

**PREVALENCE OF MENSTRUAL DISORDERS AND HEALTH-SEEKING BEHAVIOUR OF
ADOLESCENTS IN GREATER GIYANI MUNICIPALITY, LIMPOPO PROVINCE**

By

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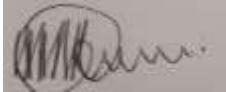
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Declaration

I KHUMBUDZO MAVHUNGA, hereby declare that the mini-dissertation entitled “***Prevalence of menstrual disorders and health-seeking behaviour of adolescent in Greater Giyani Municipality, Limpopo Province***” submitted by me, has not been submitted previously for a degree at this or any other university, that it is my own work in design and execution, and that all reference material contained therein has been duly acknowledged.

Signature:



Date: 2022/08/04

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ABSTARCT

Background: As important as menstruation is to women's reproduction is accompanied by different disorders which may affect the quality of female's life. Menstrual disorders are the main cause of anxiety and psychological stress in young girls. Globally, the prevalence of menstrual disorders ranges from 51 % to 90% amongst young girls and adults.

Purpose: The aim of the study is to identify the prevalence of menstrual disorders and health-seeking behaviours of adolescents in Greater Giyani Municipality.

Method: The study employed quantitative cross-sectional, explorative, descriptive design. A sample size of 360 adolescent girls from grade 9 to 12 aged between 14 to 19 years old was obtained using Slovin's formula. Data was collected using a questionnaire with three sections namely demographic data, menstrual disorders information and health-seeking information. Probability sampling was used to select three educational circuits and non- probability purposive method was used to select four secondary schools. Participants were sampled by convenient method. Ethical considerations and validity and reliability were ensured. Data was analysed using Statistical Package for Social Sciences (SPSS, version 26). Pearson's Chi-square was used to obtain association between variables. The study discovered a prevalence of menstrual disorders which includes dysmenorrhoea (24.4%), Menorrhagia (8.2%), polymenorrria (22.5%) and pre-menstrual dysphoric disorder (PMDD) (22.5%). In terms of health seeking, the study revealed that 44.9% of girls seek medical care when experiencing menstrual pain, and 47% of girls relied on analgesics to relieve pain. Lastly, 26.5 % of school absenteeism due to menstrual disorders was reported.

Conclusion: The findings show that menstrual disorders are prevalent among girls in Greater Giyani Municipality and majority of them rely on medical treatment for pain.

Keywords: Adolescent, Health-seeking behaviour, Menstrual disorders, Prevalence

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LIST OF ABBREVIATIONS AND ACRONYMS

BMI	Body mass index
GnRH	Gonadotropin-releasing hormone
FHS	Follicle-stimulating hormone
LH	Luteinizing hormone
NSADs	Nonsteroidal anti-inflammatory drugs
NRF	National research fund
PMDD	Premenstrual dysphoric syndrome
PMS	Premenstrual syndrome
STIs	Sexually transmitted infections
SPSS	Statistical Package for Social Sciences

CHAPTER 1

OVERVIEW OF THE STUDY

1. Introduction

Menstruation is the periodic flow of blood from the uterus through the cervix and out through the vagina. Menstruation occurs between puberty and menopause and it is a normal part of a woman's life (Begum, Das, & Sharma, 2016). The start of menstruation is referred to as menarche, the median age is 12.9 years and the ceasing as menopause, the median age of menopause is 50 years (Bae, Park & Kwon, 2018). Menstruation is important for the renewal of the uterine lining in preparation for pregnancy.

1.1 Background

Menstruation is accompanied by different disorders which may affect the quality of female's life and may be a sign of a serious underlying medical condition such as hypogonadism, cancer and coagulation disorders, endometriosis, polycystic ovary syndrome, