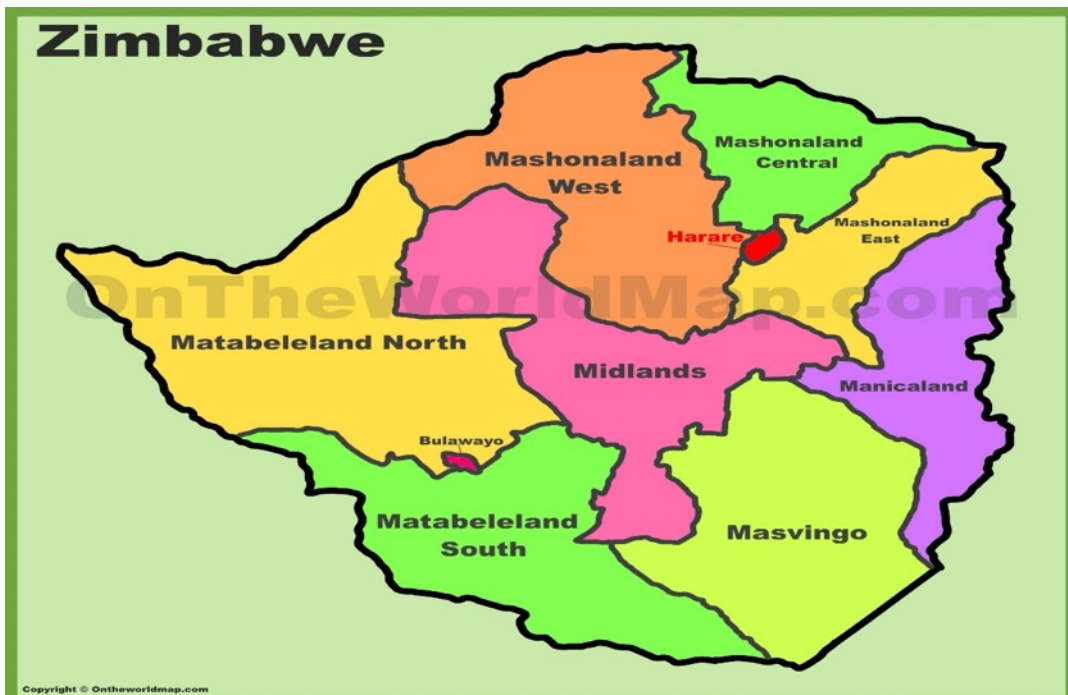


Figure 1.2: Provinces in Zimbabwe

The study was conducted in Gwanda District (Matabeleland South Province) in Zimbabwe, located about 126 km south of the City of Bulawayo (Zimbabwe's second capital city). It is the capital of Matabeleland South Province, and is bordered by South Africa to the south (Beit-bridge) and Botswana to the south-west (Plumtree), as depicted in Figure 1.3. Gwanda District has an altitude of 1001 metres above sea level and an estimated population of 20 227 people.

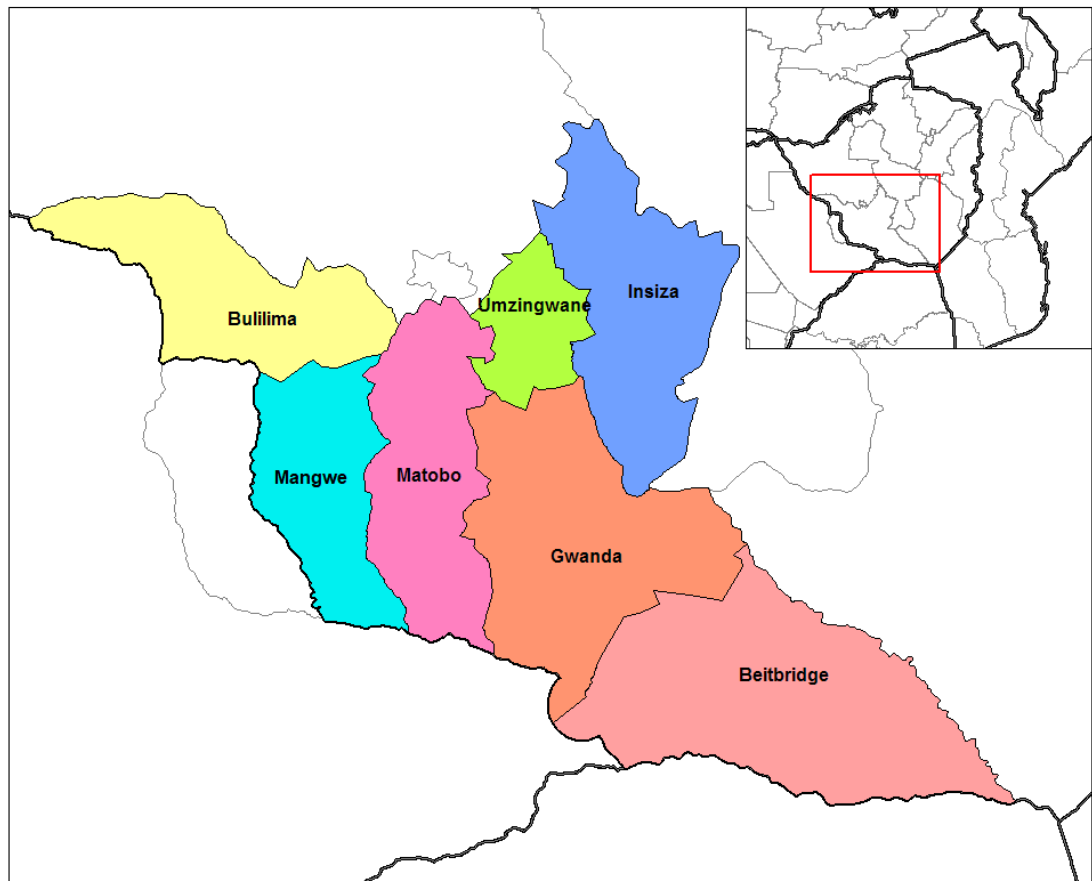


Figure 1.3: Matabeleland South Province in Zimbabwe

The Zim Stats (2013:13) states that poverty levels in Gwanda are higher than in other provinces. The lack of economic opportunities and perennial drought has plunged people in Matabeleland South Province into extreme poverty, and this has resulted in the influx of people into neighbouring countries such as South Africa, Botswana, and abroad.

1.3 PROBLEM STATEMENT

The Gwanda District is characterised by severe poverty. The rural schools are extremely disadvantaged and lack basic infrastructure such as sanitation facilities required for

menstrual management, affecting schoolgirls every month until they finish school. In addition, a lack of information about reproductive health, in general, and the process of menstruation in rural Gwanda District, negatively affects the management thereof (Moyo, 2018:11).

The collapse of the Zimbabwean economy that occurred a decade ago still contributes to the scarcity of sanitary ware and its inaccessibility owing to the cost involved (Chiwara, 2017:23). It has also been determined that insufficiently available menstrual hygiene material (sanitary ware) contributes to poor school attendance during menstruation, resulting in early school dropouts (Moyo, 2018:13). This study therefore sought to understand rural schoolgirls' experiences and challenges regarding menstrual management to identify and describe possible interventions to address these challenges.

1.4 AIM

The researcher aimed to explore and describe rural schoolgirls' experiences, practices and challenges in managing their menstruation.

1.5 OBJECTIVES OF THE STUDY

The following objectives applied in addressing the aim of the study:

- Describe the challenges that schoolgirls experience with menstrual management in selected rural areas.
- Explore the cultural practices influencing schoolgirls' experiences with menstrual hygiene.
- Make recommendations for possible interventions to address the challenges identified.

1.6 RESEARCH QUESTION

- What challenges are experienced by schoolgirls in managing menstruation?
- What cultural aspects can be associated with menstrual management?
- What are the knowledge gaps and lack of awareness affecting schoolgirls in managing menstruation?

- What interventions can be implemented to address the challenges experienced by schoolgirls regarding menstrual management?

1.7 DEFINITION OF CONCEPTS

1.7.1 Menstrual hygiene

Menstrual hygiene refers to personal hygiene during menstruation. It entails keeping the genital area clean to avoid bacterial infections. This is done by using clean material to collect menstrual blood (Sommer et al., 2019:41; Reed & Carr, 2018:17).

In this study, menstrual hygiene refers to schoolgirls' personal hygiene practices to keep the genital area clean and fresh from bacterial infections using appropriate and clean material to absorb or collect menstrual blood.

1.7.2 Menstrual management

Menstrual management refers to access to menstrual products to absorb or collect menstrual blood in privacy. It also means changing the materials, washing with water and soap, and accessing facilities to dispose of used menstrual material (UNICEF/WHO 2015:45).

In this study's context, menstrual management refers to the use of clean material to absorb or collect menstrual blood for the duration of the menstruation period. The terms 'sanitary napkins', 'sanitary pads', 'sanitary materials', 'menstrual products' and 'menstrual materials' are used interchangeably in the study.

1.7.3 Menstruation

Menstruation is the process of discharging blood from the endometrium at intervals of about one lunar month from puberty until menopause, except during pregnancy (Moore, Persuade & Torchia, 2015:57). In this study, menstruation refers to the discharge of blood from the lining of the uterus experienced by schoolgirls between the ages of 13 and 17, at intervals of about one lunar month from the onset of puberty.

1.7.4 Menarche

Menarche can be defined as the onset of menstruation, which is a normal physiological process that occurs at regular monthly intervals (Cetin & Aslan, 2020:41). In this study, menarche is the first menstrual period, reflecting the transition from girlhood to womanhood.

1.7.5 Schoolgirl

A schoolgirl in this study refers to a female school-going child between the ages of 13 and 17 years, attending a secondary school.

1.8 RESEARCH DESIGN

A research design can be defined as the master plan of a research study that sheds light on how the study is to be conducted (Polit & Beck, 2020:471; Joubert & Ehrlich, 2014:110). A generic explorative and descriptive qualitative research approach was used because the research involved the study of human behaviour in its own unique setting (Polit & Beck, 2020:472). The schoolgirls' practices and experiences regarding menstrual management were explored (see Section 3.3).

1.9 RESEARCH PARADIGM

Polit and Beck (2016:738) define a paradigm as a way of looking at natural phenomena. It is a worldview that encompasses philosophical assumptions that guide one's approach to enquiry in a constructive way. The researcher followed an interpretivist paradigm, as explained by Green and Martelli (2015:22), in an attempt to understand schoolgirls' (aged between 13 and 17 years) experiences in managing their menstruation as experienced within their own context (see Section 3.2).

1.10 POPULATION OF THE STUDY

The target population is defined as the specific pool of cases that the researcher wishes to study (Bernard, 2018:43; Patton, 2015:239). In this study, there were 820 schoolgirls aged between 13 years and 17 years, in ten secondary schools in the rural Gwanda District of Zimbabwe, who constituted the target population (see Section 3.4).

1.11 UNIT OF ANALYSIS

Polit and Beck (2020:497) claim that a sample comprises elements or subjects of a population considered for actual inclusion in the study. A purposive sampling method was adopted in this study to select four secondary schools from which individuals were invited to participate.

The goal of qualitative research is to obtain a sample that is rich in information instead of getting a sample that is representative of the population (meaning large numbers) (Patton, 2015:244). In this study, Patton's approach was followed to study the phenomenon of menstrual management in-depth. Semi-structured interviews were conducted with 32 schoolgirls from four secondary schools (eight schoolgirls per school). The principle of saturation was important, and at least eight schoolgirls per school were interviewed to ensure that rich data were gathered.

The gatekeeper used a purposive sampling method to select at least eight schoolgirls from each of the four selected schools (see Section 3.6). The researcher obtained the details of the schoolgirls who gave their assent and their parents or guardians' contact details from the gatekeeper.

1.12 INCLUSION CRITERIA

The inclusion criteria for this study were all schoolgirls aged 13 – 17 years from forms 1 to 4, who have reached menarche, who volunteered to participate in the study, and whose parents consented to their children participating.

1.13 EXCLUSION CRITERIA

The exclusion criteria were those schoolgirls who had not yet reached menarche, who were pregnant, whose parents did not give consent, and the girls who did not wish to participate.

1.14 DATA COLLECTION

A semi-structured interview guide (see Annexure A) was developed after conducting a literature review to gather data. Ethical approval was also received from the Health

Studies Research Ethics Committee of the University of South Africa (Unisa) (see Annexure B), from the Research Ethics and Science Review (RES) Board in Zimbabwe (see Annexure C), and from the Provincial Offices of the Ministry of Health (MoH) (see Annexure D). The MoH and Education also gave their approval for the researcher to conduct the study with human subjects before data collection commenced (see Annexure D & E). In the schools, permission was granted by the headmasters and the School Governing Body (SGB).

1.15 DATA ANALYSIS

Recordings of the semi-structured interviews were transcribed verbatim, and the data were thematically analysed (Braun & Clarke, 2006:30) (see Section 3.11). The transcribed interviews were read several times to gain an understanding of the content (Polit & Beck, 2020:535). Similar codes were grouped together according to the content they represented (see Section 3.11).

1.16 TRUSTWORTHINESS

Babbie and Mouton (2014:276) refer to trustworthiness as the extent to which a research study is worth paying attention to, worth taking note of, and the extent to which others are convinced that the findings are to be trusted. Furthermore, Moule and Goodman (2015:189) explain trustworthiness as a method of establishing or ensuring scientific rigour in qualitative research without sacrificing relevance. The goal of maintaining scientific rigour in qualitative research is to accurately portray study participants' experiences. The strategies that were used to evaluate the trustworthiness of this study's findings were based on the principles of credibility, dependability, confirmability, and transferability (see Section 3.8).

1.17 ETHICAL CONSIDERATIONS

Ethics is a system of moral values focuses on the extent to which research procedures align to professional, social and legal obligations to study participants (Polit & Beck, 2020:727). Ethical researchers have a responsibility to protect participants and, therefore, the ethical principles described by various authors were adhered to in this study (Polit & Beck, 2020:133). Ethical demands can be challenging because they sometimes conflict with the desire to produce rigorous evidence; however, it is the

researcher's responsibility to ensure ethical research practises, as was the case in this study.

The principles on which standards of ethical conduct were based, are discussed in detail in Chapter 3 (see Section 3.9).

1.18 THESIS LAYOUT

The thesis layout is presented in Table 1.1.

Table 1.1: Thesis outline

CHAPTER	DESCRIPTION
Chapter 1	Provides an overview of the study, describing the background, the research setting, the problem statement, the definition of concepts, and the research questions.
Chapter 2	Presents a short literature review on menstrual management, not focusing on schoolgirls and their experiences and challenges, but menstrual management in general. The relevant literature control was performed after the semi-structured interviews were conducted to provide support or contradict the findings.
Chapter 3	The research methodology chapter presents research aims and objectives, the adopted research approach, research design and paradigm, sampling procedures, data collection methods and analysis, and ethical consideration.
Chapter 4	Presents the data analysis, interpretation and literature control to support or contradict the findings.
Chapter 5	Includes conclusions and recommendations based on the research findings.

1.19 CONCLUSION

This chapter presented the global picture of menstrual management. Emphasis was placed on the background and problem statement, and the purpose of this study. The objectives and the significance of the study were outlined, and the research methodology

was introduced. Chapter 2 presents a short literature review on menstrual management in general.

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

This chapter presents a short literature review on menstrual management. This review is not only focussed on schoolgirls' menstrual management, but a literature control was conducted after the semi-structured interviews to support or contradict the study's findings, as expected of qualitative research. According to Polit and Beck (2020:82), a literature review is the process of taking stock and making sense of the current state of existing knowledge, and what has been previously written on a particular subject by others. The databases Science Direct, Epihost and Google Scholar were used to search for literature. A subject librarian, appointed to assist with health-related studies, assisted with the literature search. The keywords used were (1) menstruation, (2) adolescents and menstruation, (3) menstrual hygiene management, and (4) menstruation at school.

2.2 MENSTRUATION

Menstruation is the discharge of blood and other material from the mucosal tissue of the uterus. It occurs at intervals of one lunar month from the onset of puberty until menopause (Reed & Carr, 2018:28). Menstruation is also defined as the shedding of the endometrium, in the absence of pregnancy, and occurs in approximately monthly cycles with bleeding that lasts three to seven days (Knudtson & McLaughlin, 2019:10).

2.2.1 The menstrual cycle

The menstrual cycle is controlled by hormones (Kim, Kim, Bandari & Choi, 2018:42) and is unique to each individual. A normal cycle is between 25 days and 36 days, and occurs on average from the age of 12 to 51 (Barriga & Brante, 2018:10). Only 10 to 15% of women have cycles that are exactly 28 days, with 20% of women having irregular cycles (Reed & Carr, 2018:15). The hormones involved are the luteinising hormone and follicle-stimulating hormone, which are both produced by the pituitary gland (Moore et al., 2015:64). These hormones promote ovulation and stimulate the ovaries to produce oestrogen and progesterone (Reed & Carr, 2018:32).

According to Barriga and Brante (2018:15), the menstrual cycle has three phases, namely the (1): follicular phase (preovulatory), (2) ovulatory phase, and the (3) luteal phase (postovulatory).

2.2.1.1 Follicular phase

From the first day of the period to the time the egg prepares to be released due to the rising of the oestrogen level, is called the follicular phase (Barriga & Brante, 2018:17). This phase begins on the first day of menstruation and continues through to the development of follicles in the ovaries. The phase length varies and tends to become shorter near menopause (Moore et al., 2015:75). At the beginning of the follicular phase, the endometrium of the uterus is thick with fluids and nutrients designed to nourish an embryo. The growth of three to 30 follicles is stimulated when the pituitary gland slightly increases its production of follicle-stimulating hormone (Pillitteri, 2011:789). Each follicle contains an egg as the follicle-stimulating hormone decreases. Only one of these follicles (called the dominant follicle) continues to grow. It soon begins to produce oestrogen, and the rest of the follicles start to break down. The increasing level of oestrogen prepares the uterus for fertilisation and stimulates the luteinising hormone surge (Knudtson & McLaughlin, 2019:10). In the event that fertilisation of the egg does not happen, the levels of oestrogen and progesterone remain low, and this results in the endometrium shedding, causing menstrual bleeding (Kundtson & McLaughlin, 2019:11).

The follicular phase lasts about 13 or 14 days, and ends with the increasing surge in the level of luteinising hormone. During this surge, the egg is released (ovulation), marking the beginning of the ovulation phase (Hill, 2019:106).

2.2.1.2 Ovulatory phase

The surge in the luteinising hormone marks the beginning of the ovulatory phase, which usually lasts 16 to 32 hours, and ends when the egg is released, about 10 to 12 hours after the surge (Knudtson & McLaughlin, 2019:4). It takes up to 12 hours after the egg is released for its fertilisation (Kundtson & McLaughlin, 2019:13).

2.2.1.3 Luteal phase

When ovulation is complete, the luteal phase begins and lasts for 14 days (unless fertilisation occurs), ending just before menstruation (Barriga & Brante, 2018:21). During the luteal phase, progesterone is produced from the corpus luteum, which is the structure formed as a result of the ruptured follicle that closes after releasing the egg (Moore et al., 2015:75). The high level of progesterone prepares the uterus to receive an embryo, and this causes a thickening of the endometrium and the mucus in the cervix, to prevent another sperm cell or bacteria from entering the uterus (Cetin & Aslan, 2020:45). During the luteal phase, the body temperature increases slightly and remains elevated until another menstrual period begins; this increase in temperature can be used to estimate whether ovulation has occurred (Reed & Carr, 2018:41).

The oestrogen level remains high during most of the luteal phase. If the egg is not fertilised, the corpus luteum disintegrates after a period of 14 days. During this time, the levels of oestrogen and progesterone decrease, and a new menstrual cycle begins (Kundtson & McLaughlin, 2019:19).

2.3 HUMAN RIGHTS AND MENSTRUATION

The United Nations Population Fund (UNFPA) (2019:5) listed universally agreed-upon human rights for women and girls that should be respected during menstruation. The Human Rights Watch (2017:10) state that women and girls menstruate every month between menarche and menopause, but they still face numerous challenges. Menstrual hygiene rights are human rights, as highlighted by the universal declaration of human rights in its preamble that dignity is inherent to all members of the human family (Neumeyer & Klasing, 2016:10). Menstrual hygiene rights are connected to the rights to human dignity to health and a healthy environment, education, work and non-discrimination (World Vision Report, 2017:2).

2.3.1 The right to human dignity

Women and girls' right to human dignity is violated if they cannot manage menstruation with dignity as a result of them not being able to gain access to safe bathing facilities or have effective means of managing their menstrual hygiene (UNICEF, 2016:44). In addition to the above, teasing, shame and exclusion related to menstruation also

undermine the right to human dignity (UNFPA, 2019:10). Moreover, girls may suffer from discomfort and face exclusion from everyday activities (Plan International, 2018:5).

2.3.2 The right to an adequate standard of health and wellbeing

Women and girls may experience negative health consequences when they lack the supplies and facilities to manage their menstrual health (UNFPA, 2019:223). Menstruation stigma can also prevent women and girls from seeking treatment for menstruation-related disorders or pain, adversely affecting their health and wellbeing (UNFPA, 2019:25). The use of improvised menstrual hygiene material leads to infection and infringe on girls' rights to health (Plan International, 2018:5).

2.3.3 The right to education

The lack of supplies and facilities for women and girls to manage their menstrual health may result in them experiencing negative health consequences (UNFPA, 2019:223). The stigma that is associated with menstruation can also prevent women and girls from seeking treatment for menstruation-related disorders or pain, thereby affecting their health and wellbeing (UNFPA, 2019:25). The use of improvised menstrual hygiene material leads to infection and infringe on girls' rights to health (Plan International, 2016:5).

2.3.4 The right to work

Due to inadequate access to appropriate methods of managing menstruation and the lack of medication to treat menstruation-related disorders and pain, women and girls miss job opportunities. As a result, women and girls tend to avoid taking certain jobs, or at times are forced to forgo working hours and wages (UNFPA, 2019:4). Furthermore, women and girls may be discriminated against at work on matters related to menstruation taboos (UNFPA, 2019:32).

A "Special Rules on Labour Protection for Female Employees" was issued by the China's State Council in 2012. The special rules focused on reducing and resolving the unique difficulties that female employees face at work due to their menstrual challenges, and to protect their health. Although focusing on protection, the broad range of prohibited labour may adversely incentivise an employer to recruit men instead of women because of the

menstrual taboos (Barnack-Tavlaris, Hansen, Levitt & Reno, 2019:15). Therefore, there is a need for healthy debate on what constitutes progress or regression on menstrual matters.

2.3.5 The right to non-discrimination and gender equality

Discriminatory practices can be enforced by stigmas and norms related to menstruation (UNFPA, 2019:4). Furthermore, gender inequalities are aggravated by menstrual-related barriers to school, health services and public activities (UNFPA, 2019:5). Klasing (2019:10) reveals that menstrual stigma and discrimination can be combatted by practitioners who are at the frontline of health services. Plan International (2018:5) similarly echoes that 'period shame' is rooted in gender inequality. Cultural and religious traditions around menstruation are also often derived from discriminatory, patriarchal norms about girls' status and place in society.

2.4 SUSTAINABLE DEVELOPMENT GOALS AND MENSTRUATION

The relationship that exists between Sustainable Development Goals (SDGs) and menstruation, as the main global development framework for 2015–2030, must be discussed. When the United Nations convened to create the SDGs in September 2015 in Canada, menstrual management was not directly addressed, despite menstrual hygiene management being a globally recognised public health topic (Sommer et al., 2016:16).

According to Bobel, Winkler, Fahs, Hasson, Kissling and Roberts (2020:579), there is a total of 17 SDGs, yet menstrual health and hygiene are excluded, despite being an integral component to achieving some of the specified goals. Menstruation has been addressed as a significant health, education, and gender equality issue and has thus become a matter of global concern. However, there is a lack of adequately validated measures related to situating menstruation within global health and development (Sommer et al., 2019:2).

2.4.1 Sustainable Development Goal 3 (Healthy lives and promote wellbeing for all at all ages)

The UN Statistics Division (2018:53) posits that menstrual management is of utmost importance to women's health, but despite the links that can be identified, it is indirectly mentioned in SDG 3. It is under other SDGs where the most explicit links between health and menstruation currently exist. Healthcare centres and schools have been identified as places – other than the home – where people spend critical or lengthy periods of time, so they have priority in the monitoring of indicators related to SDG 6, as discussed below (Amoakoh, 2019:15). The 'basic' sanitation service criteria of the SDGs can only be achieved if healthcare centres are provided with at least one usable and improved toilet designated for women and girls, offering facilities to manage menstruation (House, Mahon & Cavill, 2012:17).

The use of alternative methods such as rags, cow dung, mattress stuffing, leaves or newspapers and papers from used school exercise books by women and girls is inevitable in situations where they are unable to access proper sanitary supplies (Moyo, 2018:10). These materials are not only ineffective but also extremely unhygienic and can lead to serious health issues, including reproductive tract infections (RTIs) (Bobel et al., 2020:580).

2.4.2 Sustainable Development Goal 4 (Inclusive and equitable quality education and promote lifelong learning opportunities for all)

SDG 4 covers inclusive and equitable quality education for all. However, menstruation is one of the leading causes of rural girls in developing countries missing school and dropping out altogether (Sommer et al., 2016:22). According to a study conducted in Kenya, girls, on average, miss five days of school each month (Thakre, Thakre, Reddy, Rathi, Pathak & Ughade, 2012:47). Similarly, a study in Nepal (Sivakani et al., 2019:35) reported that girls miss as many as three days each month. Therefore, if menstrual health information could be included in national curricula and thoroughly taught in schools, girls would better understand how to manage their cycles and remain in school (Bobel et al., 2020:582).

The United Nations Educational, Scientific and Cultural Organisation (UNESCO), the custodian agency for monitoring Indicator 4.a.1 and Indicator 4.3.1, makes it clear that

the indicators fall short of representing menstruation's relevance to the SDG. Of the many changes experienced during puberty, UNESCO considers menstruation to have the most pronounced effect on the quality and enjoyment of education (UNESCO, 2014:10). Both primary and secondary schools are in the right place and time to correct education inequality between girls and boys (UNESCO, 2014:10). Adequate assets and services for menstrual management are also likely to be critical to enable full engagement and the management thereof (Sommer et al., 2016:3).

2.4.3 Sustainable Development Goal 5 (Achieve gender equality and empower all women and girls)

Although the indicators of SDG 5 have the highest relevance to menstruation (UN Statistics Division, 2018:53), they do not clearly mention menstruation (Amoakoh 2019:15). This does not mean it is irrelevant. As the SDGs have incorporated the human rights framework, they need to further address the issue of inequality, by examining all discriminatory practices in countries that have a tendency of treating both women and girls differently, and those that claim to be gender sensitive and neutral, yet in practice do disadvantage women and girls (Winkler & Virginia, 2014:20). In most instances, women's menstrual management needs are neglected due to the societal taboos and embarrassment that is associated with menstruation. This is further enhanced by gender inequality, which often excludes women and girls from decision-making in development processes (Mahon & Fernandes, 2010:100).

Because of the close link between menstruation and gender inequality, whatever is done in dealing with challenges of menstrual management among women and girls will promote progress towards gender equality. Therefore, the indicators discussed in relation to other SDGs may also relate to SDG 5 (ACFTU, 2014:1).

Thirumavukarasu and Simkiss, (2013:25) reveal that the subject of menstruation is being whispered about instead of being openly discussed due to the taboos and myths associated with it. In most instances, patriarchal policies further destroy women and girls' confidence, who are portrayed as dirty and unclean during their menstrual cycles. They are also being taught to feel ashamed of their bodies from a young age, reinforcing the belief that girls are inferior to boys (Sabrina et al., 2017:10). To ensure gender equality, women and girls need to manage their menstruation with dignity, without any negative feelings about their bodies (Sommer et al., 2019:15). It is only through conversation and

education that these stigmas will be broken down (Singh, 2019:19). Moreover, according to a report by the UNICEF East Asia and Pacific Regional Office (2016), one of the barriers outlined in a situational analysis of change for menstrual health and hygiene programmes was weak enabling environments, which include a lack of political will.

2.4.4 Sustainable Development Goal 6 (Availability and sustainability of water and sanitation by all)

SDG 6 is an indicator with visible relevance to menstruation (Amoakoh, 2019:32). Target 6.2 makes mention of the needs of women and girls, and it can be argued that this aims to address their menstrual management needs. However, in indicators 6.2.1a and 6.2.1b, with a focus on safely managed sanitation services and handwashing facilities at home, menstrual management is not directly addressed (UN Statistics Division, 2018:53). Indicator 6.2.1a focuses on the proportion of the population using safely managed sanitation services (by definition not shared with other households), which may increase the likelihood of women and girls having access to private facilities for menstrual management. Indicator 6.2.1b focuses on basic hygiene, including handwashing facilities on the premises, with soap and water available. The indicator provides information on menstrual management, but only partially.

Two billion four hundred million people on the planet still lack access to better sanitation (House et al., 2012:49), therefore negatively impacting menstrual management. The Joint Monitoring Programme's (JMP) recommendations for SDG-monitoring in healthcare settings explicitly include 'basic' sanitation tracking, stating that toilets must be separated for women and menstrual hygiene facilities must be available (WHO/UNICEF JMP, 2016:46). These healthcare centres and school-specific applications are the only limited instances in the SDG-monitoring framework where menstruation is directly addressed.

The JMP reported that by 2040, all women and girls must be able to manage their menstruation hygienically and with dignity. Three menstrual management indicators were recommended:

- Percentage of schools and primary health facilities that distribute accurate, contextually appropriate, and pragmatic menstrual management information;

- Percentage of teachers and healthcare workers who are able to answer basic questions on menstrual management; and
- Percentage of public facilities, schools, institutions, transport hubs, and markets that provide pit latrines that are gender sensitive. Furthermore, also check percentage of those with water, soap and disposal facilities for menstrual materials.

These recommendations are addressed in the SDGs (WHO/UNICEF, 2016:14).

2.4.5 Sustainable Development Goal 8 (Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all)

Menstruation often prevents girls from attending school and women from going to work. In some cultures, women are prohibited from participating in day-to-day activities such as cooking while they are menstruating. Certain cultures have severe restrictions such as preventing women from any human interaction, effectively forcing them into isolation. In the workplace, if the sanitary facilities are not 'women friendly', most women prefer to remain home (Bobel et al., 2020:289).

Employers should be encouraged to provide clean and safe sanitary facilities for women and girls in the work environment that caters to their needs during menstruation. Menstruation should not be a barrier to women earning an income (Bobel et al., 2020:289).

2.4.6 Sustainable Development Goal 12 (Sustainable consumption and production patterns)

According to Sommer et al., (2016:17), about 25% of girls who have reached menarche in Ethiopia, are not able to access menstrual products during their menstruation. An estimated 10% of women globally have access to commercial sanitary pads, which implies that 90% use alternative materials. The sanitary pads unattainable for many because governments impose tax on them and categorise them as luxury goods, which also have high import fees, making them too expensive for most women in developing countries.

The governments of all countries should be encouraged to assist women in managing menstruation by not taxing sanitary pads (Bobel et al., 2020:181). Menstruation and gender inequality have a correlation which cuts across lines of poverty, health and education. As such, SDG5, can be used to address other social injustices (Loughnan, Mahon, Goddard, Bain & Sommer, 2020:587).

2.5 MENSTRUAL MANAGEMENT

Menstrual management refers to (1) the use of clean menstrual management material to absorb and collect blood, cervical mucus, vaginal secretions and endometrial tissue that can be changed by women and school-going girls in privacy and as often as necessary for the duration of the menstruation period. Washing with 2) soap and water is required, and (3) access to facilities to dispose of the used menstrual management materials (UNICEF/WHO, 2015:45). Menstrual management gives girls and women confidence to live their lives normally, and it is important for the wellbeing, empowerment, mobility and productivity of women and girls (UNICEF/WHO, 2015:46).

2.5.1 Menstrual management in Africa

Mbatha (2011:64) argues that if condoms can be provided for free to prevent the spread of HIV/AIDS, then sanitary material must also be provided for poor and underprivileged schoolgirls to allow them to complete their schooling. Botswana took a major step towards getting more girls to remain in school and complete their education by offering free sanitary material to all schoolgirls in the country.

The president of Kenya signed into law to allow women and girls to receive sanitary material free of charge to enhance their menstrual management in schools, and the same was done by the president of Uganda (Bobel et al., 2020:376). In South Africa, the minister of tourism, Derek Hanekom (27 February 2018 – 29 May 2019), emphasised the importance of doing away with the tax levied on sanitary pads and publicly recommended for easy access to free sanitary products (Majola, 2019:52).

Girls' access to education is greatly hampered by issues related to their struggles in managing menstruation. The majority of girls end up absenting themselves from school and, at times, even dropping out due to their failure to access menstrual products, difficulties in obtaining accurate information, and access adequate infrastructure such as

water. In Uganda, organisations like Girls Up Initiative Uganda (GUIU) have taken it upon themselves – by interacting with key stakeholders in the country for support – to ensure that girls are in school at all times. Through this approach, the GUIU has pledged its commitment in bridging the gap in knowledge and skills on menstruation. It is encouraged that the struggles faced by women and girls due to menstruation need not be their own burden, but be tackled by more stakeholders for the attainment of SDGs and in support of initiatives advocated by the Woman Deliver Conference of fulfilling the 2030 agenda (Sustainable Development Knowledge Platform, 2015:11).

2.5.2 Menstrual material

Menstrual material is referred to as clean material such as sanitary pads, tampons, and menstrual cups, among others, that can be used to collect and absorb blood, cervical mucus, vaginal secretions and endometrial tissue during menstruation (Kuhlmann, Bergquist, Danjoint & Wall, 2019:545). Therefore, menstrual products are used to catch menstrual flow (UNICEF, 2016:77).

Women and girls often lack regular access to safe menstrual materials. This lack of access is caused by a series of systematic barriers that prevent them from having control over the required resources. They are also prevented from having a voice in the allocation of state resources (UNICEF, 2016:10).

The preference of sanitary protection material is based on women and girls choices, their cultural acceptability, the economic situation, and proximity in the local market (Kaur, Kaur & Kaur, 2018:19). In urban and rural areas, the most preferred absorbent materials are sanitary pads, if and when finances are available (Weiss-Wolf, 2016:10). Sanitary pads, menstrual cups, and tampons are usually used in urban areas. When access to menstrual material is limited, as is the case in some rural areas, women and girls resort to using alternative materials (rags, leaves, cow dung, mattress stuffing or paper from used exercise books and newspapers) or makeshift items to absorb or collect menstrual blood (Moyo, 2018:22).

2.5.2.1 Commercial sanitary pads

UNICEF (2016:20) defines sanitary pads as disposal pads that women and girls use for the purposes of absorbing and collecting blood. Kaur et al., (2018:15) indicate that these

products need to be regulated to ensure they are available and affordable to all that need them.

Furthermore, the pads vary in sizes, and are made of different materials that consist of layer upon layer of either cotton or rayon, and times even plastics (UNICEF, 2016:20). In rural setups, sanitary pads are found in traditional trading stores but they are often too expensive for the majority of women and girls. Sanitary pads are not easily degradable (Kaur et al., 2018:15), but their advantages include:

- They are affordably procured because they are made locally, except in very remote areas.
- They are reliable, hygienic, comfortable, and easy to use.
- They do not need access to water as are disposable immediately after use.
- Pads are designed with 'wings' to prevent any leakage. The wings keep the pad in a secure position.

2.5.2.2 Reusable pads

Reusable menstrual pads are cloth pads that can be used several times. They absorb the blood, cervical mucus, vaginal secretions and endometrial tissue and can be used for about four to five hours, depending on the individual's menstrual flow (Weiss-Wolf, 2016:24). These cloth pads are usually made in several layers of cotton or hemp, but not plastic. Literature on reusable pads is scarce and limited to Uganda, Kenya and India, and other developing countries have not adopted the concept. Popular examples of reusable pads are Jani pads (made from biodegradable plastic and water hyacinth), AFRIPads, made from sewn materials, and Makapads, made from papyrus and wastepaper (Musaazi, Mechtenberg, Nakibuule, Sensenig, Miyingo, Makanda, Hakimian & Eckelman, 2015:2). These are not fairly distributed and are often only available in the countries in which they are produced.

2.5.2.2.1 Jani pads

The Jani pads are available locally in Kenya and the material used to make them is plastic, which cannot be easily degradable. They have a low cost of production, and have the following advantages:

- Available locally;
- They generate income to the communities based on local production;
- Cost-effective, as they are reusable; and
- Are better than sanitary pads from an environmental point of view.

Jani pads require a private place, with water supply and soap, to wash and dry the pads and there are costs to producing them. In some instances, Jani pads may be prohibitive to many potential users.

2.5.2.2.2 AFRIpads

AFRIpads originate from Uganda and form part of their local produced goods also manufactured in rural areas due to their low energy requirements. They are designed in such a way that they can be washed and reused. These pads are sold to schoolgirls and NGOs (Musaazi et al., 2015:7). The cost of AFRIpads is estimated to be 10 times lower than that of commercial sanitary pads, and one kit can last as long as one year. AFRIpads are only available in Uganda (Musaazi et al., 2015:7) but should they become available in Zimbabwe, they will have the following advantages:

- They are soft to wear;
- They do not leak;
- Less expensive in comparison to commercially produced sanitary pads.

However, more affluent girls attending higher-income schools can consider it a nuisance to wash menstrual materials. Conversely, girls from lower-income schools experience AFRIpads as being expensive compared to traditional materials (Moyo, 2018:31).

2.5.2.2.3 Makapads

In 2008, a professor from Makerere University in Uganda designed a Makapad from wastepaper to be used once and disposed (Musaazi et al., 2015:22). The advantages are that they are cheap; a one year's supply costs seven times less than the cost of commercially produced and disposable sanitary pads. However, some disadvantages include:

- Their level of absorbency is limited, and are thin;
- They leak more than AFRipads; many girls who have tried them had to resume using cloths;
- They are used mostly available Uganda, where they are distributed free of charge.

2.5.2.3 Tampons

Tampons are absorbents that provide protection. It is a 'plug' of soft material (cotton), that is inserted inside the vagina to absorb the blood during menstruation (Coward, 2016:29). Tampons can be used with an intrauterine mechanism (UNICEF, 2019:10). They are very convenient and comfortable. However, there are some disadvantages: Tampons are not readily available in all contexts, they are costly, not culturally appropriate and owing to the unavailability of water and soap in many contexts, it may be unhygienic and cause toxic shock syndrome if they are not regularly changed (Moyo, 2018:36). They are also not easily degradable in nature, and hence not very environmentally friendly (Kaur et al., 2018:10). When they are burned as a way of disposal, they can release harmful toxins, and they are not biodegradable if they remain in the ground (House, Mahon & Cavill, 2018:50).

2.5.2.4 Menstrual cups

The menstrual cup, like the tampon, is designed in such a way that it is inserted into the vagina to collect blood during menstruation. Once inserted into the vagina, it creates a seal (Plan International, 2018:31). It can be reused and has a capacity of collecting three times more blood than pads or tampons. It needs to be emptied every 6-12 hours. After each use, the cup must be boiled for five to ten minutes (UNICEF East Asia & Pacific Regional Office, 2019:15).

These cups are reusable and environmentally friendly (House et al., 2012:54). In areas where there is inadequate sanitation, they come in handy since they are practical, and only require emptying, washing and drying. Menstrual cups can, however, be (1) not culturally acceptable, particularly for adolescent girls, as they need to be inserted into the vagina; (2) not practical if water and soap are not readily available; and (3) a very expensive investment (House et al., 2012:62). Its use is typically avoided in rural areas where culture and virginity are revered because it is assumed to destroy the hymen (Kaur et al., 2018:17).

2.5.2.5 Abnormal sanitary ware

Moyo (2018:41) reveals that when women and girls – especially in rural areas and those living in poorly developed countries – are not able to access safe sanitary supplies, they resort to using alternative methods such as rags, cow dung, mattress stuffing, leaves or newspapers and papers from used school exercise books. These methods are not only ineffective but are extremely unhygienic and can lead to serious health issues (Moyo, 2018:37).

2.6 FACILITIES AND SERVICES

According to UNICEF East Asia & Pacific Regional Office (2019:11), girls and women frequently experience challenges such as a lack of water, limited availability to toilets, walking long distances to school, having school uniforms that do not camouflage bloodstains, and a lack of appropriate mechanisms at school, at home, at work, and in other public places (Bobel, 2019:29). These challenges can contribute to girls not attending school; thus, it is important that menstrual management facilities be made available in a sustainable manner (Sommer et al., 2016:44). It is estimated that 335 million girls do not have access to water and soap to wash their hands and bodies when changing sanitary pads. Rural communities lack modern water facilities and sanitation (Swachh, 2019:25), posing a challenge to the health of girls (Pelliteri, 2011:42).

Bobel et al., (2019:43) emphasise that women and girls (both the able bodied and those with a disability) need to be provided with many accessible facilities that are reliable, are safe to use, and are efficient. These facilities need to have privacy for women and girls to be able to comfortably change their menstrual material.

2.6.1 Physical facilities

As stated, girls frequently do not have access to toilets or other disposal mechanisms to manage (dispose of) their menstrual waste when they are at school (UNICEF, 2016:10). Women use toilet facilities to manage their menstruation; therefore, Winkler and Virginia (2014:65) assert that toilet facilities should be designed to ensure that the health and dignity of women is preserved by ensuring they are safe to use and girl-friendly.

2.6.2 Girl-friendly toilets

School sanitation facilities should consider girls' special needs and interests during menstruation (Patkar et al., 2017:45). These facilities should be designed to be segregated by gender; have sufficient space for girls to wash and clean their bodies and hands; and change or clean stained clothes (Winkler, 2016:56). To ensure that this is achievable, water, toilet paper and dust-bins with a lid must be available, and properly maintained by regular emptying to keep it clean from flies, mosquitoes and bad odours (Water Aide, 2019:10). Every toilet must have a basin or sink to allow the girls to wash their menstrual material, and drainage should be efficient (Patkar et al., 2017:46).

The facilities should be private and safe for girls, ideally with a screen or wall on each side, a door with a lock on the inside, a mirror, and good lighting system for the girls to see any stains throughout the school day. There should be a clear schedule of who will keep the facilities clean, and access should include girls with disabilities (House et al., 2012:15).

2.6.3 Disposal facilities

Kaur et al., (2018:37) explain that if used menstrual material is not properly disposed of it can result in pit latrines filling up and becoming blocked. House et al., (2012:17), further support this notion that the management or disposal of solid waste needs to be done properly to avoid damage to sanitation facilities.

According to Kuhlmann et al., (2019:97), most waste emanating from the use of menstrual material ends up in landfills. The SDGs also do not adequately address the issue of how used menstrual material can be managed in an environmentally sensitive way. Moreover, most schools do not consider the issue of providing environmentally friendly disposal facilities for tampons, pads, and other menstrual materials, especially in rural areas (Upadhye, 2016:102).

Most women dispose of their menstrual material as part of domestic solid waste and the lack of best practice on how to deal with this matter is challenging, even if some countries have developed their own ways and methods of how to deal with faecal and urinal waste (House et al., 2012:21). In rural areas, menstrual waste is disposed of by burying it underground, burning and throwing it in waste bins or pit latrines (Weiss-Wolf, 2016:52).

However, in rural areas, most women use reusable sanitary materials like cloths and rags, and thus they generate less waste as compared to women in urban areas (Kaur *et al.*, 2018:21).

2.6.4 Non-camouflaging uniforms

The solution to girls attending school throughout their menstrual cycle might lie with the colour of school uniforms (Jewitt & Ryley, 2014:40). Although dark-toned colours can effectively conceal menstrual stains, many schools insist on light-coloured uniforms (Mahon & Fernandes, 2010:30). Many schoolgirls manage their menstrual hygiene at home far easier because they can wear old, dark clothes to hide staining (Water Aide, 2019:115). There is essentially no way to hide stains on light-coloured uniforms, whereas darker clothing effectively disguises stains (Jewitt & Ryley, 2014:41).

2.7 KNOWLEDGE OF MENSTRUATION

Several studies articulate that a lack of knowledge among schoolgirls will persist owing to a lack of menstrual information in the developed school curriculum (Van Eijk *et al.*, 2016:71). Kumar and Srivastava (2011:596) reveal that some girls have a view that menstruation is some strange occurrence in their bodies, while others believe it is an embarrassing experience. Information about menarche is therefore essential (Rajagopal & Mathur, 2017:42).

2.7.1 Menarche

Menarche is the onset of the first menstrual period in the female adolescent. The average age for menarche is 12 years, but this varies with ethnic background and body mass (Bobel *et al.*, 2020:20). It has been interpreted as a sign that the girl has matured, and in most instances, it is attributed to the ability to reproduce. Most women recognise menarche as their bodies' critical declaration of fertility, but it does not guarantee either ovulation or fertility (Cetin & Aslan, 2020:19).

2.7.2 Premenarchial education

Premenarchial education relates to knowledge about menstruation prior to its onset (Sommer *et al.*, 2019:78). It must include information on the physiological and

psychological processes (Bobel *et al.*, 2020:16) to help improve self-esteem and confidence (Ten, 2007:50). In Bangladesh, 64% of girls reach menarche in fear (Cetin & Aslan, 2020:25), due to a lack of information. This lack of knowledge about menarche is also reported by other authors, meaning girls are often left unprepared. Inadequate knowledge influences perceptions that are mainly influenced by cultural beliefs.

2.7.3 Lack of appropriate and reliable sources of information

Several studies claim that girls get menstrual-related information from their mothers (Kumar & Srivastava, 2011:596). Mothers, however, are not the preferred source of information for girls, who viewed them as difficult to talk to about issues related to menstruation. It is critical that girls should know about menstruation before they reach menarche (Gultie, Hailu & Workineh, 2014:21; Alam, Luby & Halder, 2017:41). Mothers also sometimes lack confidence in talking to their daughters about menstruation because they do not have sufficient information about the topic themselves (Kumar & Srivastava, 2011). Grandmothers, the second source of information, provide culturally centred advice, which often inflicts fear and shame (Gultie, Hailu & Workineh, 2014:21).

2.7.4 Current and future sustainability of knowledge and education

Sommer *et al.* (2016:19) originally developed a booklet for use in countries like Tanzania, Ghana, Ethiopia, Cambodia and all over Africa called '*Growth and changes*'. It has been adopted by the Ministry of Education and Ministry of Health in these countries. This booklet integrates menstrual management and puberty into their curriculum to deal with scarce knowledge on menstruation matters.

Menstrual management education mostly targets girls, despite literature revealing a need to educate boys to eliminate ignorance on the topic of menstruation (Plan International UK, 2018:14). This will help break the silence and misery surrounding menstruation (Sommer *et al.*, 2016:10). A programme called *Families Matter* educates and encourages parents to communicate with both girls and boys about puberty and menstruation (Mutunda, 2016:43).

Nepal, Uganda and Malawi are carrying out puberty education programmes where booklets published by Van Eijk *et al.*, (2016:15) provide guidance to improve school administrators' and teachers' ability to educate and support girls and boys in classrooms

on the issue of menstruation. The FAWE Uganda(2003) similarly promotes awareness of menstrual management matters by organising platforms where these issues can be openly discussed among girls and women.

2.8 CULTURAL BELIEFS AND COMMON PRACTICES

The misconceptions that lead to beliefs that menstruating women are dirty and polluting, as well as cursed, have spread globally (Bobel et al., 2020:155), leaving girls to feel ashamed of their bodies, thus reinforcing the belief that girls are inferior to boys (Lee, 2016:652). Women around the globe are from different cultural groups, different religions and different backgrounds, and therefore have very diverse beliefs, myths, practices and unwritten rules pertaining to menstruation and menstrual management (Lee, 2016:657).

2.8.1 Secrecy

The need for secrecy has been documented in several studies and is clearly a key issue for menstruating girls, especially in rural areas (Bobel, 2019:77). The improvised menstrual material that many of the schoolgirls are forced to use due to poverty makes this secrecy even harder to achieve, as most of the material they use are not sufficiently absorbent (Mason, Nyothach, Alexander, Odhiambo, Eleveld & Vulule, 2017:2).

The reusable cloth has to be washed in secrecy (Mason et al., 2017:4). However, washed menstrual materials may become unhygienic due to poor washing practices; the products are often left to dry in damp, dark or unhygienic places in an attempt to keep them hidden.

There is also secrecy in mentioning the concept 'menstruation'. Therefore, it has been called different names such as 'Yewer abeba' and 'Gadawo' in Ethiopia, 'Hedhi' in Tanzania, 'Ada shaharia' in Southern Sudan, and in Zimbabwe, it is called 'Eskhathini' and 'Pamwedzi' in Ndebele and Shona, respectively. The naming implies how menstruation is perceived and handled as a secret by different communities and countries (Ten, 2007:22).

2.8.2 Social restrictions and exclusions

Throughout the African continent, there are still perceptions among people who view menstruation as something associated with being dirty or shameful, and it creates a sense of powerlessness among women of all ages (Crichton, Okal, Kabiru & Zulu, 2013:15). Other restrictions on menstruating women are cultural, such as prohibitions on handling food or entering religious spaces, or the requirement that women and girls isolate themselves. Some restrictions are self-imposed; women or girls may fear participating in activities like school, athletics or social gatherings (Sommer et al., 2019:64). Together, these practices can reinforce the idea that women and girls have less claim to public spaces, and that they are less able to participate in public life (Mutunda, 2016:34).

Patkar et al. (2017:52) claim that menstruating girls and women are usually excluded from significant chores or activities of social and cultural life. For example, Hindu women must cook, wash and stay in their huts at the far end of the village when menstruating. According to Bobel et al. (2020:597), in Bangladesh, menstrual blood is viewed as a polluting agent, and menstruating girls must not be allowed to go outside the house.

In Nepal, menstruating girls and women must live separately in a 'chhaupadi' during menstruation outside the house (Kaur et al., 2018:22) and are prohibited from cooking (Thakre et al., 2011:49).

2.9 INITIATION RITUALS

Cultural practices in sub-Saharan Africa still include initiation rituals despite the grave negative impact on girls' sexuality and maturity (Pillitteri, 2011:304). It is a common practice that girls are forced to have sexual intercourse with a traditional doctor as part of their initiate to sex (Ten, 2007:45), despite the mental hazards, but also the high risk of attracting sexually transmitted infections (STIs), HIV, unwanted pregnancies and the ultimate threat of illegal abortions (Mutunda, 2016:34). There is also a blurring of the boundaries between cultural ethics and religious beliefs regarding menstrual management. Some communities claiming to be of the same religion may perform different menstrual management practices based on geographical and socio-economic variance (Patkar et al., 2017:42).

2.10 RELIGION

There have been faith-based limitations on menstruating women in nearly every major religion (Ten, 2007:47). In the Hindu religion, during menstruation, women and girls are not allowed to visit the temple or pray (Paktar et al, 2017:44). Some Christians, such as Zionists and apostolic churches, similarly instruct menstruating women to quarantine for seven days during menstruation since they are impure (Ten, 2007:47).

In sub-Saharan Africa, the religion, which is mainly traditional, also creates social pressure for girls to enter into early marriages, resulting in school dropouts (Ten, 2007:74; Sommer et al., 2016:21).

2.11 ADVERSE EFFECTS OF MENSTRUATION

Menstruation is one of the leading causes why girls in developing countries will miss school a few days every month or even drop out of school altogether (Sommer et al., 2016:21) and engage in early marriage.

2.11.1 School dropout

Absenteeism from school sometimes occurs owing to lack of menstrual management material (Hennegan & Montgomery, 2016:61) and inadequate sanitation facilities (Chrisler & Gorman, 2015:72; Water Aid, 2019:89).

When a girl gets her first period in certain countries, it is interpreted to mean that she is ready to married, start to engage in sexual activity, and produce children (Mbatha, 2011:47). According to Masuku (2016:91), this exposes girls to many forms of abuse, such as child marriage, sexual violence or coercion, and early pregnancy. Even if menstruation is one potential sign of biological fertility, it should not be construed to imply that the girl has reached mental, emotional, psychological or physical maturity. Older teens may not be mature enough to make informed choices about marriage, sexual activity, or motherhood (UNFPA, 2019:5). Moreover, schoolgirls engage in transactional sex in need of menstrual materials leading to unwanted pregnancies and getting married at an early age (Mutunda, 2016:22).

2.11.2 Absconding sporting activities

Many schoolgirls choose not to participate in sporting activities at school from the onset of menstruation, due to a concern about leaking menstrual blood either in their sports kit or uniforms during practice (Mahon & Fernandes, 2010:23). Most schoolgirls reported staining and possible visibility of their menstrual material as their reasons for not participating in sports activities (Masuku, 2016:74).

2.11.3 Reproductive infections

RTIs leading to vaginal rash and bad odour, acquiring HIV/AIDS and cervical cancer can be associated with poor menstrual management (Mutunda, 2016:44). The health risk is increased in developing countries owing to improper absorbents, especially in rural Zimbabwe, which has experienced an economic crisis for almost 15 years (Chiwara, 2017:20). This forces girls to divert to using rags and other materials that can harbour infectious agents (Sommer et al., 2016:86). Maintaining a high standard of hygiene practices under poor socio-economic conditions is challenging (Bobel et al., 2020:562).

Reusable materials and walking long distances results in rags rubbing against the skin, especially when it is damp. This produces chafing and open sores, making girls vulnerable to infection and vaginal rashes (Ndlovu, 2016:14).

Using unclean material such as rags, cow dung, mattress stuffing, leaves or newspapers and papers from used school exercise books can also cause RTIs (Moyo, 2018:15). In fact, poor menstrual management is one of the major reasons for the high prevalence of RTIs in Zimbabwe and contributes significantly to female morbidity (Ndlovu, 2016:14). Lack of handwashing and reusing rags or not washing them properly also resulted in RTIs (Moyo, 2018:25).

Gynaecologists are of the view cervical cancer can be curbed by the use of sanitary pads (Mutanda, 2016:47). However, of the estimated 355 million women who have reached menarche in India, only 12% can afford to use a sanitary pad and are at a lesser risk of cervical cancer than women who use unhygienic sanitary practices. Unfortunately, 70% of girls cannot afford sanitary pads (Mutanda, 2016:47).

2.12 SOCIO-ECONOMIC FACTORS

The preference of sanitary protection material is based on personal choices, economic status, and availability in the local market (Moyo, 2018:72). Most sanitary pads in Zimbabwe are bought from neighbouring South Africa, but the companies ceased operations owing to foreign currency shortages. After hyperinflation and the collapse of the economy (Crichton et al., 2013:19), sanitary pads have not been available in shops, so the black market offers these products at a premium. On average, the price for a pack of pads range from USD5 - USD10 for urban girls, and the cost is even higher for rural schoolgirls.

As stated, poor socio-economic conditions also force girls to engage in transactional sex to earn money to acquire sanitary pads (Mutunda, 2016:37). Unfortunately, this behaviour is associated with an increased risk of STI, including HIV and AIDS, psychological stress, unwanted pregnancies, and dangerous abortions (Oche, Umar, GAAna & Ango, 2012:11).

2.13 CONCLUSION

This chapter focussed on menstruation, menstrual management and some factors influencing menstrual management in general. Chapter 3 will describe the methodology that was utilised to gather data from the participants.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 INTRODUCTION

Chapter 3 consists of a description of the research design and methodology employed in this study. It outlines the research paradigm, aim and objectives, design, research setting, the study population, data collection, analysis, rigour, and ethical considerations adhered to in this study.

3.2 RESEARCH PARADIGM

Polit and Beck (2020:7) define a paradigm as a way of looking at natural phenomena. It is a worldview that encompasses a set of philosophical assumptions that guide one's approach to enquiry in a constructive way. A research paradigm can also be described as a cluster of beliefs in a particular discipline, influencing what should be studied, how research should be conducted, and how results should be interpreted (Marshall & Rossman, 2015:324). The researcher followed an interpretivism paradigm, as explained by Green and Martelli (2015:22), in an attempt to understand schoolgirls' experiences (aged between 13 and 17 years) in managing their menstruation, as described within their own context.

3.3 RESEARCH APPROACH AND DESIGN

The research design is an overall plan for addressing a research question, including specifications for enhancing the integrity of the study (Patton, 2015:168; Polit & Beck, 2020:471; Yin, 2018:88). A qualitative design was appropriate to identify and describe the challenges schoolgirls experienced with menstrual management, and the researcher could formulate recommendations for interventions to address the identified challenges. An explorative and descriptive qualitative design allowed the researcher to give an account of rural schoolgirls' experiences and practices in managing their menstruation within their own context. The study thus explored and described the insights that were gained in the phenomenon of menstrual management.

3.3.1 Qualitative research

Qualitative research is the investigation of a phenomenon, typically in an in-depth and holistic fashion, through the collection of rich narrative data, using a flexible research design (Polit & Beck, 2020:471). An explorative and descriptive qualitative design was adopted for this study.

3.3.1.1 Advantages for qualitative research

Qualitative researchers view social phenomena holistically (Polit & Beck, 2020:471), and aim to understand the significance that respondents attach to their environment. The approach also enables the researcher to explore the data progressively so that a deeper understanding of what is being investigated is achieved (Van Rensburg, 2011:72). In addition, a qualitative study is conducted to give the researcher an overview of the phenomenon under investigation, from the perspective of the person being interviewed. In this study, the qualitative approach was applicable as the researcher sought to explore and describe rural schoolgirls' experiences, behaviours and feelings without quantifying the findings (Yin, 2018:67).

Another advantage of qualitative studies is that sometimes fewer than 50 participants are needed without the desire for representativeness. In this study, participants were selected in a purposive manner. The researcher ensured that only participants who were knowledgeable and willing to share their experiences and challenges of menstrual management were recruited to participate. In all the sampled schools, data saturation was reached after six interviews, but two additional interviews were conducted to ensure that all levels (1-4) in each school participated, and rich data were gathered.

Qualitative research results are often more reader-friendly than the statistics obtained from questionnaires in quantitative research, because the findings are about descriptions of real situations (Polit & Beck, 2020:472). Based on the advantages mentioned above, qualitative research was deemed the most suitable method to explore and describe rural schoolgirls' experiences managing their menstruation. Although qualitative research has many advantages, there are also several disadvantages that need to be considered.

3.3.1.2 Disadvantages of qualitative research

A limitation of qualitative research is the possible subjectivity of the researcher (Polit & Beck, 2020:472). In this study, the researcher's subjectivity and bias, deriving from strong beliefs, could have been challenging in the analysis of the information. The researcher could thus unintentionally introduce personal biases into the research process. To prevent this occurrence, the researcher used bracketing by putting aside her personal feelings and experiences about the topic when the analysis was done (see Section 3.5.1.2). A co-coder was also used to assist with the coding of the verbatim narratives, as evidence of interpretations, to contribute to the trustworthiness of the data (Polit & Beck, 2020:570) (see Section 3.7.1).

Some participants might become anxious when an audio recorder is used, potentially affecting their willingness to express themselves (Joubert & Enrich, 2014:167). The researcher addressed this possible disadvantage by explaining (to participants) the need for recording, how the data would be stored, and that the information would not be linked to a specific individual. The audio recorder was also placed out of sight, and participants mostly forgot about the recording and were relaxed.

3.3.2 Explorative research

Exploratory research is an investigation into the nature of a phenomenon, the manner in which it is manifested, and the other factors to which it is related (Polit & Beck, 2016:34). It also has the benefit of a naturalistic approach, meaning the researcher can interact with participants (in this study's context by means of semi-structured interviews) and understand them (thematic analysis of the data). More importantly, explorative research is useful in conducting studies where the researcher intends to gain new insights into the research topic (Patton, 2015:181), as was the case in this study.

3.3.3 Descriptive research

A descriptive study intends to gain more information about characteristics within a particular field of study, and is suitable for identifying problems within current practice (Matua & Van Der Wal, 2015:28). In this study's context, the descriptive nature of the research enabled the researcher to present a picture of the specific details of a situation,

setting or relationship by focusing on explaining and describing menstrual management (Kim et al., 2018:104), as experienced in participants' natural environment.

3.4 SITE POPULATION

Marshall and Rossman (2015:233) and Patton (2015:192) describe the research population as a clearly defined set of potential objects or events from which a sample can be drawn. The population for this study was the total number of potential participants from which the sample was selected (Polit & Beck, 2020:260); namely, the 820 schoolgirls between the ages 13-17 years who had reached menarche and attended school in all ten secondary schools in rural Gwanda District (Zim Stats, 2013:140).

3.4.1 Site sample

The study was conducted in four purposively selected secondary schools across the Gwanda Rural District. Two schools were selected in Gwanda rural north, totalling 409 female students, and two from Gwanda rural south, with 411 female students. These schools were selected to ensure that there was a geographic representation of the entire rural district of Gwanda.

3.4.2 Unit of analysis

According to Joubert and Ehrlich (2014:354), purposive sampling is when the researcher deliberately chooses participants to ensure that the sample or unit of analysis covers the full range of possible characteristics of interest. Purposive sampling is also used to select participants who are knowledgeable and experienced about the phenomenon under study, since they are best able to answer the research question and provide the richest possible data (Polit & Beck, 2020:497). In each rural school, there was one class per form (forms 1-4) with an average of 20 girls per class.

This researcher followed Patton's approach by using a small unit of analysis to study the phenomenon of menstrual management in-depth. The sample was rich in information, rather than being a large sample (Patton, 2015:197). Thirty-two girls between the ages of 13 and 17 years (2 per form in all 4 schools $((4 \times 2) \times 4 = 32)$) who had reached menarche were recruited to participate (see Table 3.1).

Table 3.1: Unit of analysis

School	Age group	No. of participants
School A	13-17 years	8
School B	13-17 years	8
School C	13-17 years	8
School D	13-17 years	8
Total		32

The researcher made an appointment with the headmasters of the four schools to introduce the study and ask permission for a gatekeeper to recruit possible participants. The headmasters were provided with the approval letters indicating that the research was approved by both the Provincial Department of Education (see Annexure E) and received an ethics certificate from the Health Studies Research Ethics Committee from the Department of Health, Unisa (see Annexure B). The headmasters appointed a senior teacher to act as a gatekeeper to select possible schoolgirls for inclusion in the study. The gatekeeper received the inclusion criteria (see Table 3.2), the participant information sheet (see Annexure H), the participant assent form (see Annexure G), the informed consent form (parents) (see Annexure F) and consent letters (see Annexure C) for potential participants' parents, where applicable.

Table 3.2: Inclusion and exclusion

Inclusion	Exclusion
Schoolgirls aged 13 – 17 years	Schoolgirls who were pregnant
Had to have reached menarche	
In form 1 to 4	
Willing to participate and parents gave consent	

The gatekeeper then selected the potential participants to meet with the researcher, who explained the research and provided them with all appropriate documents. They were asked to return the documents to the gatekeeper within three days. The researcher collected all the completed documents of the schoolgirls and their parents who agreed for their children to participate in the study from the gatekeeper. All 32 schoolgirls provided assent and their parents' consent.

The sample size was determined by the saturation of data. This entailed interviewing participants, at least to the point where the researcher had thoroughly explored the data (no new information emerged) and had acquired a satisfactory sense of the phenomenon under study (Polit & Beck, 2020:502). In all the schools, data became saturated after six interviews. However, two additional interviews were conducted to ensure that participants in all levels (level 1-4) in each school participated to ensure rich data were obtained.

3.5 DATA COLLECTION TECHNIQUE

A semi-structured interview was used to collect data from the 32 schoolgirls, aged between 13 and 17 years.

3.5.1 Semi-structured interviews

A semi-structured interview is a qualitative method of enquiry that combines a predetermined set of open-ended questions (questions that prompt discussion), allowing the interviewer to explore particular themes or responses further; thus, to probe where needed (Polit & Beck, 2016:304). The researcher conducted semi-structured interviews because when individuals are interviewed, they may more easily discuss sensitive issues. Interviewing also encourages two-way communication, allowing the participant to share their opinion and offer a full description of what was experienced. The advantages of semi-structured interviews are discussed next, since these motivated the researcher to use this data collection method.

3.5.1.1 Advantages

The following advantages of semi-structured interviews, as described by Polit and Beck (2020:514), motivated the researcher to engage in this form of data collection:

- Specific required responses can be obtained from participants, since the interviewer can explain a question to ensure it is fully understood. In this study, questions could be explained to the schoolgirls who had reached menarche to obtain rich and credible information.
- Non-verbal behaviour could be observed during the interview, and the researcher (as the interviewer) could link the responses provided with non-verbal cues.

- Questions could be clarified on the spot in cases where the researcher was misunderstood, ensuring that the relevant data were gathered as the participants understood what was expected of them.

Semi-structured interviews also pose disadvantages, as described by Bowling (2014:450), but these were adequately addressed.

3.5.1.2 Disadvantages

As mentioned, although semi-structured interviews can have disadvantages (Bowling, 2014:450), they were not experienced in this study, or they were addressed in advance.

- Semi-structured interviews may require more time than questionnaires due to the detailed nature of the questions and responses. Each interview took about 30 to 40 minutes to complete. However, the analysis of the data was time-consuming. Despite this disadvantage, rich data were needed to reach the study's objectives.
- Interviewer bias can be disadvantageous as semi-structured interviews tend to be less standardised and rely on the interviewer's own questioning style and choice of subject matter. The researcher was trained to conduct interviews before exploratory interviews were conducted to test the questions and the researcher's competency as an interviewer.
- The interviewer could intentionally or unintentionally introduce personal biases into the process. The researcher thus used bracketing to put aside her personal feelings about menstruation and menstrual management. A co-coder was used to assist with the coding of the verbatim narratives to ensure that the researcher and the co-coder came to the same conclusion.
- There might be inconsistency between interviews because the interview is not as standardised as a questionnaire. The researcher conducted all interviews herself and used various communication skills to ensure that the formulation of the questions remained consistent. In addition, probing questions were asked and ensured that sufficient data were captured.

3.6 EXPLORATORY INTERVIEW (PILOT STUDY)

Brinkman and Kvale (2015:87) asserts that the pilot study, in qualitative research called 'an exploratory interview', allows the researcher to test the question, assess the

interviewer's skills, and the feasibility of the study. After obtaining permission to conduct the study from the Health Studies Research Ethics Committee, Department of Health Studies, Unisa (see Annexure B) and other stakeholders, participants were recruited to volunteer to take part in an exploratory interview. The exploratory interviews were conducted after informed consent and assent letters were signed by the participants and their parents/guardians, who were conveniently selected for the exploratory interviews.

With these exploratory interviews, the nature of the questions was tested to ensure that modifications could be made to the questions, where appropriate, and test the researcher's ability as an interviewer. The 14 questions were thus tested to ensure that the desired information could be obtained. The verbatim transcript of the first two exploratory interviews reflected evidence of leading questions and gaps, because the researcher did not recognise where probing could have been used to obtain more in-depth understanding. After consultation and feedback from the supervisor, a third exploratory interview was conducted. After the third exploratory interview, the supervisor was satisfied with the researcher's interviewing skills and the questions that were formulated. The data that were obtained from all the exploratory interviews were not used in the final study.

3.7 TRUSTWORTHINESS

Polit and Beck (2020:569) define trustworthiness as the degree of confidence qualitative researchers have in their collected data, defined by the criteria of credibility, transferability, dependability, and confirmability. These criteria were used to enhance the trustworthiness of this study.

3.7.1 Credibility

Credibility is viewed by Polit and Beck (2020:569) and Lincoln and Guba (1985:10) as an overriding goal of qualitative research and is a criterion identified in several qualitative frameworks. Credibility refers to confidence in the truth of the data and interpretations. Truth value is obtained from human experiences as they are lived and perceived by participants (Polit & Beck, 2020:569). For this study, semi-structured interviews were used to gather data from participants in rural areas in their own environment. Furthermore, the semi-structured interview guide was assessed by the research supervisor, a scientific review committee, and it was pretested during an exploratory

interview. All transcripts were translated from IsiNdebele to English as the participants were comfortable communicating in IsiNdebele, and then translated back to English to ensure that the translations were done correctly, before the analysis commenced. More importantly, the use of an experienced co-coder enhanced the credibility of the data because the researcher's coding and that of the co-coder were compared, and the final themes, categories, and sub-themes were agreed upon.

3.7.2 Dependability

The dependability of a study refers to the researcher's account of changes to the research design as learning unfolds (Polit & Beck, 2020:569). The semi-structured interviews took place in a safe, conducive and private environment that allowed the participants to participate freely. Interviews were conducted in a classroom, participants were very comfortable, and no one interrupted the interview process.

To ensure dependability, the researcher described participants' inclusion and exclusion criteria, the data collection method and data analysis process. Therefore, a detailed data trail is described to ensure that other researchers can critique, follow or audit the research process (Brinkman & Kvale, 2015:10).

3.7.3 Confirmability

Confirmability means establishing that the data represent the information participants provided, and the interpretation of that data is not invented by the enquirer for this criterion to be achieved. It refers to the degree to which the findings reflect the true data that were obtained (Babbie & Mouton, 2014:270). Findings must therefore reflect the participants' voices and the conditions of the enquiry, and not the researcher's biases or perspectives (Babbie & Mouton, 2014:270). Neutrality was ensured through the strategy of confirmability. This means that the findings are a true reflection of the participants' experiences only, and there are no external influences (Patton, 2015:220). Neutrality entails freedom from bias in the research procedure and findings. The researcher tried to be open-minded and made use of a co-coder to limit bias. The findings were also shared with the participants to ensure that the data revealed a true reflection of their opinions.

The researcher made use of reflective thinking by putting aside her own speculations, feelings, problems, ideas, prejudices and impressions when analysing the data. In her report, the researcher included verbatim narrations to substantiate statements that were made and to provide an audit trail or chain of evidence for interpretations.

3.7.4 Transferability

Transferability can be defined as the potential for extrapolation; that is, the extent to which findings can be transferred to or have applicability in other similar settings or groups (Polit & Beck, 2020:570). To ensure transferability, the researcher described the study design, setting, the study participants and data collection and analysis processes in detail. This will allow other researchers to transfer the findings to similar contexts.

3.8 ETHICAL CONSIDERATIONS

Ethics is a system of moral values that is concerned with the degree to which research procedures adhere to professional, legal and social obligations to study participants (Polit & Beck, 2020:133). Researchers have a responsibility to protect participants and, therefore, all ethical principles as described herein were adhered to in this study.

3.8.1 Beneficence

Beneficence imposes a duty on researchers to minimise harm and maximise benefits to participants (Polit & Beck, 2020:133). The study posed no physical harm, but the participants could feel uncomfortable sharing their personal experiences of menstrual management with the researcher. The researcher used various communication skills to avoid discomfort, and there was no harm to participants. In this research, all efforts were made to ensure that no participant was put in a situation where they might be harmed psychologically as a result of their participation. All participants also had the right to withdraw their participation, with no negative consequences to them, as was indicated in the information letter (see Annexure G).

3.8.2 Justice

Justice is the third broad principle articulated in the Belmont Report. It reflects the participant's right to fair treatment and their right to privacy (Polit & Beck, 2020:135).

Privacy can be defined as “that which normally is not intended for others to observe or analyse” (Levy & Lemeshow, 2013:71). The privacy and identity of the research participants were respected. The names of the participants did not appear on any document or field note, and the data could not be linked back to any individual. The interviews were conducted in a private room, behind closed doors to prevent interruptions and enhance privacy.

3.8.3 Informed consent

Obtaining informed consent implies that all possible or adequate information on the goals for the investigation is communicated to the participants before engaging in any type of data gathering (Polit & Beck, 2020:136). Informed consent means that participants had adequate information about the research, comprehended that information, and had the ability to consent to decline participation voluntarily (Polit & Beck, 2020:137). In this study, the participants’ parents provided informed consent (see Annexures F).

Voluntary participation in the study was ensured by explaining any indirect benefits of the research to the parents/guardians of the schoolgirls before attaining their written consent. Informed consent forms were handed to the parents or guardians who agreed to let their daughters participate in the study. Clear information was provided on how the participants’ information would be treated and kept.

3.8.4 Participant assent

Although parents or guardians must provide consent for minor children to take part in research, each child has the right to give assent, meaning the child’s affirmative agreement to participate. In this study, the participants and their parents/guardians received information letters (see Annexure H) to thoroughly explain the research aim and how the ethical principles will be adhered to. Based on this information, participants could voluntarily give their assent to participate.

3.8.5 Confidentiality and anonymity

Anonymity and confidentiality are inherent in the concept of privacy, which refers to an agreement between persons that limit others’ access to confidential information. Information that is given anonymously also ensures the privacy of participants (Polit &

Beck, 2020:141). The researcher was responsible for protecting all data, within the scope of the research, from being divulged. The anonymity of data was maintained so that no one could link the names of the participants with any information that was given to the researcher. The transcribed interviews were numbered with no identifiable data. It was not possible to link the verbatim transcript and the final analysis of the data with a specific participant.

3.8.6 Protecting the rights of the institution involved

The study was ethically approved by the Health Studies Research Ethics Committee, Department of Health Studies, Unisa (see Annexure B). The Ministry of Health and Education in Zimbabwe also gave their approval for the researcher to conduct the study (see Annexure D & E).

3.9 DATA GATHERING PROCESS

Data gathering is a systematic collection of information to address a research problem or answer a research question (Polit & Beck, 2020:510). Grove, Burns and Gray (2015:691) define data collection as a precise systematic gathering of information relevant to the research purpose or the specific objective of a study. Before data gathering commenced, ethical approval (see Annexure B, D & E) was obtained.

An appointment was made with the headmaster of each of the four schools to provide details about the research, share the approval letters, and ask for assistance with data collection. A senior teacher in each school was allocated to act as a gatekeeper. The gatekeeper selected the possible participants who met the inclusion criteria (see Table 3.2) and arranged a meeting with the researcher for those who were willing to participate. Thereafter, the researcher explained the purpose of the study to the participants. A date, time (during school hours) and venue where the interviews could be conducted was arranged with every individual participant to ensure that they felt comfortable in a familiar environment.

3.9.1 Data collection venue

The individual semi-structured interviews took place in privacy in a specific allocated classroom in all four schools, and were conducted during school hours. The classroom

was well ventilated, there was enough light, and the door was kept closed to ensure privacy. Two chairs were placed opposite each other, separated by a desk in the middle, which had two bottles of drinking water and a bowl with sweets to ensure a comfortable and relaxed environment.

The venue was agreed on by participants; they were in a familiar environment where they felt comfortable to discuss their experiences and express their opinions freely. The data were collected from 15 July 2019 to 19 August 2019, and three participants were interviewed per day.

The audio recorder was placed out of sight of the participant.

3.9.2 Data collection procedure: Interviews

The researcher met the participants at the door to the agreed venue. The participant was greeted and allowed to be seated and make themselves comfortable. The researcher summarised the information shared in the information letter (see Annexure H) to ensure informed assent, verified if all parents/guardians had signed the consent forms and then provided the participant with an assent form which the participant signed.

The participants were asked if an audio recorder could be used to record the interviews to ensure that all information could be captured. The researcher explained that the recordings would be stored in a locked cabinet, and the transcripts would be kept in a password-protected computer, in a specific password-protected folder. They were reminded of their right to withdraw without being victimised before the interview commenced.

The interviews were conducted in the local language, IsiNdebele, which is also the native language of the researcher.

The researcher was open-minded and maintained openness during the interview process so that participants could readily share their opinions. She was flexible and responsive, thinking on her feet. The researcher was patient and observant, allowed participants to speak freely and open up at a pace that was comfortable to them, while she observed, picking up subtle cues like facial expressions, body language and tone of voice. She demonstrated good listening skills and focussed on what the participant was saying. The researcher captured and understood the participants' emotions inherent in

the message, paying attention to tone and emotional content; hence, she gained a greater understanding of the verbal messages being delivered by also capturing field notes. The researcher concluded the interviews with general questions such as, “is there anything further that you feel is important?”

When the researcher was satisfied that the interview was complete, the participant was thanked and accompanied out of the room. Participants were assured that they could contact the researcher if they wished to have a future interview or for any other purpose. However, none of them requested a follow-up interview. The average interview lasted approximately 40 minutes.

3.10.2 Field notes

Field notes are created by a researcher as a written account during the act of conducting a study to remember and record behaviours and observations of what they see and what they think about in the course of the interview. During the course of the interviews, the researcher took notes, which were useful in remembering the behaviours and non-verbal communications observed from participants in the course of the interviews (Morse, 2015:15).

The following relevant steps were implemented by the researcher when writing field notes:

- The notes were written down as soon as possible after observation.
- Each interview’s notes were written down on a new page in the field notebook, with the date and time of the interview, and the number of the participant (interview number), included at the top of the page.
- Draft notes were written down so that the researcher could recall an observation without destructing the flow of the interview.

3.11 DATA ANALYSIS

Data analysis is the process of structuring and bringing order and meaning to the bulk of collected data (Marshall & Rossman, 2015:4). Polit and Beck (2020:534) define it as a process of fitting data together, of making the invisible obvious by linking and attributing consequences to antecedents. Data are analysed to summarise what the researcher

observed, heard and identified as common words, phrases, themes and patterns (Patton, 2015:222). The researcher listened, asked questions, recorded data and read field notes at the end of each data collection day. Every interview was transcribed verbatim, read multiple times to get familiar with the data, and gain a sense of the content of the interview. The data were analysed with the assistance of a co-coder, which is an independent third party with outstanding subject knowledge and vast experience in qualitative research.

Data analysis was done using qualitative content analysis to identify prominent themes and patterns among themes (Polit & Beck, 2020:556). The steps in Table 3.3, as described by Braun and Clarke (2006:79), were followed to analyse the narrative data from the semi-structured interviews.

Table 3.3: Steps followed for data analysis

STEP NUMBER	DESCRIPTION
1	Become familiar with the data. The researcher began by carefully listening and re-listening to the audio recordings and reading the field notes many times to gain meaning from the data. It involved the consideration of words, tone, context, utterances, responses and the ideas of the participants. From the audio recording, the researcher developed a verbatim transcript where every word and sound was written down.
2	The researcher generated initial codes, and the transcript was read again to understand the underlying meaning and emerging concepts. Categories were written in the transcription's margins.
3	The verbatim transcript was read many times, and similar themes were grouped together.
4	The researcher went back to the data and read it again to review new themes.
5	Descriptive words or phrases were identified and selected as categories, and then converted into themes to reduce the number of similar themes.
6	The researcher made a final decision on which themes and categories were included.

STEP NUMBER	DESCRIPTION
7	To highlight themes, categories and sub-themes, corresponding data were placed under each theme.
8	The researcher discussed and described the themes, categories and sub-themes, and made them simple and well understood to anyone who might be interested in reading the research study.

3.11.1 Management of data

Data management entails conserving the audio recordings, the field notes and the transcripts throughout the research process (Polit & Beck, 2020:538). The participants were assured that their information would be stored and kept safe in a password-protected computer. The participants were assured that only the researcher, academic supervisor and the independent coder would have access to the data. Moreover, all data will be kept for five years after the study is completed and examined and will then be destroyed. Even though the research report will become a public document, it will not contain any information that can be linked to the identity of an individual participant.

3.12 CONCLUSION

In this chapter, the researcher described the methodology that was employed to gather data from the participants in an ethical manner. A detailed account of the research setting, the data gathering process and data analysis was given to assist with the possible transferability of the data to similar contexts. Chapter 4 will focus on the data analysis and the presentation of the findings.

CHAPTER 4: DATA ANALYSIS, INTERPRETATION OF FINDINGS AND LITERATURE CONTROL

4.1 INTRODUCTION

Chapter 4 presents the findings that emerged from the analysis of the semi-structured interviews. The findings are presented and arranged as themes, categories and sub-themes. Direct quotes are used to illustrate how the categories were identified from the comments made by the participants in the semi-structured interviews. The quotes were taken from the verbatim transcriptions of the individual semi-structured interviews.

4.2 DATA ANALYSIS

The data were analysed with the assistance of a co-coder, as described in Section 3.11.1. Eight themes emerged, namely (1) lack of knowledge, (2) perceptions about menstruation, (3) religion, (4) beliefs, (5) cultural practices, (6) poor resources, (7) available resources, and (8) adverse events related to menstrual management. Twenty-seven categories that underpinned the themes and the direct quotations that supported the categories were presented as sub-categories.

4.3 DEMOGRAPHIC FINDINGS

As mentioned, eight participants from each school (2 each from forms 1, 2, 3 and 4 to respectively) participated in the research; thus, a total of 32 participants were interviewed. Participants' distribution by form and age is presented in Table 4.1.

Table 4.1: Demographic findings (N=32)

Form	Age					Total
	13	14	15	16	17	
1	7	1	0	0	0	8
2	5	3	0	0	0	8
3	1	6	1	0	0	8
4	0	0	3	4	1	8
Total	13	10	4	4	1	32

Thirteen participants were 13 years old, seven were in form 1, five were in form 2, and one was in form 3. A total of 10 participants were 14 years old, one was in form 1, three were in form 2, and six were in form 3. Four participants were 15 years old, one was in form 3, and the other three were in form 4. Four participants were 16 years old, one was 17 years old, and all were in form 4.

4.4 FINDINGS

The eight themes, 27 categories and the sub-themes are illustrated in Table 4.2. To ensure easy reading and understanding, the findings are presented, interpreted and supported or contradicted by literature within this chapter. The literature control is therefore embedded with the data presentation and analysis.

Table 4.2: Themes, categories, and sub-themes

THEMES	CATEGORIES	SUB-THEMES
1. Lack of knowledge about menstruation	1.1 Education at home	<p>“I knew that there was something called menstruation but I wasn’t sure what happens as exactly so one day while I was at school, I felt some pains in my abdomen and I went to the toilet to check and I found that there was blood”</p> <p>“When I asked my mother about menstruation, she told me that the school teachers need to teach me about it.”</p> <p>“I thought I had a wound, and sick somewhere and I thought I was going to die”</p> <p>“My mother didn’t ask me about menstruation but she saw all the signs of growth”</p> <p>“I am now about to finish my form 4 but no one at home has ever asked me about challenges of menstruation. I don’t know whether they think I am not menstruating”</p>
	1.2 Health education in school	<p>“In our school, we are not taught about menstruation because our teachers do not have the time as it is not included in our syllabus”</p> <p>“I wish that in our school they also teach us in class about menstruation aware so that we are aware before it comes”</p> <p>“I didn’t have any education on it when I started menstruating. I thought I had hurt myself then I went to tell my sister who said I had started my period”</p>

THEMES	CATEGORIES	SUB-THEMES
	1.3 Accessible literature	<p>“Our life as girls would be easier if there were books that teach us about menstruation”</p> <p>“Even boys can learn if there were books on menstruation and they will stop laughing at us.”</p> <p>“I don’t think they really give you enough information about it, they just touch on it a little bit, but you just learn from experience.”</p> <p>“We want to learn but it seems the world is not ready for girls’ growth because other things get solved. Condoms are everywhere to curb the AIDS pandemic, family planning services are others to mention a few but pads are scarce and private”</p>
2. Perceptions	2.1 Embarrassment	<p>“It was very difficult for me when I stained my uniform and many people especially boys were pointing fingers and laughing at me”</p> <p>“It was hard to stay in class and face the embarrassment after you have accidentally stained your uniform”</p> <p>“There is one girl in school who leaked on her chair and everyone saw it and she was humiliated and she never came back to school”</p>

THEMES	CATEGORIES	SUB-THEMES
		<p>“Other girls mocked me and said I am an embarrassment to them because I had stained my school uniform”</p> <p>“Our uniform skirts are light blue and you can spot a stain from afar and let alone putting more rags you will be seen bulking at a distance that you are menstruating”</p> <p>“What were they thinking by exposing us like that with such uniforms, I wonder if there is any woman in the designing and decision making of uniforms selection design colour”</p> <p>“The colour is just too light for us menstruating girls if it was dark because we didn’t have pads and the rag becomes wet quickly by no one suffering”</p>
	2.2 A curse	<p>“I have heard some people saying that women are cursed because of the menstrual blood”</p> <p>“My Pastor said menstruation is a curse.”</p> <p>“Boys laughed and said I am cursed”</p>
	2.3 Secrecy	<p>“My sister said that men and even my husband when I get married needs not to know about my menstruation and even worse to see my blood.”</p> <p>“When you are menstruating you should hide your rags”</p>

THEMES	CATEGORIES	SUB-THEMES
	2.4 Readiness to marry	<p>“My granny told me that if I see blood I will be ready for marriage.”</p> <p>“My mother showed me the man that is going to marry me after I start menstruating”</p>
3. Religion	3.1 Prohibiting church attendance	<p>“When I am menstruating, I am not allowed to go to church.”</p> <p>“In our church they showed us a verse which restricts girls to go to church when they are menstruating.”</p> <p>“When I stained my church uniform by accident, I was removed from the church”</p>
4. Beliefs	4.1 Dirty	<p>“At home, I am not allowed to cook because I am regarded as dirty.”</p> <p>“I was removed from the church because I was said to be unclean”</p> <p>“My mother said that when I am menstruating, I should not touch anything”</p>
	4.2 Eyesight effects	<p>“My mother told me that my blood is dangerous and can make men and boys not see when they see it so I should hide it”</p>
	4.3 Effects on nature	<p>“I was told that if I go to the fields I will destroy the plants or make them not grow”</p> <p>“I always milk cows, but when I am menstruating my grandmother told me that if I do so the cows will stop producing milk”</p>

THEMES	CATEGORIES	SUB-THEMES
		<p>“My sister told me that I should not go to collect water from the well because I will pollute the water source”</p>
5. Cultural practices	5.1 Initiation rituals	<p>“My family arranged a ceremony where they were dancing and celebrating the whole night because they said I am grown up now and I can get married”</p> <p>“During initiation we are taught about how to take care of men sexually”</p> <p>“Many girls become pregnant or go into early marriages after initiation”</p>
6. Resources	6.1 Lack of clean water	<p>“At school we don’t have adequate water supply and our school has no running water”</p> <p>“Water is a problem at this school: one has to wake up early in the morning to go”</p> <p>“When we stain our uniforms at school we have to go out from school because there is no water to wash the uniform and clean ourselves”</p> <p>“Sometimes it is very difficult to use the toilets because you fear to leave stain of blood if there is no water”</p>
	6.2 Poorly maintained toilets	<p>“The toilets lack of privacy they do not have doors so we don’t have privacy. The toilets are not private enough, there are no doors”</p> <p>“The boys can peep inside the toilet whilst you are changing”</p>

THEMES	CATEGORIES	SUB-THEMES
	6.3 Waste disposal methods	<p data-bbox="891 252 1948 336">“Other students unknowingly bumps into you whilst you are holding your menstrual protection and it is so embarrassing”</p> <p data-bbox="891 355 1948 488">“I keep my menstrual material in my bag after use so that I dispose it when I am at home because I am scared that when I dig a hole at school, they will see me and laugh at me”</p> <p data-bbox="891 555 1948 639">“At home I am using a bush to change and then I dig a hole and bury my used rags as there is no toilet”</p> <p data-bbox="891 707 1948 791">“I usually throw my used tissue, toilet paper to the pit latrine and should hide the clean one to change”</p> <p data-bbox="891 858 1948 943">“When my rags are old, I usually throw them in the pit-latrine but the new ones I carry them in my bag after changing”</p>
	6.4 Poverty	<p data-bbox="891 965 1948 1050">“I share a little torn towel with my younger sister during my menstruation because pads are very expensive and not available in rural shop”</p> <p data-bbox="891 1117 1948 1249">“Menstrual hygiene is a critical component for any women let alone the adolescent girl. In a country like Zimbabwe, menstrual hygiene remains a mammoth task due to economic hardships”</p>

THEMES	CATEGORIES	SUB-THEMES
		<p>“Our parents struggle to meet school fees, so money for pads is not a priority. This results in almost all of us using small cloths or rags from blankets and other materials”</p>
7. Available resources	7.1 Cow dung	<p>“In our village we are very poor, if I don’t get rags I use cow dung for menstrual protection”</p> <p>“When I told my grandmother that I had blood, she told me that I had started menstruating and she gave me pieces of dried cow dung to use it”</p>
	7.2 Mattresses	<p>“My granny gave me four pieces of rags from old mattresses stuff”</p> <p>“I use pieces of cloth that I get from old mattresses at home”</p>
	7.3 Fabric	<p>“I used clothes that I would cut from my old T shirts to keep the blood from staining my uniform, but they were not enough and blood would still stain my clothes”</p> <p>“I use pieces of old clothes which my mother gave me and I share them with my siblings”</p> <p>“I use socks and old blankets for my menstruation”</p>
	7.4 Leaves	<p>“At the time it can change dates to start and comes suddenly when you are in school and you do not want to stain your uniform then you can take grass and leaves and use them to prevent leakage”</p>

THEMES	CATEGORIES	SUB-THEMES
		<p>“My parents struggle to pay fees as they don’t have money to buy me pads so I use leaves”</p>
	7.5 Sanitary pads/towels	<p>“Even if one wants to buy the menstrual materials from a shop, they are not available because the shop owners say they don’t give them profit since they are very expensive and girls don’t buy them, maybe once in a while”</p>
8. Adverse events	8.1 Absenteeism	<p>“My friends miss school a lot because they don’t have sanitary pads”</p> <p>“I can’t concentrate when menstruating because of the pain and fear of staining”</p>
	8.2 Absconding from extramural activities	<p>“We were wearing white shorts for sports and my period came when I was unaware and everyone saw that I stained. Now I am afraid because I don’t have proper menstrual protection and I am afraid to continue with sports because it might happen again”</p> <p>“I don’t have tight-fitting underwear so I am always afraid that the rag might fall when I am playing netball because I like it so much”</p>
	8.3 School dropouts	<p>“Yes menstruation had an influence on my education. One day, when I was at school, the blood suddenly leaked and stained my rag and male students teased me. Then after, I went home and decided not to go back to school the next day and even dropped out of the school too”</p> <p>“My mother said when I see blood on my panties I have to tell her and it will be the last day of going to school”</p>

THEMES	CATEGORIES	SUB-THEMES
		<p data-bbox="891 252 1948 284">“The lack of especially sanitary wear facilities contributed a lot to school dropouts”</p> <p data-bbox="891 354 1742 386">“I know three girls who left school after they started menstruating”</p> <p data-bbox="891 456 1948 539">“My school is about 7km from our home and it’s very difficult for me to continue going there especially when I am experiencing my menstruation”</p> <p data-bbox="891 609 1948 692">“In some schools they have opened boarding for those that stay far like me and I wish my school can do the same so that I don’t walk long distance everyday”</p>
	8.4 Infections	<p data-bbox="891 710 1948 841">“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”</p> <p data-bbox="891 911 1948 994">“If you do not wash and change your rags regularly you end up having rashes and bruises”</p> <p data-bbox="891 1064 1948 1147">“It is common to feel itchy when you are using cow-dung, leaves or pieces of blankets”</p> <p data-bbox="891 1217 1948 1300">“If you don’t have pads Mam, you yield to peer pressure and you end up having a ‘sugar daddy’ who will be buying you pads and risk yourself contracting HIV”</p>

THEMES	CATEGORIES	SUB-THEMES
	8.5 Psychological Impact	<p>“Period experience is so stressful that you do not concentrate to what is being said in class. You risk not doing well in your exam.”</p>
	8.6 Pain and discomfort	<p>“I put water under my belly. This makes me better.”</p> <p>“I don’t have medicine or pain killers for pain during menstruation.”</p> <p>“My grandmother gave me traditional remedies of barks of a tree called isihaqa. They help at times but when it is severe, it does not stop.”</p> <p>“The period pain is very painful and when I start my periods I don’t go to school because the pain is just too much.”</p> <p>“The period pain comes with nausea challenges; at times I vomit and stay the whole day not eating.”</p>

4.4.1 Theme 1: Lack of knowledge about menstruation

Twenty-eight participants mentioned that they did not have prior knowledge of menstruation before menarche, and they did not know what was happening to them. Four girls were quoted as saying:

“I didn’t know what was happening to me.”

“I had no clue why the blood is dripping on my legs.”

“I thought I had a wound, and sick somewhere and I thought I was going to die.”

“I didn’t know anything about periods so I was shocked when I found blood on my panties and I thought I was sick.”

The above responses from the participants are indicative of their lack of knowledge pertaining to menstruation, despite emphasis in the literature that the menstruation cycle is a normal process. According to Rajagopal and Mathur (2017:52), knowledge about health and bodily functioning are important aspects of wellbeing. A lack of knowledge about menstruation thus poses threats and challenges to young girls. According to Van Eijk et al. (2016:61) and UNICEF (2016:21), menarche reflects a transformation from childhood and adulthood, and young people should be made aware of this biological change. This particularly affects the girls whose onset of menstruation means they enter a cultural realm of uncertainty with regard to how they manage the regular occurrence of their menstruation. Therefore, knowledge is essential in managing menstruation (Zaidi et al., 2015:34). Incidents like the girls thinking that they have a wound or illness reflect their low levels of understanding of menstruation.

According to Van Eijk et al. (2016:63) and Sommer et al. (2019:43), in sub-Saharan Africa, especially Zimbabwe, rural girls’ have insufficient knowledge and understanding of puberty, menstruation and reproductive health. Education on menstruation is required before puberty (Prasanna, 2016:94) so that young girls have enough knowledge and are prepared for menstruation and the implications thereof (Anjun, Zehra, Haider, Rani, Siddique & Munir, 2010:07).

A lack of information about menstruation and menstrual management is also reflected in studies in South-West Asia and Nigeria (Ramasamy, 2018:72), and it has been determined

that poor understanding about menstruation contribute to misconceptions, including those mentioned by some participants.

4.4.1.1 Category 1.1: Education at home

Sexuality, menstruation, and menstrual management are not topics that are readily discussed in the safe environment of the home (Sommer et al., 2016:41). It is acknowledged that information about menstruation and sexuality promotes the understanding and management thereof (Ten, 2007:15). However, there are many reasons for not discussing this critical milestone in a young woman's life (Bobel et al., 2020:44). In some cultures, it is taboo for a mother to speak about menstruation to her daughters; instead, the responsibility falls to aunts. Some participants indicated that their mothers felt it was their teachers' responsibility, as confirmed by the following participants.

“When I asked my mother about menstruation, she told me that the school teachers need to teach me about it.”

“My mother was angry when she saw my stained uniform and said teachers were not doing a good job in teaching us about menstruation.”

Some parents do not take the responsibility of sharing information regarding sex or menstruation with their daughters before menarche, and they leave the responsibility to the teachers at school (Mutunda, 2016:50).

4.4.1.2 Category 1.2: Health education in schools

Young girls experience a lack of health education, especially pertaining to menstruation before menarche (UNESCO, 2014:591). It remains important for schoolgirls to be made aware of menstruation prior to reaching menarche, as this is vital in positively influencing their attitudes towards good hygiene and behavioural practices. An important intervention is the inclusion of menstruation and menstrual management in the health education module of the school curricula (Bobel et al., 2020:46). Literature, however, revealed that school curricula still do not include accurate information about menstruation and menstrual management material (Dorgbetor, 2015:47). Participants confirmed this in their responses:

“I knew that there was something called menstruation but I wasn’t sure what happens as exactly because there are no school lessons about it”

“I didn’t have any education on it really, when I started bleeding, I thought it was because I hurt myself then I went to tell my sister and she said you have started your period. I was not helped with any coping mechanism; I was just told you bleed once a month.”

“I don’t think we are really given enough information about menstruation, they just touch on it a little bit, but you just learn from experience.”

According to Zaidi et al. (2015:37), before menarche, young girls experience a lack of health education, especially pertaining to menstruation, resulting in inadequate knowledge. Accurate health education about menstruation is vital to curb potential misconceptions among girls. Some participants felt that their lack of knowledge on menstruation related to insufficient prioritisation of a girl-child’s right to education. Participants said:

“Everyone does not care about what we go through as girls. I wonder why we were born, it’s like we were born to suffer.”

“Maybe the world is not ready for girls’ growth because other things get solved. Condoms are everywhere to curb the AIDS pandemic; family planning services are there. Why do they neglect us so much?”

Girls need to be knowledgeable about the physiology pertaining to menstruation and its psychological effects. They must have an understanding of what menarche is, how to deal with irregular cycles and heavy menstrual flow, and the appropriate management thereof (Zaidi et al., 2015:42). Participants felt that the school should provide education in this regard:

“In our school, we are not taught about menstruation because our teachers do not have the time as it is not included in our syllabus”

“I wish that in our school they also teach us in class about menstruation before it comes”

This reinforces the issues that girls’ education related to menstruation and menstrual management is not being prioritised at school.

4.4.1.3 Category 1.3: Accessible literature

Although menstruation affects all women and girls, it seems that in sub-Saharan Africa, little literature about this topic is accessible to young girls (Ma, 2016:78). The participants mentioned that no literature is available to them, and they specifically felt that the schools should provide them with literature. Some of the participants were quoted as saying:

“The school does not have any menstrual material, books or management programmes except the health club where sometimes schoolgirls are taught about general hygiene not about menstruation.”

“I think the school has not done much at all in giving supporting information on menstrual management for girls.”

Literature should also be available because mothers sometimes do not discuss menstruation and the management thereof with their daughters (Lahiri-Dutt, 2015:44). For this reason, the participants felt that the school needs to provide them with literature so that they acquire the necessary information, without the need to discuss this sensitive issue in front of boys. More importantly, the girls need to be informed that instead of waiting for information from their teachers and mothers, they can make use of available internet sources that can be beneficial to them. This can be one of the solutions to this phenomenon in instances where teachers are male, as reported by some participants:

“In our school, all teachers are males making it difficult for us to get any information as they do not talk about it at all.”

“In our science class lessons, teachers always avoid topics that lead them to talk about menstruation.”

“Our life as girls would be easier if there were books that teach us about menstruation.”

“Lack of menstrual information is a problem for us because no one is willing to talk about menstruation.”

“Even boys can learn if there were books on menstruation and they will stop laughing at us.”

4.4.2 Theme 2: Perceptions

Beliefs or myths related to menstruation is evident in many cultures (Merry, 2016:53). Some societies have secret codes and practices around managing periods (Sopko et al., 2018:31). Menstruation is viewed based on social norms and practices around its management. Many of these myths and social norms restrict the level of girls' participation in society. The perception is that menstruation is dirty, and there are poor insights into menstruation as reflected by various traditional beliefs and cultural practices that give rise to negative impressions that schoolgirls experience (Bobel, 2019:295).

In all four schools, participants believed they were mostly considered unclean, impure, dirty and polluted. Some were quoted as saying:

“When a women or girl is regarded as dirty, impure or unclean, this tends to reduce their self-esteem”

4.4.2.1 Category 2.1: Embarrassment

The experience of menarche comes with severe embarrassment and shame for those girls who are not informed about this biological process (Sommer et al. 2016:97), even long after it commenced (McLintock, 2018:24). The study participants expressed the following feelings of embarrassment:

“It was embarrassing to me when I stained my uniform and many people especially boys were pointing fingers and laughing at me.”

“It was hard to stay in class and face the embarrassment after you have accidentally stained your uniform.”

“There is one girl in school who leaked on her chair and everyone saw it and she was humiliated and she never came back to school.”

“Other girls mocked me and said I am an embarrassment to them because I had stained my school uniform.”

“I was ashamed embarrassed when I stained my uniform and they gave me a permanent nick-name about it.”

“It’s always humiliating when I am here at school when I stand up from my chair and see a stain on my uniform and the other students will laugh at me especially the boys laugh at us. I always cry.”

“I was embarrassed when I stained my uniform and asked a friend to lend me a jersey so I could cover myself”

“When I stained my uniform, I tried to run away from school, unfortunately, boys in class had already seen and they laughed at me. I was so embarrassed that I kept a low profile the whole term.”

Most girls feel embarrassed when they are faced with their first period (Smiles, Susan & Sommer, 2017:195). The participants in a study conducted in Kenya verbalised that a majority of them regard menstruation as a strange event and it was embarrassing to them (McMahon, Winch, Caruso, Obure, Ogutu, Ochari & Rheingans, 2011:15).

Participants even mentioned that changing the colour of their uniforms may protect them from this embarrassment:

“The colour is just too light for us menstruating girls if it was dark, we can hide it and protect us from embarrassment.”

“There is one girl in school who didn’t know anything about it and she leaked in the chair, everyone saw it and she was humiliated and never came back, she changed the school.”

According to Jewit and Ryley (2014:11), some girls go so far as to attend a certain school due to the colour of the school uniform. These girls feel that a dark-coloured uniform will not reveal any potential menstrual stain, and they will thus not be embarrassed.

In addition to the colour of their uniforms not camouflaging stains, the smell of menstrual rags – when these are full – was another cause of embarrassment:

“The boys whom I share the bench with at school always laugh at me and say I smell like a dead fish.”

“The boys I share a bench with at school call me smelly.”

“During my periods, I smell like rotten meat because my rags are always wet.”

“They now call me ‘Snuke nuke’ which means the smelly one.”

When menstrual management material cannot be disposed of in privacy (Ten, 2007:10), it may contribute to embarrassment, as mentioned by a participant:

“I usually put my used rags in my school bag and boys noticed it and one day they snatched my bag and remove the rags and I was very embarrassed and they were not punished for it.”

In some countries with limited access to menstruation materials, women and girls resort to using rags or alternative materials (Mutunda, 2016:40). Girls need to wear absorbent sanitary pads if and when finances are available (Pelliteri, 2011:54), yet these products are not always accessible in resource-limited communities. This was confirmed by participants.

“I don’t have tight underwear and make the use of rags very difficult because the rag can fall at any time and people will laugh at me.”

“Now you cannot run or do sports because you are afraid it will fall.”

Masuku (2016:21) reported that girls miss school during their menstruation because they might be forced to take part in sports, and participants’ in this study substantiated this finding, as reflected in their quotes.

4.4.2.2 Category 2.2: A curse

In many cultures, menstruation is linked to a number of beliefs; to the extent of some cultures labelling it as ‘the curse’ (Baldy, 2018:37). Participants reported that menstruation is a curse and punishment for the biblical sins of their forefathers. One participant said:

“When a woman has her regular flow of blood, the impurity that comes with her monthly period will last seven days, and anyone who touches her will be cursed till evening. Anything she lies on during her period and will be cursed.”

Other participants shared:

“I have heard some people saying that women are cursed because of the menstrual blood.”

“My pastor said menstruation is a curse.”

“Boys laughed and said I am cursed because I was menstruating.”

According to Patkar et al. (2017:32), in the Hindu religion, when women and girls are menstruating, they are not allowed to attend temple. The view of menstruation being a curse is also supported by older women in the church, as mentioned by one participant.

“At our church the older women open scriptures in the bible which describes how cursed women are in relation to menstruation.”

The question that now arises is how women will be able to remove this stigmatisation, when some cultures feel that it is a curse. Baldy (2018:39) agrees that different cultures attach diverse beliefs to menstruation, labelling it ‘the curse’, ‘weeping womb’, ‘blood sparge’, ‘the plague’, ‘under the weather’, ‘being unwell’ and many more.

4.4.2.3 Category 2.3: Secrecy

The participants reported that menstruation is a secret, and girls who have not reached menarche – as well as men – should not be told anything about menstruation or be allowed to see menstrual blood; there is no explanation for this belief. Some of the participants indicated that:

“My sister said that men and even my husband when I get married needs not to know about my menstruation and even worse to see my blood.”

“When you are menstruating, you should hide your rags because they are your own secret.”

“My mother told me that I am grown up and my younger sister should not know that I am menstruating because it is a secret.”

Chrisler and Johnston-Robledo (2018:23) claims menstruation discourse is covered in secrecy and negativity in many countries. There is also a belief in the Shona culture in Zimbabwe that if you do not completely wash the blood from your sanitary pads, someone might bewitch you, and you will not be able to bear a child (Mbatha, 2011:50).

4.4.2.4 Category 2.4: Readiness to marry

In remote villages of rural Gwanda in Zimbabwe, some participants said that their grannies and parents, especially mothers, still stick to their taboos and culture of arranged marriages. Similarly, in South India and Kenya, it was reported that parents stop their children from going to school when they start menstruating as it is their view that they are now ready to be married (Piran, 2017:67). This belief is supported by other reports from India, Kenya and Zimbabwe, where it is believed that when a woman or girl reaches menarche, they are ready to be married. This view was supported by the participants explaining:

“My granny told me that if I see blood, I will be ready for marriage.”

“My mother showed me the man that is going to marry me after I start menstruating.”

“I was told by my uncle that after reaching form 2 I will get married and bring a lot of cows for the family.”

According to Plan International (2018:57), in every two secondary schools in rural sub-Saharan Africa, a girl under the age of 18 is married. For many girls, the beginning of their periods means the end of their education since their parents now believe they are ready for marriage (Lee, 2007:14). In other cultures, girls are seen as assets to bring fortune to their family; it was reported that parents are prone to look for men to marry their daughters at an early age (Masuku, 2016:31). Therefore, for many schoolgirls in rural areas, experiencing their first menstruation can signal the start of a reduction in the choices they are able to make (Masuku, 2016:217).

4.4.3 Theme 3: Religion

The findings from this study revealed that participants were sometimes instructed not to attend school or church when menstruating. Participants were not allowed to visit their respective temples, pray or cook, and they were not allowed to touch anybody. They have to stay away from their family because they are seen as impure. The participants were quoted as saying:

“When I am menstruating, I am not allowed to participate in church activities.”

“In our church they read a verse that says we can’t go to church when we are menstruating.”

The women in the Muslim religion are barred from touching the Koran and can only pray for about three to seven days during menstruation. They are also prohibited from entering the church, from fasting, and from having sex (Nair & Supriya, 2019:44). Cohen (2017:30) state that such restrictions and taboos, to this day, play an important role in all cultures where women and girls are subjected to laws while they are menstruating.

4.4.3.1 Category 3.1: Prohibiting church attendance

The participants reported that the older women in their church told them not to attend church services when menstruating. They explained:

“When I am menstruating, I am not allowed to go to church.”

“In our church they showed us a verse which restricts girls to go to church when they are menstruating.”

“When I stained my church uniform by accident, I was removed from the church.”

“In my church I am not allowed to wear my uniform because I am impure.”

Some Christians (e.g. Zionists) and apostolic churches also isolate menstruating women for seven days since they are considered impure.

4.5.4 Theme 4: Beliefs

Beliefs and practices often lead girls to feel isolated, and they are discouraged from participating in school and other social events while menstruating. Many are not allowed to participate in religious gatherings.

4.5.4.1 Category 4.1: Dirty

According to Piran (2017:72) and Bobel (2019:31), in Bangladesh, menstrual blood is considered 'the greatest of all pollution', and menstruating girls must remain indoors as much as possible. Moreover, women are not allowed to prepare food or work in their rice fields when menstruating. Some participants reported:

"I am not allowed to cook and wash dishes during menses because it is believed that I am dirty."

"At home, I am not allowed to cook because I am regarded as dirty."

"My mother said that when I am menstruating, I should not touch food."

In support, according to Patkar et al., (2017:104), a study conducted in Nepal revealed that menstruating girls and women have to live separately in a 'chhaupadi' outside the house during menstruation, and they are prohibited from cooking food.

4.5.4.2 Category 4.2: Eyesight effects

In Zimbabwe, menstrual blood is believed to be dangerous, especially when seen by men or boys, so girls are advised not to just leave their rags or anything with their blood unattended (Ndlovu, 2016:14). This was supported by one participant who was quoted as saying:

"My mother told me that my blood is dangerous and can make men and boys blind so I should hide it."

4.5.4.3 Category 4.3: Effects on nature

According to Mutunda (2016:44) and Bobel (2019:35), menstrual blood is believed to destroy natural plants, especially those in the fields. It is even reported that it has an impact on the fertility of animals and crops. In support, the participants shared:

“I was told that if I go to the fields, I will destroy the plants or make them not to grow.”

“I always milk cows, but when I am menstruating my grandmother told me that if I do so the cows will stop producing milk.”

“My sister told me that I should not go to collect water from the well because I will pollute the water source.”

“I am not allowed to drink milk as it is believed that menstruation would affect the production of milk from the cows.”

4.5.5 Theme 5: Cultural practices

4.5.5.1 Category 5.1: Initiation rituals

All participants who performed initiation rituals found it intimidating, and they were lured into experimenting with marriage and sex because that is what they are taught. The participants verbalised that:

“My family arranged a ceremony where they were dancing and celebrating the whole night because they said I am grown up now and I can get married.”

“During initiation we are taught about how to take care of men sexually.”

“Many girls become pregnant or go into early marriages after initiation.”

Mutunda (2016:28) support the notion that some rituals within specific cultures have a gravely negative impact on girls' sexual maturity.

4.5.6 Theme 6: Resources

The availability of water and proper sanitation facilities is an essential part of menstrual management in schools, but the lack of a reliable supply of sanitation facilities hinder menstrual management (Pilliteri, 2011:77). Some of the sub-themes that emerged included lack of water and soap, privacy, the poor state of the toilets, and lack of dormitories.

According to Sommer et al., (2016:24), all sub-Saharan African countries and everything which was built during the colonial era is still the only remaining structures. Incoming funds for development are abused by greedy politicians who will never be satisfied. In Zimbabwe, the rural school setup reflects a shortage of water supply and traditional pit latrines are used all over the country; this has been the same for the past decade (Masuku, 2016:127).

4.5.6.1 Category 6.1: Lack of clean water

The study findings show that several participants had challenges in managing their periods at school (except participants from School B) because of the lack of reliable water supply. A reliable water supply is needed for menstruating girls to cleanse themselves (Paktar et al., 2017:101). The schools' water problem, although a collective responsibility, has become gendered, and it is only girls who are saddled with a responsibility of fetching water.

The semi-structured interviews revealed that because the girls do not have access to an adequate water supply, they find it difficult to manage their menstruation. The girls have to walk long distances looking for water, and this is stressful for them. At times, the girls have to wake up early in the morning and walk for long distances in search of water, losing precious time for studying. In Binga, Moyo (2018:11) found that the availability of water and soap to wash menstrual rags in rural areas is a challenge. Moreover, the nearest water source is 6km away from the school. Several participants reported that they bring their own water to school:

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

“What we experience here at school is that we don't have adequate water supply and our school has no running water.”

De Albuquerque (2014:30) support the findings by Pilliteri (2011:21), that the school environment sometimes does not effectively support girls in managing their menstruation because they lack a constant supply of water. The rivers are far from School A and D, School C is using a community borehole, which is about 3km from the school; only School B has adequate water supply which was provided by an NGO. Some of the participants said:

“When we went to School B for our netball tournament, I was amazed that they have tap water while they are in rural areas like us.”

“In other rural schools they have tap water and I wish our school will do that for us.”

A lack of adequate water for menstrual management causes the girls to have anxiety and panic because of they fear staining their uniforms and bad odour. In Schools A, C and D, participants expressed their concern about the issue that their schools do not have reliable sources of clean water that they can use during menstruation:

“There is no constant water supply especially in winter as boreholes produce limited water.”

“When we stain our uniforms at school we have to go out from school because there is no water to wash the uniform and clean ourselves.”

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

“It is difficult when coming to school carrying a two litre of water when you stay far away.”

“There is no clean water and I am afraid of being stained and shy school girl.”

It was evident that access to clean water is extremely important for menstrual management. It clearly impacted girls' desire to bathe, clean themselves, and wash stains from their clothes, as regular menstrual management practices (Patkar et al., 2017:33; Water Aid, 2019:36).

4.5.6.2 Category 6.2: Poorly maintained toilets

Winkler (2016:1331) reported that most schoolgirls do not have adequate sanitation facilities at school to manage their menstruation. This problem is more severe in rural areas, which have communal latrines or no facility at all. The findings of the study demonstrate that the state of the school toilets was in bad condition. This was supported by a number of the participants who indicated that their toilets were filthy and smelly. The toilets are hardly cleaned because there is no definite cleaning timetable. This study also revealed that the participants had no sense of responsibility in cleaning the toilets. Some students stated that schools are cleaned by those who are punished for late-coming and naughtiness during the week. The findings reflected that the toilets are not cleaned properly because there is no strict schedule and supervision when the cleaning occurs. Participants explained:

“In our school, toilets used to be cleaned by different villages but they since ceased their services stating that the government or the school no longer provides the materials so they can’t contract unknown infections in the toilet.”

“Only punished students clean the toilets on Fridays and they just pour water in the toilets because there are no brooms to clean properly so when the water accumulates there will be small insects inside and no one goes there.”

The participants revealed that toilets smell of faeces, and many are infested with flies and mosquitoes. A conducive space is required to allow the girls to wash, clean their private parts and hands, and to change or clean stained clothes. This is only possible if water, toilet paper, and dust-bins are provided, and should be covered by a lid. The bins should be kept empty at all times to prevent flies from breeding in the bins. Some participants said that:

“The toilets at school are very dirty; you find faeces and urine all over the place and some girls use the walls to clean themselves or wipe blood on the walls.”

“When I go to the toilet at times, I feel like vomiting because of the smell.”

“We wish someone will build toilets made especially for us menstruating girls with a door with a lock inside, sink and bin for menstrual protection.”

The unavailability of toilets prompt girls to stay at home, as there is nowhere for them to wash. Moreover, the unfriendliness of the girls' toilets traumatise the girls during menstruation and affects their academic performance. They revealed that:

“One of the days when you are having heavy flows, you just stay at home because there is nowhere to wash or clean yourself while at school.”

“Sometimes it is very difficult to use the toilets because they are very small and dark you can leave stains of blood.”

Girls' dissatisfaction with school latrines contributed to some girls wearing rags or sanitary pads throughout the school day without changing, as one girl said, despite the presence of latrines in her school.

“I must be careful and can't change, I need to use same sanitary pad because there is no toilet to change.”

It also happens that girls are forced to use the bushes when they are menstruating. A participant reflected:

“I will rather use the bush instead of the school toilets because I can cover my blood drops with soil while in the toilet you have to leave them like that because there is no water.”

All participants reported that for safety and comfort to be ensured, they take a friend with them when they go to the toilet, to avoiding being bullied:

“Sometimes someone gets angry when you are inside the toilet. Someone else says can you make it faster.”

Participants expressed concern that if they were to use the toilets for managing their menstruation, there would be a queue of students since the facilities do not meet the requirements for the number of girls in the school. Participants expressed their concern as follows:

“The break-time is too short to change your menstrual protection; others will be queued outside waiting for you to be fast which is unfair and impossible.”

“I rush to the bush to change my rags because if you wait the break-time will be over before you change.”

The participants indicated that other students would then know that they are menstruating because of the increased time they spend in the toilet or blood left on the floor.

Toilets should also be private and safe, ideally with a screen or wall on either side, a door, locks on the inside of the door, a mirror, and good lighting system for the girls to see any stains throughout the day. Many facilities are used by both sexes and do not give the girls the privacy they need to manage their menstruation (Bobel, 2019:295; Pelliteri, 2011:47). Participants reported:

“Our facilities do not have doors; so we have no privacy during menses and there are always long queues during school break-times.”

“The boys can peep inside the toilet whilst you are changing or other students unknowingly bump into you whilst you are holding your menstrual protection and it lacks the privacy we need.”

“I usually ask my friend to escort me to the toilet so that she will dismiss other people who want to enter.”

Without a safe, private toilet at school, participants cannot feel secure and comfortable going to the toilet. This is a problem throughout girls' school lives, but it is especially problematic during their menstruation (Ten, 2007:14).

4.5.6.3 Category 6.3: Waste disposal methods

Most countries have developed techniques to manage waste but, because of a lack of menstrual management practices, most women have to dispose of their sanitary pads or other menstrual material into domestic solid waste or garbage bins (Van Leeuwen & Torondel, 2018:355).

In rural areas, women have more options for disposing of menstrual waste, such as burying it underground, burning it and throwing it in the garbage or pit latrines (Sphere Association, 2018:21). However, in many rural areas, women use reusable sanitary materials like cloths or

rags, among others, thus they generate less waste as compared to women in urban areas. Pit latrines fill up quickly because the rags do not degrade (Sommer et al., 2019:50).

The participants reported that menstrual waste is discarded in pit latrines.

“When my rags are old, I usually throw them in the pit-latrine but the new ones I carry them in my bag after changing.”

“I keep my menstrual material in my bag after use so that I dispose it when I am at home because I am scared that when I dig a hole at school, they will see me and laugh at me.”

“At home I am using a bush to change and then I dig a hole and bury my used rags as there is no toilet.”

“I usually throw my used tissue, toilet paper to the pit latrine.”

4.5.6.4 Category 6.4: Poverty

Girls from Zimbabwe are forced to relocate to South Africa due to economic challenges. They often do not see the purpose of going to school since they are frequently absent and do not have proper materials to manage their menses (Van Eijk et al., 2016:69). The challenges they face to get menstrual protection and other facilities, mean they shy away from school. The lack of menstrual protection material in Zimbabwe also promotes girls engaging in early sex (to pay for sanitary products), which results in teenage pregnancies and an increased risk of contracting HIV (Goldberg, 2017:91).

The findings revealed that many participants drop out of school because of poverty and lack of finances to purchase sanitary products, which is further fuelled by the state of the country. As a result, young girls are illegally crossing the border into South Africa.

Participants said:

“If you don’t have pads Mam, how will you survive at school because it’s impossible and why would you continue attending school. Many of us will give up and go to SA.”

“My sister was supposed to finish school this year but became a victim of the current poverty and she went to SA and came back with a small child whom she brought back to and left with our mother. After one year she came in a coffin. I couldn’t even identify her and neighbours were gossiping saying she died of HIV AIDS.”

“The headmaster was reprimanding us on running away to SA because we will come back in coffins.”

“Some girls in form 4 they reported that they have engaged in sex work with older businessman in rural areas to get pads because rags are horrible.”

“We know that it doesn’t end just like that because it’s always tragic as we can be infected with AIDS, but we don’t have choices because we are poor.”

“I will never leave school to South Africa like other girls because others come back dead.”

The findings reflected that the participants did not have access to proper sanitary products because of the double price of pads caused by currency changes and the banning of neighbouring countries’ currencies. Women are then overcharged when they get the pads from countries like South Africa, especially schoolgirls whose school is next to the border of South Africa (i.e. School D). Most girls do not have access to proper sanitary products, and they have to make do with cow dung, cloths and rags. Some of the participants said:

“For sure economic hardship is affecting us as schoolgirls in rural areas.”

Another schoolgirl mentioned sharing a torn towel with her little sister in form 1 because of the situation in Zimbabwe:

“I share a little torn towel with my younger sister in this school during menstruation because pads are very expensive and not available in rural shops.”

Another participant reported that menstrual protection in Zimbabwe is a challenge for all women:

“Menstrual management is a critical component for any woman let alone the adolescent girl. In a country like Zimbabwe, menstrual management remains a challenge owing to economic hardships.”

Participants said that all the skilled teachers and breadwinners are in South Africa or Botswana, since Zimbabwe is facing the worst economic crisis in two decades. Families struggle to send them to school and look after the elderly (Moyo, 2018:11).

Other participants from School A and School D reported that they live far from school and cannot afford the bus fare because of fuel shortages. It is very expensive to use the bus and, as a result, they walk long distances (up to four hours) to reach their school. Poverty, both personal and structural, emerged as a key economic barrier to the accessibility of hygienic sanitary material (Mutunda, 2016:42).

4.5.7 Theme 7: Available resources

In developing countries, health risks are caused by the use of improper absorbent menstrual material, especially in rural Zimbabwe, which has experienced an economic crisis for almost 15 years (Moyo, 2018:15). Several studies report that many girls in rural areas use unsanitary absorbent materials for their menstrual needs:

In this study, participants relied heavily on rags or cloths due to household poverty and the terrible economic recession in Zimbabwe. A similar situation was reported in a Mozambique study where girls used pieces of cloth and rags during menstruation because of their poverty (Hennegan, Dolan, Wu, Scott & Montgomery, 2016:34). In Zimbabwe, because of the state of the economy, no one stocks luxuries like sanitary pads in their shops, since they know people will not buy these because everyone is looking out for their next meal; the situation is even worse in rural areas (Weiss-Wolf, 2017:56). Some participants resorted to using unimaginable materials to fit the role of pads. The most commonly mentioned alternatives were old clothes, blankets or pieces of mattress. When girls' menses start unexpectedly, grass or leaves plucked from the ground around the schoolyard, and torn pieces of exercise books, were reported (Kuhlmann et al., 2019:57).

Some researchers in rural sub-Saharan Africa have arrived at a conclusive notion that tampons and menstrual cups are not practical for cultural reasons (Weiss-Wolf, 2018:182). The fact that one has to insert them into the vagina, is claimed as something that is culturally

inappropriate. Furthermore, girls have questioned the effects that inserting materials has on their fertility, health and virginity.

4.5.7.1 Category 7.1: Cow dung

Some participants in the study reported that they use cow dung or grass for menstrual protection to soak up the blood, especially in emergency situations at school. They indicated that:

“I look for emergency protection which is usually cow dung for me to reach home and then excuse myself from class or just disappear.”

“In our village we are very poor, if I don’t get rags, I use cow dung for menstrual protection sometimes.”

“Other people laugh at me when I tell them that I use cow-dung if I don’t have rags, but it works for me.”

The participants said that when they go to school unprepared and begin their menstruation, they use different approaches to address the challenge of not having rags or sanitary pads with them.

4.5.7.2 Category 7.2: Mattresses

Participants reported that a lack of access to effective and affordable resources to manage their menstruation was the main reason they had to resort to using a cloth or rag made from their mattresses:

“My granny gave me four pieces of rags from old mattresses stuff.”

“I use pieces of cloth that I get from old mattresses at home.”

4.5.7.3 Category 7.3: Fabric

In this study, participants said they used a piece of cloth or rags, which they either get from their mothers, sisters or grannies, while others improvised with the cloth from nappies used by their younger siblings.

“I use clothes that I cut from my old T shirts to keep the blood from staining my uniform, but they were not enough and blood would still stain my clothes.”

“I use pieces of old clothes which my mother gave me and I share them with my siblings.”

“I use socks and old blankets for my menstruation.”

“I use old cloth material that I cut from my old T shirts to keep the blood from staining my uniform, but they were not enough and blood would still stain my clothes. Boys used to laugh at me and eventually simple stayed at home whenever my periods started.”

“I use piece of cloth which my mother gave me because I can't afford buying pads.”

“My granny gave me four rags torn from old nappies which were used by my younger siblings.”

The cloths or rags that are used for menstruation must be properly sterilised and dried in the sunlight for future use. They should be stored in a dry place for the next menstruation, but this is not always possible in rural areas.

4.5.7.4 Category 7.4: Leaves

Girls often panic when their menstruation starts unexpectedly. Soft grass and leaves are then used in such scenarios:

“At the time it can change dates to start and comes suddenly when you are in school and you do not want to stain your uniform then you can take grass and leaves and use them to prevent leakage.”

“My parents struggle to pay fees as they don’t have money to buy me pads so I use leaves.”

From sheer desperation, some girls just pluck leaves from trees, and some of these leaves might be poisonous and could cause vaginal infections.

4.5.7.5 Category 7.5: Sanitary pads/towels

Insufficient and lack of proper menstrual products has a negative impact on a majority of women and girls in developing countries. It is very difficult and embarrassing for these individuals to manage without basic necessities such as sanitary napkins.

The economic recession in Zimbabwe has had far-reaching consequences. Most sanitary pads in Zimbabwe are imported from neighbouring South Africa, and companies that used to manufacture sanitary pads have since ceased operations owing to foreign currency shortages (Ndlovu, 2016:23). As a result, the pads are only available on the black market. There is nothing on the shop shelves, so the black market thrives, with the average price for a pack of pads ranging from USD5 - USD10 for urban girls. This situation is even worse for rural schoolgirls. Sommer et al. (2016:79) points out that in sub-Saharan Africa, many rural communities have many people living under the USD2 margin; items like sanitary pads are thus luxuries that many households cannot afford. These items are deemed a luxury because people have forgotten about its necessity, as reported by schoolgirls. The participants were quoted as saying:

“In our village no one thinks of buying pads because we cannot afford them.”

“Even if one wants to buy the menstrual materials from a shop, they are not available because the shop owners say they don’t give them profit since they are very expensive and girls don’t buy them, maybe once in a while.”

Pads were clearly a preferred and valued item, but were scarce and not even on the shelves for rural girls to buy, owing to economic hardships in Zimbabwe.

“I would like to use pads, but we do not have money at home.”

“Pads are the best but we are poor and we can’t afford them.”

“Our parents struggle to meet school fees, so money for pads is not a priority. This results in almost all of us using small cloth or rags from blankets and other materials.”

While some donors or organisations have tried to help the situation by providing girls from disadvantaged communities with free sanitary products, there is still a significant gap and in Zimbabwe, a student highlighted that the donor was chased away:

“We heard that we will be given pads for free up to now nothing came along is two years now.”

4.5.8 Theme 8: Adverse events

The UN MDGs and the SDGs continue to prioritise education. Many girls in sub-Saharan Africa never attend school, or attend only a few years of primary school before dropping out. The findings of this study also showed that several participants miss school because of issues related to menstruation.

Sixty-two million girls are not in school and millions are struggling to stay there. Boosey, Prestwich and Daeve (2014:253), asserts that stigma around menstruation and menstrual hygiene is a violation of girls’ right to human dignity, right to non-discrimination, equal bodily integrity, and the right to freedom from inhumane and degrading treatment. Absenteeism, school dropouts, absconding from extramural activities and infections are consequences of inappropriate sanitary wear and lack of sanitary facilities. Existing qualitative studies conclude that girls’ full engagement in school activities is negatively affected, with many girls reporting that they stayed home from school due to menstrual cramping, insufficient menstrual hygiene material, and inadequate water and sanitation facilities in schools, unsupportive environments, and fear of a menstrual accident (UNESCO, 2014:23).

4.5.8.1 Category 8.1: Absenteeism

The participants in all the interviews agreed that absenteeism from school during menstruation is extreme, and it normally affects the girls’ academic performances. At times, their periods can lead to girls missing their exams, especially if they have heavy flow and pain.

The results of a Ghanaian study proved that if schoolgirls have sanitary pads, they do not absent themselves from school but consistently attend because they are not afraid of accidental leaks since the appropriate menstrual material sufficiently absorbs blood (Montgomery et al., 2016:46).

Many cultures declare that a girl is ready for marriage when they experience their first period; as a result, they should stop going to school to start their own family. The participants reported having missed school due to insufficient menstrual pads and because they accidentally stained their uniforms and had to go home. Furthermore, the schoolgirls revealed menstruation and menstrual hygiene-related factors, lack of sanitary facilities, pads and health economics contribute to their poor school performances. Therefore, they perform badly at school with potential lifelong consequences. The participants reported that:

“I don’t have pads so I can’t risk going to school.”

“I have stayed at home because of lack of pads and can’t go to school because rags become wet fast and I stay, I can’t tempt to be ridiculed by boys.”

“The toilets are very smelly and dirty, I can’t go there and change my menstrual protection and in the bush is risky, and so, I will rather stay at home.”

“My friends miss school a lot because they don’t have sanitary pads.”

Participants reported missing exams:

“Because exam take time and are always timed, if you are sick with menstrual pain you can’t concentrate and usually results are not good.”

“I miss my exams because of heavy flow and menstrual pain.”

The participants also shared their fear of standing up in class to answer questions or do activities that require them to move around. Poor treatment from teachers also prevented them from attending school during menstruation.

“I can’t stand up in class when answering a question because of the fear of staining and male teachers don’t understand I will rather be at home for three days.”

“My teacher beat me up when I don’t stand when answering in class but at least I save myself from the embarrassment which will last forever. And next time I will stay at home.”

UNESCO (2014:47) estimated that poor menstrual management results in four days of missed schooling every month, translating to a total of 10-20% loss of school days among girls.

4.5.8.2 Category 8.2: Absconding extramural activities

According to Somer et al., (2019:107), many schoolgirls choose not to participate in sports activities at school from the onset of menstruation, especially in rural areas. The reason why schoolgirls skip sports at school is that they are afraid of leaking menstrual blood either onto the sports kit or their uniforms during practice. Schoolgirls reported staining as their biggest concern, and the second largest was concern that their menstrual material would be visible to others or slip out during training. They reported a lack of tight-fitting pants to support their rags.

“I no longer participate in volleyball and other sports because I am afraid that my rag will fall.”

“My rag fell when I was in a netball tournament and people laughed at me and I was very embarrassed.”

“We were wearing white shorts for sports and my period came when I was unaware and everyone saw that I stained. Now I am afraid because I don’t have proper menstrual protection and I am afraid to continue with sports because it might happen again.”

“I don’t have tight-fitting underwear so I am always afraid that the rag might fall when I am playing netball because I like it so much.”

The findings indicated that participants would not participate in sports or any other vigorous activity because they fear that their pads would fall out and everyone will laugh at them. No matter how good you are in sport, in these events, peers forget about your achievements and call you names. This limits their participation in the school’s extra-curricular activities.

“Some teachers think that you are rude; if you were once best in the sport and now not playing it. They don’t bother to investigate and help us.”

It is also common for schoolgirls to shy away from social activities during menstruation.

4.5.8.3 Category 8.3: School dropouts

According to UNICEF (2016:110), girls lag behind boys, especially in secondary level schools, when they are menstruating. Furthermore, they maintain that in some cultures, many girls are kept at home when they start menstruating, either permanently or temporarily. As a result, girls get left behind in complex and abstract subjects where there is a continued building on previous knowledge. FAWE Uganda (2003:29) confirms that the onset of puberty leads to significant changes in school participation among girls.

Participants verbalised that they know of students who dropped out of school since they did not know or learn about menstruation and its management. Embarrassment can also lead to school dropout when girls start their menstruation suddenly, while in class. Following the incident, other students, particularly male students, do not have adequate understanding and mistreat the schoolgirls, who then drop out. It was also reported that a lack of sanitary material and fear of sudden leakage was a concern for girls, as they feared the psychological trauma faced when students tease them.

“Yes, menstruation had an influence on my education. One day, when I was at school, the blood suddenly leaked and stained my rag and male students teased me. Then after, I went home and decided not to go back to school.”

Some school dropouts are caused by poor parental communication regarding sexual and reproductive health issues, particularly menstrual management. As stated, in Zimbabwe currently, school dropouts are caused by the economic recession, since schoolgirls are forced to leave school because of a lack of sanitary pads and challenges in managing their period.

“Some parents agree with those going to South Africa to take their girls so that they will take care of them and end up contracting HIV/AIDS because they don't have jobs and not skilled but have to please their parents.”

“My parents always say that when I reach Form 2, I will go to South Africa and work because I am wasting their money at school.”

Arranged marriages are common, as parents offer their child to a rich older man after they start their menses, which causes school dropouts.

“My mother said when I see blood on my panties, I have to tell her and it will be the last day of going to school.”

“I told my teachers about what my granny said and they reported her to the police, that’s when I had the opportunity to write my form 4 exams. The lack of especially sanitary wear facilities contributed a lot to school dropouts.”

Lack of girl-friendly toilets, water and pads also result in school dropouts, putting schoolgirls at a greater risk of child marriage and getting pregnant at a young age. In certain cultures, they are considered adults after their first menstruation and may drop out from school. In this study, it was found that due to lack of girl-friendly toilets, lack of sanitary pads and water, and bullying by peers, schoolgirls end up dropping out of school because they are not coping.

4.5.8.4 Category 8.4: Infections

According to the Children (2015:23), poor menstrual hygiene can lead to an increased risk of RTIs, STIs and discomfort, which can cause maternal issues such as preterm births, post-partum infections, complications after abortions or caesarean sections, and pelvic inflammatory diseases (Torondel, Shalini, Jyoti, Tapoja, Pranati, Biljaya & Arati, 2018:107; Omidvar & Begum, 2010:13). Furthermore, menstruation hygiene involves not just keeping the body clean but having clean and sterile materials to use (House et al., 2012:34). Although the various types of infections were not mentioned by participants, the literature emphasises these infections.

a) Reproductive tract infections

Ramaswamy (2018:76) asserts that RTIs emanate from poor hygiene practices during menstruation. Furthermore, he stated that unhygienic menstrual material adds to the extent of infections because a lot of girls use abnormal materials, like old rags or cloths, and this aggravates RTIs (Bobel et al., 2020:577). Moreover, RTIs are more common among women with unhygienic sanitary practices. Poverty and the high prices of sanitary pads mean some families cannot afford these products, as nearly 70% of participants indicated that their families cannot afford sanitary pads (Montgomery et al., 2016:78).

In Zimbabwe, it was found that in Binga District, many girls developed RTIs after reusing rags or other alarming alternatives instead of sanitary pads (Moyo, 2018:57). The results of the

study reflected that the rags are washed without soap and water due to severe poverty levels. The washed menstrual material is dried inside the house for fear that it will be seen by others if it is hung outside to dry (Mutunda, 2016:41). Montgomery et al., (2016:59), in a study conducted in India, revealed that between 43% and 88% of girls reuse cotton cloths rather than disposable pads. As a result of these practices, menstrual material (cloth and rags) gets reused by women and girls without being sterilised first. Across studies, the women and girls in rural areas are the most affected groups (Moyo, 2018:21).

The burden of RTI is a major public health problem worldwide, and RTIs are widespread in low-income settings. The largest proportion of this burden can be attributed to the poor menstrual hygiene mix and STIs. During menstruation, the risk of infection increases since the flowing blood becomes a pathway for bacteria.

The study results revealed that the use of unhygienic materials like old cloths, socks, toilet paper, and cow dung are uncomfortable because they easily soak and leak. Some of these materials need plenty of water for washing and must be dried in the sun. This increases the risk of genital infections where water and soap are scarce, as the cloth will not be cleaned properly (Kuhlmann et al., 2019:111).

The use of unhygienic menstrual material comes with a lot of health risks during menstruation. The semi-structured interviews illustrated the impact of cultural practices that are unhealthy, thereby affecting menstruating schoolgirls. Some participants fear not being able to change their menstrual material in time, not being able to wash them regularly, and the use of unhygienic materials.

They were aware that such practices can lead to RTIs, rashes and bruises.

“Some cloth might infect you. For instance, if you use damp cloth you might start feeling itchy then it burns to a wound inside my private part.”

“My private part is always itchy and skin in my genitalia is always torn apart and broke because of using rags.”

“Every month I experience bruising in my private parts because of the blanket material I use during menstruation.”

“If you don’t bath and change your sanitary pads regularly, you can have rashes and bruises especially when you are using old rags or pieces of blankets.”

“When menstruating you have to bath to avoid bruises and friction burns in the inner thighs which are caused by wet and rough menstrual cloth.”

“Sometimes if you don’t change you might develop smelly discharge and you feel very uncomfortable.”

“It’s very itchy in my genitalia every time I have my periods.”

“At times I ask from my teacher for a break to the toilet and scratch because can’t do it in class.”

“I develop a small rash every month and is itchy.”

“The itchiness comes with an off-white discharge and the pain is unbearable.”

“I always have this smelly discharge every month after my menses.”

Atkin (2018:46) explains that when menstrual cloths are cleaned, it is not adequately dried in the sun because of a culture of privacy and secrecy. The participants reported:

“Me and my sisters all share a rag and had to put it under the bed to dry.”

“I am not allowed to dry my rags in the open. I just have to hide them from my little bothers.”

“My rags are always wet because I hide them away from witches.”

Abnormal and unhygienic menstrual material may result in localised infections in the vagina. These infections can further spread if girls do not wash their hands after changing menstrual material. Schoolgirls reported that after their period, they develop rashes and discharges, which comes with itchiness as a sign of RTIs.

b) Sexual transmitted diseases and unwanted pregnancies

Piran (2017:71) found in his study conducted in Nepal, India, that girls that were isolated during menstruation experienced extreme violence. They found that some girls were raped, and a few died due to their poor living conditions. This happens while they are menstruating, clearly demonstrating that these negative experiences and the violence inflicted on girls during menstruation should be addressed alongside women's human rights' issues that are still happening in other African countries and around the world. For example, in Zimbabwe and Malawi, negative experiences are characterised by puberty rituals, a form of rituals still common in these countries, that have a grave negative impact on girls' sexuality maturity (Pilliteri, 2011:12).

It is a well-known practice that girls are raped in the belief that a traditional doctor is initiating them sexually. In rural Gwanda, there were isolated cases in School A who reported that this culture exists. The participants indicated that:

"I was forced to sleep with a witch doctor as a token of appreciation of his teachings."

"After the initiation, the old ladies who trained me said I am ready for marriage."

"During the lessons of initiation, we were told how to satisfy men sexually."

Mutunda (2016:41) posits that besides the physical and mental hazards associated with being forced to have sexual intercourse, there is a high chance of schoolgirls contracting STIs and HIV as a result of these practices. There is also a risk of unwanted pregnancies and the ultimate threat of illegal abortions.

4.5.8.5 Category 8.5: Psychological impact

All participants reported mental and emotional stress during menstruation when they are at school. The girls have difficulties concentrating on learning, as they concentrate on their condition instead of paying attention to what is being taught. Owing to this mental impact, they risk not performing well academically and fail their final exams. Two participants were quoted as saying.

“Period experience is so stressful that you do not concentrate to what is being said in class. You risk not doing well in your exam.”

“Menstruation is a monster. I no longer participate in class and I am failing my exams.”

4.5.8.6 Category 8.6: Pain and discomfort

Women experience abdominal pain referred to as dysmenorrhea during menstruation. Menstrual pain has a negative impact on quality of life and leads to girls' absenteeism from school and cause women to abscond from work (Sivakami et al., 2019:30). The pain is usually from the abdomen, but some experience it in their lower back, legs, vagina and headaches (Bobel et al., 2019:23). Many participants described experiencing some type of menstrual pain; the most commonly reported menstrual pain was abdominal cramps. Other discomforting symptoms participants recounted include back pain, swelling, fatigue, bruising, and burning urine. Participants described managing their pain by using alternative techniques because clinics are far away and short stocked on medication. They were quoted as saying:

“I put water under my belly. This makes me better.”

“I don't have medicine or pain killers for pain during menstruation.”

“My grandmother gave me traditional remedies of barks of a tree called isihaqa. They help at times but when it is severe, it does not stop.”

“The period pain is very painful and when I start my periods I don't go to school because the pain is just too much.”

“The period pain comes with nausea challenges; at times I vomit and stay the whole day not eating.”

Dysmenorrhea contributes to non-attendance and impaired concentration at school. Schoolgirls mentioned that they resort to lying to teachers in order to go home when they experience menstrual pain.

4.6 CONCLUSION

The study revealed that menstrual management in rural Gwanda is a widespread and multifaceted problem. The lack of proper menstrual management significantly impairs the wellbeing of schoolgirls, both mentally and physically, and affects their educational opportunities in developing countries like Zimbabwe.

CHAPTER 5: CONCLUSIONS, RECOMMENDATIONS AND LIMITATIONS

5.1 INTRODUCTION

In this chapter, the researcher presents the conclusions of the study, the recommendations to improve menstrual management, and describes the limitations of the study. The discussion is based on the identified themes and the relative recommendations to address the reported challenges.

5.2 CONCLUSIONS

Eight themes emerged from the data that were analysed based on the 32 participants' interviews. These themes were (1) lack of knowledge, (2) perceptions about menstruation, (3) religion, (4) beliefs, (5) cultural practices, (6) poor resources, (7) available resources, and (8) adverse events related to menstrual management.

5.2.1 Lack of knowledge about menstruation

The study findings revealed a lack of knowledge pertaining to menstruation before menarche. The participants reported that they were not provided with comprehensive information before menarche. Participants' overall health education about the female biological cycle, menstruation and menstrual management was lacking. The findings also revealed that the topic, menstrual management, was not part of the curriculum at any level in rural schools.

5.2.2 Perceptions/religion/beliefs and cultural practices

Perceptions, religion, beliefs and cultural practices were reported to have influenced the participants' experience of menstrual management negatively. Traditional beliefs and perceptions restricted participants from moving freely and socially interacting within the community and school environment. Participants reported that they are considered dirty and polluted during menstruation, which was experienced as disempowering, lowering their confidence – both in the community and school.

Participants were exposed to some myths and taboos. They were deprived of food, prevented from attending church, forced to remain outside, and shunned from interacting with nature and

animals. Traditionally performed rituals were also reported to have been intimidating and traumatic.

5.2.3 Lack of resources

The study findings further revealed that secondary schools did not have running water and were using pit latrines, which do not conform to the WHO/UNICEF JMP's (2018:22) functionality standards. The inadequacy of toilets, as an important resource, included the absence of doors, locks, water, and soap. The spaces were reportedly smelly and small.

Participants complained about transport and reported that they walked long distances and several hours every day while using uncomfortable menstrual material. Of the participants, 80% complained about the colour and design of their school uniform because they want the colour to camouflage a possible menstrual leak.

The study revealed that poverty, both personal and structural, posed an economic barrier to the accessibility of hygienic sanitary materials, threatening the menstrual hygiene of the schoolgirls, and stressing them emotionally. The majority of school participants reported that they used rags, cow dung, mattress stuffing, leaves or newspapers and papers from used school exercise books as menstrual material.

Some of the participants, due to poverty, end up engaging in transactional sex to earn money to acquire sanitary pads. The participants revealed that they wash the rags for reuse, and at times, these rags do not get dry. They also reported great discomfort, a foul smell and bruising being caused by non-specific menstrual products.

The findings revealed that participants did not participate in sports or any other vigorous activities because they feared their menstrual management material will fall out from their underwear, and be seen by their peers.

5.2.4 Adverse events (school attendance/dropouts & infections)

Participants reported missing school and dropping out from school due to (1) insufficient menstrual management materials, (2) inadequate water and sanitation facilities in schools, (3) unsupportive environments, (4) menstrual cramping, and (5) lack of camouflaging uniforms leading to staining and fear of a menstrual accident.

Participants experienced initiation rituals as disgusting, and after that much talk about sex during the initiation, they were tempted to go out and experience what they had learnt. It was reported that, at times, the traditional healers have sex with girls. This resulted in early marriages and teenage pregnancies, and in many cases, HIV infections.

Participants reported that they could not afford to buy sanitary materials, therefore ended up using (1) rags, (2) cow dung, (3) mattress stuffing, (4) leaves or newspapers, and (5) papers from used school exercise books, making them vulnerable to infections. Complications included (1) vaginal rashes and bad odour, (2) RTIs, (3) cervical cancer, and (4) HIV/AIDS.

5.3 RECOMMENDATIONS

To address the above-mentioned experiences and challenges, a diverse group of stakeholders need to be involved, including parents, guardians, educators, religious leaders, and community leaders. The following individuals and ministries should be called to action: (1) Parents/Guardians, (2) Ministry of Education, (3) Ministry of Child Welfare, (4) Ministry of Current Affairs, (5) Ministry of Health, (6) Ministry of Chiefs, Religious and Traditional Affairs, and the (7) Ministry of Arts and Communication.

5.3.1 Parents/Guardians

Parents, specifically mothers and/or guardians, must take greater responsibility to prepare girls for menstruation before menarche. In order to motivate and facilitate their involvement, the researcher will present a written request to the Gwanda District Health Committee and the Provincial Office of Education (who gave approval for the research to be conducted in Gwanda District), to assist her in sharing an electronic version of the research findings with the permanent secretaries of the relevant ministries. They will have to approve and enable the researcher to directly communicate with parents and guardians during a meeting.

The researcher will present a written request to obtain permission from the Chiefs to host community meetings and/or contribute to the discussions of already existing community meetings in the villages, normally arranged by Village Heads. In this way, both parents and guardians will have an opportunity to gain a greater understanding of the important role they can play in providing girls with the correct information about menstruation and menstrual management.

5.3.2 Ministry of Education

Schools are one platform where knowledge about menstruation can be shared with teachers and pupils, both girls and boys.

Supported by evidence from the research report, on the effect of this lack of knowledge, motivation will be shared electronically with the secretariat of the Minister of Education to facilitate the inclusion of menstruation and menstrual management in the integrated science subject. It will be requested that the Ministry of Education support and recommend the inclusion of a theme on menstrual management, and the role culture and religion can play in girls' experiences in their reproductive years, into the integrated science subject.

In a letter to the Department of Education, uniform colours, and the importance of prescribing darker-coloured uniforms for schools, will be motivated.

5.3.3 Ministry of Child Welfare

In Zimbabwe, parents who cannot afford schools' tuition fees apply to the Social Welfare Department under the Ministry of Child Welfare, Chapter 5.06 of the Children's Act (Zimbabwe National Statistics Agency & ICF International Stats, 2013:17). The same support must be negotiated to ensure free menstrual management material for schoolgirls.

The Ministry of Child Welfare should consider the importance of providing girls with free menstrual management materials to prevent school dropouts. This strategy will align with the Department of Education's attempts to enforce education. A request to conduct a survey to assess the lack of menstrual management material and school dropouts will also be recommended.

5.3.4 Ministry of Current Affairs

The Ministry of Current Affairs plays an important role in the life of a schoolgirl. This Ministry is responsible for dealing with all events of social interest in the country, and is a key driver in ensuring that the SDGs are afforded a conducive and well-resourced environment to be achieved. Social media can be a platform to campaign for a change in the way menstrual management is perceived. The focus must be on menstruation being normal and essential, and that the management thereof must be handled with respect. The SDGs has been gazetted

globally to be implemented by all countries. The Ministry will need to embrace the SDGs with more emphasis on SDGs 3, 4, 5, 6, 8 and 12. This will help in changing individuals' negative perceptions of menstrual management in Zimbabwe.

5.3.5 Ministry of Health

The research findings that will be shared with the Ministry of Health will emphasise the poor infrastructure of schools, focusing on the condition of bathrooms to allow for hygienic menstrual management. Consultations with the Department of Education will be recommended, to budget for improved infrastructure. It will be suggested that prototype designs are used that adhere to the WHO requirements for a girl-friendly toilet (Kauer *et al.*, 2018:40). These facilities must be budgeted for and motivated to be built. These ministries impact the health and educational wellbeing of young women and need to join hands in addressing the mentioned concerns that negatively impact girls' health and education in the Gwanda District of Zimbabwe.

5.3.6 Ministry of Chiefs, Religious and Traditional Affairs

Increased awareness of menstruation and menstrual management in the communities within the study's context will only be possible if both the Ministry of Chiefs, Religious and Traditional Affairs, through the House of Chiefs, approve and promote increased awareness in the community.

The researcher will electronically request, with evidence to support the request, permission to facilitate workshops with the traditional healers and religious leaders in the country, and ask them for support in influencing cultural beliefs, perceptions and traditions that negatively impact on schoolgirls' health and education. A request will be made to advocate that the Ministry of Chiefs, Religious and Traditional Affairs formulate regulations and restrictions that govern the operations of traditional healers in the country to prevent practices that directly impact on menstrual management.

5.3.7 The Ministry of Arts & Communication

Social media can be utilised to share correct knowledge about menstruation, menstrual management, available literature, the role of culture and religion, and advertise available workshops where information can be shared. Available support and free menstrual

management material can also be shared on social media. The Ministry of Arts & Communication will be asked to support campaigns on menstrual management and the importance of hygienic practices, similar to how it supported awareness on HIV/AIDS.

5.4 LIMITATION OF THE STUDY

The study findings are context-specific and therefore cannot be generalised to the entire population. However, the purpose of the study was not to generalise, but rather to set the scene for future research and provide an elaborate data trail to ensure other researchers will be able to transfer the findings to a similar context.

5.5 SUGGESTIONS FOR FUTURE RESEARCH

It is recommended that the following research be conducted:

- A survey to determine how many women dropped out of school due to menstrual management challenges.
- A national survey on the quality of the facilities in all schools and how they comply with the minimum standards set by WHO.
- An exploration of locally developed menstrual management material that is affordable.
- Research on the profile and direct impact that culture and religion have on menstrual management, resulting in school dropouts.
- Research to explore the sustainability of humanity and gender awareness campaigns avoiding patriarchy and discrimination on menstrual management.
- Research on the possibility of combining menstruation into maternal and child healthcare campaigns to have a baseline of sustainable management on menstruation.

5.6 CONCLUSION

Participants in the rural schools experienced major challenges in practising menstrual management, resulting in school dropouts, ultimately negatively impacting women's education. The extent of the cultural and religious effects, as well as the lack of resources on menstrual management, was not studied; however, enough evidence was found to raise great concern that the rights of women and girls were negatively impacted. Menstrual management remains of utmost importance, and the accompanying challenges must be addressed to ensure the health and educational wellbeing of girls and women in Zimbabwe.

REFERENCE LIST

- ACFTU. (2014), Special Rules on the Labor Protection of Female Employees (2012). *All-China Federation of Trade Unions* (Blog). Available from: <http://en.acftu.org/28616/201408/26/140826131330762.shtml>.
- Alam, M.U., Luby, S.P., Halder, A.K., Islam, K., Opel, A., Shoab, A.K., Ghosh, P.K., Rahman, M., Mahon, T., & Unicomb, L., (2017), Menstrual hygiene management among Bangladesh adolescent schoolgirls and risk factors affecting school absence results from a cross-sectional survey. *British Medical Journal Open*, 7(7);e015508.
- Amoakoh, S., (2019), *Human rights in Humanitarian Policy: Dissecting the catalysts and barriers to employing a human rights-based approach in drafting menstrual health into the sphere handbook*. Columbia Academic Commons.
- Anjun, F., Zehra, N., Haider, G., Rani, S., Siddique, A.A., & Munir, A.A., (2010), Attitudes towards menstruation among young women. *Pakistan Journal of Medical Sciences*, 26(3):619-622.
- Atkin, E., (2018), *Why Do Americans Refuse to Give Up Tampons?* Available from: <https://newrepublic.com/article/148432/americans-refuse-give-tampons>.
- Baldy, C.R., (2016), (For that Purpose—I Consider Things) (Re)writing and (Re)righting Indigenous Menstrual Practices to Intervene on Contemporary Menstrual Discourse and the Politics of Taboo. *Cultural Studies. Critical Methodologies*, 17(1):21-29.
- Baldy, C.R., (2018), *We Are Dancing for You: Native Feminisms and the Revitalization of Women's Coming-of-Age Ceremonies*. Seattle: University of Washington Press.
- Barnack-Tavlaris, J.L., Hansen, K., Levitt, R.B., & Reno, M., (2019), Taking Leave to Bleed: Perceptions and Attitudes toward Menstrual Leave Policy. *Health Care for Women International*, 40(12):1355-1373. Available from: <https://doi.org/10.1080/07399332.2019.1639709>.
- Barriga, P.P., & Brante, G.S., (2018), Normal menstrual cycle. *Olema Ivanivna Lutsenko, Intech open*. Available from: <https://www.interchopen.com/books/menstrual-cycle/normal-menstrual-cycle>. DOI;10.5772/intechopen.79876.

- Babbie, E., & Mouton, J., (2014), *The practice of social research*. 12th edition. London: Thomson and Wadsworth.
- Bernard, H.R., (2018), *Research methods in anthropology: Qualitative and quantitative approaches*. 6th edition. Lanham, MD: AltaMira Press.
- Bobel, C., (2019), *The managed body: Developing girls and menstrual health in the global south*. Boston, MA: Palgrave MacMillan.
- Bobel, C., Winkler, I.T., Fahs, B., Hasson, K.A., Kissling, E.A., & Roberts, T.A., (2020), (eds). *The Palgrave handbook of critical menstruation studies*. Palgrave Macmillan. Available from: https://doi.org/10.1007/978-981-15-0614-7_71.
- Boosey, R., Prestwich, G., & Deave, T., (2014), Menstrual Hygiene Management amongst Schoolgirls in the Rukungiri District of Uganda and the Impact on Their Education: A Cross-Sectional Study. *The Pan African Medical Journal*, 19:253.
- Bowling, A., (2014), *Research methods in health: investigating health and health services*. 3rd edition. Berkshire: Open University Press.
- Braun, V., & Clarke, V., (2006), Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3:77-101.
- Brinkman, S., & Kvale, S., (2015), *Interviews: Learning the craft of qualitative research interviewing*. 3rd edition. Thousand Oaks. CA: SAGE.
- Burns, N., & Grove, S.K., (2011), *The practice of nursing research: Appraisal, synthesis and generation of evidence*. 6th edition. Philadelphia: WB Saunders.
- Cetin, S., & Aslan, E., (2020), The analysis of female sexual functions, sexual satisfaction and depressive symptoms according to menstrual cycle phases, *Sexual and Relationship Therapy*, DOI: 10.1080/14681994.2020.1792875.
- Children, S.T., (2015), *Adolescent Sexual and Reproductive Health*. Available from: http://www.savethechildren.org/site/c.8rKLIXMGIpl4E/b.9080949/k.F576/Adolescent_Sexual_and_Reproductive_Health.htm.
- Chiwara, T.B., (2017), Guidelines of improving HIV/AIDs communication for women in Zimbabwe. PhD, University of South Africa, Pretoria. Available from: <http://handle.net/10500/23785>.
- Cohen, I., (2017), *More Than Blood: Menarche Ceremonies and Menstrual Hygiene in Tamil Nadu, India*. Unpublished Manuscript.
- Cowart, L., (2016), *Women Are Still Getting Toxic Shock Syndrome and No One Knows Why*. Washington Post, March 21, 2016. Available from:

<https://www.washingtonpost.com/news/speaking-of-science/wp/2016/03/21/women-are-still-getting-toxicshock-syndrome-and-no-one-quite-knows-why/?noredirect=on>.

- Crichton, J., Okal, J., Kabiru, C.W., & Zulu, E.M., (2013), Emotional and Psychosocial Aspects of Menstrual Poverty in Resource-Poor Settings: A Qualitative Study of the Experiences of Adolescent Girls in an Informal Settlement in Nairobi. *Health Care for Women International*, 34:891-916. Available from: <https://doi.org/10.1080/07399332.2012.740112>.
- Chrisler, J., & Johnston-Robledo, I., (2018), *Women's Embodied Self: Feminist Perspectives on Identity and Image*. Washington, DC: American Psychological Association.
- Chrisler, J.C., & Gorman, J.A., (2015), The Medicalization of Women's Moods: Premenstrual Syndrome and Premenstrual Dysphoric Disorder. In *The Wrong Prescription for Women: How Medicine and Media Create a "Need" for Treatments, Drugs, and Surgery*, (pp. 77–98). Santa Barbara, CA: Praeger.
- De Albuquerque, C., (2014b), *Statement by the United Nations Special Rapporteur on the Human Right to Water and Sanitation on Her Visit to Kenya*. Available from: <https://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=14912&LangID=E>.
- De Vos, A.S., & Strydom, H., (2011), Scientific theory and professional research. In De Vos, A.S. (Ed.), Strydom, H., Fouché, C.B. & Delport, C.S.L. *Research at grass roots: For the social sciences and human service professions*. 4th ed. Pretoria: Van Schaik.
- Dorgbetor, G., (2015), Mainstreaming MHM in schools through the play-based approach: lessons learned from Ghana. *Waterlines*, 34(1):41–50.
- Duby, Z., Katz, A., Musara, P., Nabukeera, J., Zimba, C.C., Woeber, K., Pulanee-Phillips, T., & Van der Straten, A., (2020), "The state of mind tells me it's dirty": Menstrual shame amongst women using a vaginal ring in Sub Saharan Africa. *Women and Health*, 60(1):72-86. DOI: 10.1080/03630242.2019.1607803,
- FAWE Uganda (2003), *Creating opportunities for girl's participation in education in Uganda, presentation at transforming spaces*. Girlhood, Act.
- Goldberg, E., (2017), *Why Many Native American Girls Skip School When They Have Their Periods*. Huffington Post, August 25. Available from:

http://www.huffngtonpost.ca/entry/what-its-like-to-be-a-teen-in-the-us-who-cant-affordtampons_us_597216dde4_b09e5f6ccceddfb.

- Green, A., & Martelli, P.L., (2015), Assessment of Beliefs and Practices Relating to Menstrual Hygiene of Adolescent Girls in Lebanon. *International Journal of Health Sciences & Research*, 3:(12):15-32.
- Grove, S.K., Burns, N., & Gray, J., (2015), *Understanding nursing research*. 6th edition. Elsevier Saunders: United Kingdom. ISBN:178-1-4557-70-60-1.
- Gultie, T.K., Hailu, D., & Workineh, Y., (2014), Age of menarche and knowledge about menstrual hygiene management among adolescent school girls in Amhara Province, Ethiopia: Implication to health care workers and school teachers. *PLoS ONE*, 9(9):e108644. DOI: 10.13.71/Journal.pone.0108644. Source PubMed.
- Haroun, S.W.H., (2016). Reproductive cycles in females. *Women's Health*, 2(2):62-64.
- Hennegan, J., Zimmerman, L., Shannon, A.K., Exum, N.G., OlaOlorun, F., Omoluabi, E., & Schwab, K.J., (2018), The Relationship between Household Sanitation and Women's Experience of Menstrual Hygiene: Findings from a Cross-Sectional Survey in Kaduna State, Nigeria. *International Journal of Environmental Research and Public Health*, 15(5):905.
- Hennegan, J., & Montgomery, P., (2016), Do Menstrual Hygiene Management Interventions Improve Education and Psychosocial Outcomes for Women and Girls in Low- and Middle-Income Countries? A Systematic Review. *PLoS ONE*, 11(2):e0146985.
- Hill, M., (2019), *I'm such a big fan of the menstrual cycle!* – the women asking whether it's possible to have a better period. The Guardian. PMC479306. Available from: <https://www.theguardian.com/society/2019/may/29/im-such-a-big-fan-of-the-menstrual-cycle-the-women-asking-whether-its-possible-to-have-a-better-period>.
- House, S., Mahon, T., & Cavill, S., (2012), *Menstrual hygiene matters: a resource for improving menstrual hygiene around the world*. Water Aid. Available from: [https:// washmatters.wateraid.org/publications/menstrual-hygiene-matters](https://washmatters.wateraid.org/publications/menstrual-hygiene-matters).
- Jewitt, S., & Ryley, H., (2014), It's a girl thing: Menstruation, school attendance, spatial mobility and wider gender inequalities in Kenya. *Geoforum*, 56:137-147.

- Joubert, G., & Ehrlich, R., (2014), *A research manual for South Africa*. 3rd edition. Cape Town: Oxford University Press.
- Kaur, R., Kaur, K., & Kaur, R., (2018), Menstrual hygiene, management, and waste disposal: practices and challenges faced by girls/women of developing countries. *Journal of Environmental and Public Health*, 2018:1730964. DOI: 10.1155/2018/1730964 2018. 9-21.
- Kim, Y., Kim, M., Bandari, P., & Choi, S., (2018), Experience of waiting areas as perceived by haemodialysis patients and family carers. *Journal of Nursing*, 74:364-372.
- Kissling, E.A., (2006), *Capitalizing on the Curse: The Business of Menstruation*. Boulder: Lynne Rienner Publishers.
- Kuhlmann, A.S., Bergquist, P.E., Danjont, D., & Wall, L.L., (2019), Unmet Menstrual Hygiene Needs among Low-Income Women. *Obstetrics and Gynecology*, 133(2):238-244.
- Knudtson, J., & McLaughlin, J., (2019), Menstrual cycle - Women's health issues. *Female Reproductive Endocrinology*. DOI. 10.14200/jrm.2019.0119_
- Kumar, A., & Srivastava, K., (2011), Cultural and Social Practices Regarding Menstruation among Adolescent Girls. *Social Work in Public Health*, 26(6):594-604.
- Lahiri-Dutt, K., (2015), Medicalising Menstruation: A Feminist Political Economic Critique of Menstrual Hygiene Management in South Asia. *Gender, Place and Culture*, 22(8):1158-1176.
- Lawan, U.M., Yusuf, N.W., & Musa, A.B., (2010), Menstruation and menstrual hygiene amongst adolescent school girls in Kano, North Western Nigeria. *African Journal of Reproductive Health*, 14(3):201-207.
- Lee, J., (2007), *Exposing Longstanding Taboos around Menstruation: A Cross-Cultural Study of the Women's Hygiene Product Advertising*. In Conference Papers–International Communication Association 1.
- Lee, Y., & Im, E.O., (2016), *Stress and pre-menstrual symptoms in reproductive aged women*. *Health care for women international*. Available from: <https://doi.org/10.1080/07399332.2015.1049352>.
- Levy, P.S., & Lemeshow, S., (2013), *Sampling of Populations: Methods and Applications*. New York: Wiley.

- Lincoln, Y.S., & Guba, E.G., (1985), *Competing paradigms in qualitative research. Handbook of qualitative research*. Thousand Oaks, CA: SAGE.
- Loughnan, L., Mahon, T., Goddard, S., Bain, R., & Sommer, M., (2020), Monitoring Menstrual Health in the Sustainable Development Goals. *Waterlines*, 35(3):228-44. Available from: <https://doi.org/10.3362/1756-3488.2016.019>.
- Lysaght, A., (2016), *Menstruation matters: Period*. UNICEF Connect.
- Ma, J., (2016), *25 Famous Women on Periods*. The Cut. Available from: <https://www.thecut.com/2016/10/25-famous-women-on-periods.html>.
- Mahon, T., & Fernandes, M., (2010), Menstrual hygiene in South Asia: a neglected issue for WASH (water, sanitation and hygiene) programmes. *Gender & Development*, 18(1):99-113.
- Majola, B., (2019), *The cycle of the menstrual burden*. South African Human Rights Commission (Sunday Independent Online). Available from: <https://www.sahrc.org.za/index.php/sahrc-media/opinion-pieces/item/1789-the-cycle-of-the-menstrual-burden>
- Marshall, C., & Rossman, G.B., (2015), *Designing qualitative research*. 5th edition. London: Sage.
- Masuku, B., (2016), *Ways of bleeding: teenage girls' experiences of the menstruating body and the washable pad*. MA Anthropology Thesis. University of Witwatersrand.
- Mason, L., Nyothach, E., Alexander, K., Odhiambo, F.O., Eleveld, A., Vulule, J., Rheingaus, R., Laserson, K.F., Mohammed, A., & Phillips-Howard, P.A., (2017), We keep it secret so no one should know'—a qualitative study to explore young schoolgirls attitudes and experiences with menstruation in rural Western Kenya. *PLoS ONE*, 8:e79132. Available from: <https://DOI.org/10.1371/journal.pone.0079.123>.
- Matua, G., & Van der Wal, D., (2015), Differentiating between descriptive and interpretive phenomenological research approaches. *Nurse Researcher*, 22(6):22-27.
- Mbatha, T., (2011), Addressing girls' challenges of water and sanitation in a rural schooling context in Swaziland. *Agenda: Empowering Women for Gender Equity*, 25(2):5-167. Available from: <https://DOI.org/10.1080/10130950.2011.575995>.

- McLintock, C., (2018), Women with Bleeding Disorders: Clinical and Psychological Issues. *Haemophilia*, 24(6):22-28. Available from: <https://onlinelibrary.wiley.com/doi/full/10.1111/hae.13501>.
- McKinnon, K., Butcher, D., & Bruce, A., (2018), *Working to full scope: The re-organisation of nursing work in two Canadian community hospitals. Global qualitative nursing research*. Available from: <https://doi.org/10.1177/2333393617753905>.
- McMahon, S., Winch, P., Caruso, B., Obure, A., Ogutu, E., Ochari, I., & Rheingans, R., (2011), The girl with her period is the one to hang her head'. Reflections on menstrual management among schoolgirls in rural Kenya. Biomedical Central. *Bio Medical Central International Health and Human Rights*, 11(7):55-110. Available from: <https://doi.org/10.1186/1472-698x-11-7>.
- Meng, G., Julissa, F.C., & Weiss-Wolf, J., (2018), *Women Are Finally Winning the Period Rights Fight*. Newsweek, January 25. Available from: <https://www.newsweek.com/women-fnally-winning-period-rights-fght-790990>.
- Merry, S.E., (2016), *The Seductions of Quantification: Measuring Human Rights, Gender Violence, and Sex Trafficking*. Chicago: University of Chicago Press.
- Morse, J.M., (2015), Critical analysis of strategies for determining rigour in qualitative enquiry. *Qualitative Health Research*, 25:1212-1222.
- Montgomery, P., Hennegan, J., Dolan, C., Wu, M., Steinfield, L., & Scott, S., (2016), Menstruation and the Cycle of Poverty: A Cluster Quasi-Randomised Control Trial of Sanitary Pad and Puberty Education Provision in Uganda. *PLoS ONE*, 11(12):e0166122–e0166122. Available from: <https://org.ox.ac.uk:443/objects/uuid:7ac84191-3894-4dbo-96t8-b47901070b72doi:10.5287/bodleian:wr46akQ2P>.
- Moule, P., & Goodman, M., (2015), *Nursing research: An Introduction*. 3rd edition. Thousand Oaks, CA: SAGE.
- Morgan, T.L., (2018), Themes, theories, and models. *Qualitative health research*, 28(3):339-345. Available from: <https://doi.org/10.1177/1049732317750127>.
- Moyo, J., (2018), *Too poor for periods, Zimbabwe's girls rely on rags, paper, leaves*. Reuters. Available from: <https://www.reuters.com/article/us-zimbabwe-womenmenstruation/too-poor-for-periods-zimbabwes-girlsrely-on-rags-paper-leaves-idUSKBN1KD0MR>.

- Moore, K.L., Persuade, T.V.N., & Torchia, M.A., (2015), *The developing human: clinically oriented embryology*. 10th edition. Saunders: Philadelphia. USA.
- Munthali, A., & Eliyah, Z., (2007), The Timing and Role of Initiation Rites in Preparing Young People for Adolescence and Responsible Sexual and Reproductive Behaviour in Malawi. *African Journal of Reproductive Health*, 11(3):150-167.
- Musaazi, M.K., Mechtenberg, A.R., Nakibuule, J., & Sensenig, R., (2015), Quantification of social equity in life cycle assessment for increased sustainable production of sanitary products in Uganda. *Journal of Cleaner Production*, Vol 96. Available from: <https://doi.org/10.1016/j.jclepro.2013.10.026>.
- Mutunda, A., (2016)., Factors impacting on the menstrual hygiene among school-going adolescent girls in Mongu District, Zambia. (Mini-thesis). School of Public Health. University of the Western Cape.
- Nair, S., & Supriya, G., (2019), *Two Women Enter a Temple. A Country Erupts*. The New York Times, January 8, 2019. Available from: <https://www.nytimes.com/2019/01/08/opinion/india-women-sabarimala-temple.html>.
- Neumeyer, H., & Klasing, A, (2016), Menstrual hygiene management and human rights: What's it all about? Menstrual Hygiene Day: WASH United. Available from: <http://tbinternetonchr.org/layouts/treatybodyexternal.download.aspx?symbolno=E%2FC.12%2f1999%f10&lang=en>.
- Ndlovu, E., (2016), Menstrual hygiene – A salient hazard in rural schools: A case of Masvingo district of Zimbabwe. *Jàmbá: Journal of Disaster Risk Studies*, 8(2):204. Available from: <http://dx.doi.org/10.4102/jamba.v8i2.204>.
- Oche, M.O., Umar, A.S., Gana, G.J., & Ango, J.T., (2012), Menstrual health: the unmet needs of adolescent girls' in Sokoto, Nigeria. *Science Research Journal*, 7(3):410- 418.
- Omidvar, S., & Begum, K., (2010), Factors Influencing Hygienic Practices during Menses Amongst Girls from South India. A Cross Sectional Study. *International Journal of Collaborative Research on Internal Medicine and Public Health*, 2(12):411-423. Available from: <http://www.iomcworld.com/ijcrimph/files/v02-n12-01.pdf>.
- Patkar, A., Aidara, R., & Dedouche, A., (2017), *Water Sanitation and Hygiene in the Informal Sector: Case Studies from Africa and Asia*. Water Supply and

- Sanitation Collaborative Council. Available from: <https://www.wsscc.org/wp-content/uploads/2017/05/CSW61-Session-Summary-Feb17-1.pdf>.
- Patton, M.Q., (2015), *Qualitative research and evaluation methods*. 4th edition. Thousand Oaks, CA: SAGE.
- Piran, N., (2016), Embodied Possibilities and Disruptions: The Emergence of the Experience of Embodiment Construct from Qualitative Studies with Girls and Women. *Body Image*, 18:43-60. Available from: <https://doi.org/10.1016/j.bodyim.2016.04.007>.
- Piran, N., (2017), *Journeys of Embodiment at the Intersection of Body and Culture: The Developmental Theory of Embodiment*. San Diego, CA: Elsevier.
- Phillips-Howard, P.A., Caruso, B., Torondel, G., Zulaika, M.S., & Sommer, M., (2016), Menstrual Hygiene Management among Adolescent Schoolgirls in Low- and Middle-Income Countries: Research Priorities. *Global Health Action*, 9(1):33-92.
- Pillitteri, P.S., (2011), *School Menstrual Hygiene Management in Malawi: More than Toilets*. Sanitation and Hygiene Applied Research for Equity. Available from: http://www.wateraid.org/uk/what_we_do/how_we_work/equity_and_inclusion/10745.asp.
- Plan International UK., (2018), *Break the Barriers: Girls' Experiences of Menstruation in the UK*. Available from: <https://plan-uk.org/file/plan-uk-break-the-barriers-report-032018pdf/download?token=Fs-HYP3v>.
- Polit, D.F., & Beck, C.T., (2016), *Nursing research generating and assessing evidence for nursing practice*. 10th edition. Philadelphia: JB Lippincott.
- Polit, D.F., & Beck, C.T., (2020), *Nursing research generating and assessing evidence for nursing practice*. 11th edition. Philadelphia: JB Lippincott.
- Prasanna, C.K., (2016), Claiming the Public Sphere: Menstrual Taboos and the Rising Dissent in India. *Agenda: Empowering Women for Gender Equity*, 30(3):91-95.
- Rajagopal, S., & Mathur, K., (2017), Breaking the Silence around Menstruation: Experiences of Adolescent Girls in an Urban Setting in India. *Gender and Development*, 25(2):303-317.
- Ramasamy, E.P.V., (2018), View on Women Empowerment. *International Journal of Science and Research*. ISSN: 2319-7064. Available from: www.ijsr.net.

- Reed, G.B., & Carr, R.B., (2018), *The normal menstrual cycle and the control of ovulation*. In De Groot LJ, Chrousos G, Dungan K, Feingold KR, Grossman A, Hershman JM, et al., (eds). Endotext [Internet]. South Dartmouth (MA): MDText.com, Inc.; 2000.
- Rubli, S., (2017), *How menstruation affects the sustainable development goals*. WASH UNITED SIMAVI. Huffington Post: Canada.
- Sharma, N., (2014), *From Fixity to Fluidity: Menstrual Ritual Change among Hindu Women of Nepalese Origin*. PhD diss., University of Colorado Boulder. Available from: https://scholar.colorado.edu/cgi/viewcontent.cgi?article=1002&context=socy_gradetds.
- Sivakami, M., Van Eijk, A.M., Thakur, H., Kakade, N., Patil, C., Shinde, S., Surani, N., Bauman, A., Zulaika, G., Kabir, Y., Dobhal, A., Singh, P., Tahiliani, B., Mason, L., Alexander, K.T., Thakkar, M.B., Laserson, K.F., & Phillips-Howard, P.A., (2019), *Effect of Menstruation on Girls and Their Schooling, and Facilitators of Menstrual Hygiene Management in Schools: Surveys in Government Schools in Three States in India, 2015*. *Journal of Global Health*, 9(1):010408.
- Singh, M., (2019), *It's Time Teachers Stopped Skipping the Reproduction Chapter*. Youth Ki Awaaz, May. Available from: <https://www.youthkiawaaz.com/2019/05/as-the-children-are-growing-shouldnt-sex-education-grow-with-them/>.
- Smiles, D., Short, S., & Sommer, M., (2017), *I Didn't Tell Anyone Because I Was Very Afraid': Girls' Experiences of Menstruation in Contemporary Ethiopia*. *Women's Reproductive Health*, 4(3):185-197.
- Sommer, M., Caruso, B.A., Sahin, M., Calderon, T., Cavill, S., Mahon, T., & Phillips-Howard, P.A., (2016). *A time for global action: addressing girls' menstrual hygiene management needs in schools*. *PLoS Medicine*, 13(2):e1001962. Available from: <https://doi.org/10.1371/journal.pmed.1001962>.
- Sommer, M., Zulaika, G., Schmitt, M., & Gruer, C., (2019), (Eds.) *Monitoring Menstrual Health and Hygiene: Measuring Progress for Girls on Menstruation; Meeting Report*. New York & Geneva: Columbia University and WSSCC.2019.
- Sphere Association., (2018), *The Sphere Handbook: Humanitarian Charter and Minimum Standards in Humanitarian Response*. 4th edition. Geneva: Sphere Association. Available from: www.spherestandards.org/handbook.

- Sopko, C., McHugh, M.C., Sedaghat, N., & DiMattia, K.M., (2018), *Studying Negative Menstrual Conversations.* Paper presented to the Association for Women in Psychology. Philadelphia, PA.
- Streubert, J.H., & Carpenter, R., (2013), *Qualitative Research in Nursing, Advancing the Humanistic Imperative.* 5th edition. Walters Kluwer. Lippincott Williams and Wilkins.
- Swachh, B., (2019), *Mission Gramin Dept of drinking water and sanitation, Ministry of Jal Shakti.* About Swachh Bharat Mission. Available from: <http://swachhbharatmission.gov.in/SBMCMS/about-us.htm>.
- Sustainable Development Knowledge Platform, (2015), *Transforming Our World: The 2030 Agenda for Sustainable Development.* United Nations. Available from: <https://sustainabledevelopment.un.org/post2015/transformingourworld>.
- Ten, T.A., (2007), *Menstrual hygiene: A neglected condition for the achievement of several Millennium Development Goals.* Europe External Policy Advisors. Available from: http://www.eepa.be/wcm/dmdocuments/BGpaper_Menstrual-Hygiene.pdf.
- Thakre, B.S., Thakre, S.S., Reddy, M., Rathi, N., Pathak, K., & Ughade, S., (2011), Menstrual Hygiene: Knowledge and Practice among Adolescent School Girls of Saoner, Nagpur District. *Journal of Clinical and Diagnostic Research*, 5(5):1023-1033. Available from: http://www.wsscc.org/sites/default/files/publications/thakreetal_mhknowlsgepracticenagpur_india_2011.pdf
- The Human Rights Watch, (2017), *A Step in the Right Direction on Menstrual Stigma in Nepal.* Available from: www.hrw.org.
- Thirunavukarasu, A., & Simkiss, D, (2013), Developments in Reproductive Health Education in India. *Journal of Tropical Pediatrics*, 59(4):255-257. Available from: <https://doi.org/10.1093/tropej/fmt066>.
- Tshuma, R., Ndlovu, S., & Bhebhe, S., (2015), Causes of conflict among school personnel in Gwanda District Secondary Schools in Zimbabwe. *Journal of Humanities and Social Science*, 21(4):32-101. Available from: www.iosrjournals.org.
- Torondel, B., Sinha, S., Mohanty, J.R., Swain, T., Sahoo, P., Panda, B., Nayak, A., Bara, M., Bilung, B., Cumming, O., Panigrahi, P., & Das, P., (2018), Association between Unhygienic Menstrual Management Practices and Prevalence of Lower Reproductive Tract Infections: A Hospital-Based Cross-

- Sectional Study in Odisha, India. *Bio Medical Centre Infectious Diseases*, 18(1):1-12. Available from: <https://doi.org/10.1186/s12879-018-3384-2>.
- UN Statistics Division., (2018), *SDG Indicators Metadata Repository*. SDG Indicators, Available from: <https://unstats.un.org/sdgs/metadata/>.
- UNESCO., (2014), *Puberty Education & Menstrual Hygiene Management. Good Policy and Practice in Health*. Booklet 9. Paris: United Nations Educational, Scientific and Cultural Organization. Available from: <http://unesdoc.unesco.org/images/0022/002267/226792e.pdf>.
- UNICEF East Asia and Pacific Regional Office., (2016), *Supporting the Rights of Girls and Women through Menstrual Hygiene Management (MHM) in the East Asia and Pacific Region*. Good Practice Guidance Note.
- UNICEF & WHO., (2015), *Water, Sanitation and Hygiene in Health Care Facilities: Status in Low- and Middle-Income Countries and Way Forward*. UNICEF and WHO. Available from: https://www.who.int/water_sanitation_health/publications/en/.
- Upadhye, J., (2016), *This is How Homeless Women Cope with Their Periods*. Bustle. Available from: <https://www.bustle.com/articles/190092-this-is-how-homelesswomen-cope-with-their-periods>.
- Van Eijk, A.M., Sivakami M., Thakkar, M.B., Bauman, A., Laserson, K.F., Coates, S., & Phillips-Howard, P.A., (2016), Menstrual Hygiene Management among Adolescent Girls in India: A Systematic Review and Meta-Analysis. *British Medical Journal Open*, 6(3)e010290. Available from: <https://doi.org/10.1136/bmjopen-2015-010290>.
- Van Eijk, A.M., (2019), Menstrual Cup Use, Leakage, Acceptability, Safety, and Availability: A Systematic Review and Meta-Analysis. *Lancet Public Health*, 4(8):e376–93. Available from: [http://dx.doi.org/10.1016/S2468-2667\(19\)30111-2](http://dx.doi.org/10.1016/S2468-2667(19)30111-2).
- Vaughn, J.G., (2013), *A review of menstruation hygiene management among schoolgirls in sub-Saharan Africa*. MPH thesis. Chapel Hill, NC: University of North Carolina at Chapel Hill.
- VanLeeuwen, C., & Torondel, B., (2018), Improving Menstrual Hygiene Management in Emergency Contexts: Literature Review of Current Perspectives. *International Journal of Women's Health*, 10:169-186. Available from: <https://doi.org/10.2147/IJWH.S135587>.

- Van Rensburg G.H., (2011), *Research in the social sciences*. Study guide RSC 2601. Pretoria: UNISA Press.
- Water Aid., (2019), *Menstrual hygiene matters*. Kathmandu, Nepal: WaterAid.
- Winkler, I.T., (2016), The Human Right to Sanitation. *University of Pennsylvania Journal of International*, 37:1331-1406. Available from: <https://scholarship.law.upenn.edu/jil/vol37/iss4/5>.
- Winkler, I.T., & Roaf, V., (2014), Taking the Bloody Linen Out of the Closet – Menstrual Hygiene as a Priority for Achieving Gender Equality. *Cardozo Journal of Law and Gender*, 21:1-37.
- Weiss-Wolf, J., (2016), *Menstrual Products Are Taxed in 40 States: Here's What You Can Buy Tax-Free*. Ms. Magazine: Arcade Publishing. Available from: <https://msmagazine.com/2016/02/19/menstrual-products-are-taxed-in-40-states-heres-what-you-can-buy-tax-free/>
- Weiss-Wolf, J., (2017), *Periods Gone Public: Taking a Stand for Menstrual Equity*. New York: Arcade Publishing.
- WHO/UNICEF JMP., (2018), *Drinking Water, Sanitation and Hygiene in Schools. Global Baseline Report 2018*. New York: UNICEF and WHO. Available from: <https://data.unicef.org/wp-content/>.
- WHO/UNICEF JMP., (2016), *Monitoring WASH in Health Care Facilities: Final Core Indicators and Questions*. World Health Organization and UNICEF. Available from: <https://washdata.org/report/jmp-2016-core-questions-and-indicators-monitoring-winhcf>.
- World Vision Report., (2017), *Menstrual hygiene rights are human rights. Period*. Available from: <https://blog.worldvision.com.au/menstrual-hygiene-rights-human-rights-period>.
- Yin, R., (2018), *Case study research: Design and methods*. 6th edition. Thousand Oaks, CA: SAGE
- Zaidi, S.H.N., Sivakami, A., & Ramasamy, J.D., (2015), Menstrual Hygiene and Sanitation Practices among Adolescent School Going Girls: A Study from a South Indian Town. *International Journal of Community Medicine and Public Health*, 2(2):189194.
- Zimbabwe National Statistics Agency and ICF International., (2013), *Zimbabwe demographic and health survey*. Zim Stats.

ANNEXURE A: SEMI-STRUCTURED INTERVIEW GUIDE

INTERVIEW GUIDE

Thank you for your willingness to participate in the study. Please answer the questions as honest as possible. Remember the information will be kept confidential and your information will not be shared with anybody else.

Interviewer: Sinesisa Bhebhe

Date.....

Biographic data

Age:

How old were you when you had your first period?

Who was the person/s who told you about menstruation/ period?

Number of people in the house hold:.....

Number of siblings:.....

Parents occupation:.....

Question 1

Please describe to me everything that you know about menstruation and why girls have periods?

Question 2

Please describe to me all the cultural beliefs/ taboos or any other aspects that influence how you handle/experience your periods?

Question 3

Please explain to me what influence your periods have on your school attendance during your period and how this experience have an influence on your academic performance if any?

Question 4

Please mention all the sanitary facilities that you have at school to support you during your periods?

Question 5

Please describe the way in which you wash your hands in your toilets?

Question 6

Please describe the state of the toilets at your school?

Question 7

Please tell me about the privacy in your school toilets while changing your menstrual protection?

Question 8

Please explain what you do when you have menstrual pain or cramps?

Question 9

Please describe what type of menstrual protection do you use and how you manage to get enough to use?

Question 10

Please explain whether you experience any type of health problems with the protection that you use?

Question 11

Please describe any type of negative experience that you ever had during your periods while at school?

Question 12

Please tell me whether you think that menstrual hygiene should be included in the education program and if so how this must be done?

Question 13

Please mention anything that you think can be done to support girls with the management of their periods so that they can attend school without any challenges?

Question 14

Please tell me why you think you and/or your girlfriends do not attend school while they are having their periods?

ANNEXURE B: ETHICAL CLEARANCE CERTIFICATE (UNISA)



RESEARCH ETHICS COMMITTEE: DEPARTMENT OF HEALTH STUDIES

REC-012714-039 (NHERC)

12 March 2019

Dear Sinesisa Bhebhe

Decision: Approval

HS HDC/905/2019

Student: Sinesisa Bhebhe

Student No.: 50259164

Supervisor: Prof Lizeth Roets

Qualification: PHD

Joint Supervisor:

Name: Sinesisa Bhebhe

Proposal: Menstruation management of school girls in rural Zimbabwe.

Qualification: PHD Nursing

Risk Level: Low risk

Thank you for the application for research ethics approval from the Research Ethics Committee: Department of Health Studies, for the above mentioned research. Final approval is granted from 12 March 2019 to 12 March 2024.

The application was reviewed in compliance with the Unisa Policy on Research Ethics by the Research Ethics Committee: Department of Health Studies on 12/03/2019.

The proposed research may now commence with the proviso that:

- 1) The researcher/s will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.*
- 2) Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study, as well as changes in the methodology, should be communicated in writing to the Research Ethics Review Committee, Department of Health Studies. An amended application could be requested if there are substantial changes from the existing proposal, especially if those changes affect any of the study-related risks for the research participants.*



University of South Africa
Pretorius Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 | Facsimile: +27 12 429 4150
www.unisa.ac.za

- 3) *The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study.*
- 4) *You are required to submit an annual report by 30 January of each year that indicates that the study is active. Reports should be submitted to the administrator HSREC@unisa.ac.za. Should the reports not be forthcoming the ethical permission might be revoked until such time as the reports are presented.*

Note:

The reference numbers [top middle and right corner of this communiqué] should be clearly indicated on all forms of communication [e.g. Webmail, E-mail messages, letters] with the intended research participants, as well as with the Research Ethics Committee: Department of Health Studies.

Kind regards,



Prof JE Maritz
CHAIRPERSON
maritje@unisa.ac.za



Prof A Phillips
DEAN OF COLLEGE OF HUMAN SCIENCES



**ANNEXURE C: CLEARANCE CERTIFICATE FROM THE
PROVINCIAL OFFICES (MOE, ZIMBABWE)**

CLEARANCE LETTER

10 October 2018

The Provincial Head
Ministry of Education
Gwanda district
Zimbabwe



Dear: Sir/ Madam

RE: REQUEST TO BE GRANTED PERMISSION TO CARRY OUT A RESEARCH STUDY: THE MENSTRUATION MANAGEMENT OF SCHOOL GIRLS BETWEEN THE AGES OF 13 AND 17 YEARS IN RURAL GWANDA IN ZIMBABWE

I, Sinesisa Bhebhe, a Master in Public Health (MPH) student (Student number 50259164) registered at the University of South Africa (Unisa) intend to conduct a study titled: **MENSTRUATION MANAGEMENT OF SCHOOL GIRLS BETWEEN THE AGES OF 13 AND 17 YEARS IN RURAL GWANDA IN ZIMBABWE.**

In light of the above, I hereby request your office to grant me permission to collect data from four secondary schools in the Gwanda rural district. The schools where I intend to collect the data are Nkashe, Mzimuni, Bethel and Gungwe. Confidentiality will be maintained throughout the collection of data process and all participants will be requested to volunteer willingly to participate. In the instance where a participant wishes to withdraw, that will be acceptable at any time during the process. All the information that will be collected will be kept confidentially and will not be disclosed to anyone.

The following forms have been prepared in ensuring that the process is run professionally and in a transparent manner.

1. The consent and assent forms have been prepared where the participants will indicate their willingness to participate in the study
2. The consent forms were also prepared for the parents or guardians as all the participants are below the age of 18 years and regarded as minors.

The intention is to collect data by use of semi-structure interviews that will be audio recorded. The interview will take approximately 30 to 40 minutes. There is nothing that is expected from the participants apart from supplying of the information. All collected personal information will be treated with confidentiality.

Once your office has granted permission, further engagements will be done with the four secondary schools. The participant will not be paid for the supply of information.

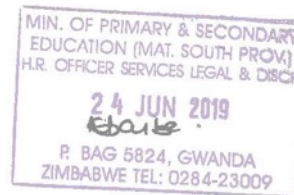
Permission to conduct this study will also be obtained from the Research Ethics Committee of the Department of Health Studies (UNISA), a committee registered at the National Health Research Ethics Council (NHREC) to ensure that this study will be conducted in an ethical manner.

I have attached the research proposal for your convenience.

Yours Faithfully,


Sinesisa Bhebhe
Master of Public Health Student (UNISA)
50259164@mylife.unisa.ac.za and sinesisabhebhe@gmail.com
Phone: +27718890212

Supervisor:
Prof Lizeth Roets
Email Address : roetsl@unisa.ac.za
Phone: +27124292228



Kindly assist the researcher. Authority
has been granted.

ANNEXURE D: CLEARANCE CERTIFICATE FROM THE MOH (ZIMBABWE)



Telephone: (084)24008
[DMO] 22660
OFFICE



MINISTRY OF HEALTH &
CHILD WELFARE
DISTRICT MEDICAL

P. O BOX 39.
GWANDA.

dmogwandadhe@gmail.com

All correspondences to go to the
District Medical officer

ZIMBABWE

10/06/2019

ATT: CLEARANCE LETTER

**PERMISSION GRANTED TO CONDUCT RESEARCH TITLED "MENSTRUATION MANAGEMNET OF
SCHOOL GIRLS: SINESISA BHEBHE: STUDENT NO. 50259164: GWANDA DISTRICT**

Sinesisa Bhebhe has been granted permission to conduct her research titled "Menstruation
Management of school girls aged 13 to 17 years in rural Gwanda District.

May you please support her to do her research.

Thank you,

P P M. Banda

Dr. B. Gwarimbo

District Medical Officer



ANNEXURE E: PERMISSION FROM THE MINISTRY OF PRIMARY AND SECONDARY EDUCATION

All communications should be addressed to "The Provincial Education Director, Ministry of Primary and Secondary Education"
Telephone: 0284/23009/11
Fax: 024/23383



The Provincial Education Director
Ministry of Primary and Secondary
Education
P. Bag 5824
Gwanda
Zimbabwe

25 June 2019

BHEBHE SINESISA
UNISA

**RE: PERMISSION TO CARRY OUT A RESEARCH ON THE TITLE "MENSTRUATION
MANAGEMENT OF SCHOOL GIRLS IN RURAL ZIMBABWE IN GWANDA DISTRICT"**

The above mater refers:

You have been granted authority to carry out a research on the title,
**"MENSTRUATION MANAGEMENT OF SCHOOL GIRLS IN RURAL ZIMBABWE IN
GWANDA DISTRICT"**

At the end of your research you will be requested to submit a copy of your findings to the Ministry of Primary and Secondary Education (Gwanda Provincial Office) so that it can be useful and of benefit to the Ministry.



N. NCUBE
for: PROVINCIAL EDUCATION DIRECTOR-MATABELELAND SOUTH

ANNEXURE F: INFORMED (PARENTS) CONSENT FORM

CONSENT FORM

Consent to participate in a research study

Title: The menstruation management of school girls between the ages of 13 and 17 years in rural Zimbabwe

Researcher: Sinesisa Bhebhe

Supervisor: Prof. Lizeth Roets

Dear Parents

My name is Sinesisa Bhebhe. I am a student busy with my Masters of Public Health studies at university of South Africa (UNISA). I am carrying out a study to examine the **MENSTRUATION MANAGEMENT OF SCHOOL GIRLS BETWEEN THE AGES OF 13 AND 17 YEARS IN RURAL ZIMBABWE.**

Your daughter is kindly invited to volunteer to participate in a research study. She has been chosen to take part in this study with the aim to hear from her what school girls experience during their monthly periods.

She is invited to participate in an interview which will take about 30 to 40 minutes of her time. The interview will be conducted at school in a safe and private environment. It is important for you to know that her participation is entirely voluntary. She may decide not to take part in the study or quit the study at any time, without any penalty. The interview will be tape recorded, but all the information that she shares will be kept confidential. Her name and the information that she provides will not be shared during or after the study. When the study findings are reported or published all the information will be combined to ensure that the results will not be able to link back to any of the individual girls who participated.

Please feel free to ask any questions you may have about the study or about your daughters rights as a participant. You are free to contact Sinesisa Bhebhe on +27718890212 or my supervisor on +12 429 2226 (roetsl@unisa.ac.za).

I have read this consent form and voluntarily give consent for my daughter to participate in this study.

Parent/Guardian signature _____ **Date** _____

I have explained this study to the above subject and have sought his/her understanding for informed consent.

Researcher signature _____ **Date** _____

ANNEXURE G: PARTICIPANT ASSENT FORM

Participant Assent form

Introduction: My name is Sinesisa Bhebhe. I am a student busy with my Masters of Public Health studies at University of South Africa (UNISA). I am carrying out a study to examine the **MENSTRUATION MANAGEMENT OF SCHOOL GIRLS BETWEEN THE AGES OF 13 AND 17 YEARS IN RURAL ZIMBABWE.**

You are selected to take part in the study because you are knowledgeable about the topic as you fall within the age group 13 and 17 and do experience monthly periods (menstruation).

Procedures: I will ask various questions during an interview to hear from you about your monthly period and how you experience it. The discussion will be recorded to ensure that I use the information exactly as you provide it to me.

Will the information that you give me be confidential: Yes, all the information that you provide will be treated with strict confidence and your name will not be written anywhere or shared in the findings of the study or in journal publications or at conferences. We will also conduct the interview in a private space at school where you will be comfortable.

Risk and discomfort: I do not foresee that there will be any harm caused when you participate in this study. Some questions will be very personal and might make you uncomfortable. You are not forced to answer them, but I will appreciate as much as possible honest answers.

Can you withdraw from the study? You are entirely free to refuse to take part in the study and you might even after you have agreed to take part, at any time withdraw. You will not be negatively affected in any way if you choose not to agree to participate.

Will you be paid for participation? No, you will not receive any money as your participation is purely based on your voluntary choice to take part in the study.

Contact persons and their details: If you have any issues, problems or questions you encounter during this study, please feel free to contact the researcher on +27 718890212 (1 B Saralia Village, 4 Muller Street. Buccleuch. Sandton. Johannesburg) or my supervisor on +12 429 2226 (roetsl@unisa.ac.za).

.....
I, _____ (*insert name and surname*) being
.....years give consent to take part in the mentioned research study. The study has been explained to me and I do understand what is expected from me. I understand that I am taking part voluntarily. I also understand that the information I will be providing will be kept confidential.

I understand that I can withdraw from the study at any stage if I feel uncomfortable continuing with the study.

Participant's name and surname: _____

Participant's signature: _____

Parent/Guardian Name _____ Signature _____ (*If applicable, where parent needs to give consent on behalf of the school girl*)

Date: _____

ANNEXURE H: PARTICIPANT INFORMATION SHEET

20 June 2019

Title: THE MENSTRUATION MANAGEMENT OF SCHOOL GIRLS BETWEEN THE AGES OF 13 AND 17 YEARS IN RURAL ZIMBABWE

Dear Prospective Participant

My name is Sinesisa Bhebhe. I am doing research with Prof L Roets, my Supervisor from the University of South Africa. We are inviting you to participate in a study titled **THE MENSTRUATION MANAGEMENT OF SCHOOL GIRLS BETWEEN THE AGES OF 13 AND 17 YEARS IN RURAL ZIMBABWE.**

WHAT IS THE AIM/PURPOSE OF THE STUDY?

The aim/purpose of the study is to explore and describe the experiences, practices and challenges of rural school girls in managing their menstruation.

WHY AM I BEING INVITED TO PARTICIPATE?

You have been chosen to participate in this research because you meet the inclusion criteria which is schoolgirl that is between the age of 13 and 17 years of age.

You will be part of other 32 participants.

WHAT IS THE NATURE OF MY PARTICIPATION IN THIS STUDY /WHAT DOES THE RESEARCH INVOLVE?

Your role in the study will be to provide valuable information which will be obtained through a 30-40 minutes' interview. The study involves audio taping and semi-structured interviews.

CAN I WITHDRAW FROM THIS STUDY?

Being in this study is voluntary and you are under no obligation to consent to participation. If you do decide to take part, you will be given this information sheet to keep and be asked to sign a written consent form. You are free to withdraw at any time and without giving a reason.

WHAT ARE THE POTENTIAL BENEFITS OF TAKING PART IN THIS STUDY?

Your taking part in this study will assist in finding out what are the real challenges faced by school girls that have reached menarche in rural schools. The information that will be gathered will then be used in coming up with recommendations and solutions that can assist the school girl.

WHAT IS THE ANTICIPATED INCONVENIENCE OF TAKING PART IN THIS STUDY?

There will be no foreseen inconvenience in taking part in this study apart from a 30 – 40 minutes interview.

WILL WHAT I SAY BE KEPT CONFIDENTIAL?

All the information that you provide will be treated with strict confidence and your name will not be written anywhere or shared in the findings of the study or in journal publications or at conferences. We will also conduct the interview in a private space at your school where you will be comfortable.

The access to the data will only be by the Researcher and the supervisor.

HOW WILL INFORMATION BE STORED AND ULTIMATELY DESTROYED?

Hard copies of your answers will be stored by the researcher for a period of 5 years in a locked cupboard/filing cabinet at UNISA for future research or academic purposes; electronic information will be stored on a password protected computer. Future use of

the stored data will be subject to further Research Ethics Review and approval if applicable.

WILL I RECEIVE PAYMENT OR ANY INCENTIVES FOR PARTICIPATING IN THIS STUDY?

You will not receive any payment or reward, financial or otherwise for taking part in this study.

HAS THE STUDY RECEIVED ETHICAL APPROVAL?

This study has received written approval from the Research Ethics Committee of the College of Health Studies (Unisa). A copy of the approval letter can be obtained from the researcher if you so wish.

HOW WILL I BE INFORMED OF THE FINDINGS/RESULTS?

If you would like to be informed of the final research findings, please contact Sinesisa Bhebhe (sinesisabhebhe@gmail.com) – +2771 889 0212. Should you require any further information or want to contact the researcher about any aspect of this study, please contact Sinesisa Bhebhe (sinesisabhebhe@gmail.com) – +2771 889 0212.

Should you have concerns about the way in which the research has been conducted, you may contact Prof L Roets (roetsl@unisa.ac.za).

Thank you for taking time to read this information sheet and for participating in this study.

ANNEXURE I: LANGUAGE EDITING CERTIFICATE

Between lines editing

Leatitia Romero
Professional Copy Editor, Translator and Proofreader
(BA HONS)

Cell: 083 236 4536
leatitiaromero@gmail.com
www.betweentheinesediting.co.za

23 February 2021

To whom it may concern:

I hereby confirm that I have language edited the dissertation entitled: "MENSTRUATION MANAGEMENT OF SCHOOLGIRLS IN RURAL ZIMBABWE". Any amendments introduced by the author hereafter are not covered by this confirmation. The author ultimately decided whether to accept or decline any recommendations made by the editor, and it remains the author's responsibility at all times to confirm the accuracy and originality of the completed work. The author is responsible for ensuring the accuracy of all in-text references and the reference list.



Leatitia Romero

Affiliations

PEG: Professional Editors Group (ROM001)
EASA: English Academy of South Africa
SATI: South African Translators' Institute (1003002)
SEEP: Society for Editors and Proofreaders (15687)
REASA: Research Ethics Committee Association of Southern Africa (104)

ANNEXURE J: TURNITIN DIGITAL RECEIPT



Digital Receipt

This receipt acknowledges that Turnitin received your paper. Below you will find the receipt information regarding your submission.

The first page of your submissions is displayed below.

Submission author: Sinesisa Bhebhe
Assignment title: Complete dissertation/thesis submis...
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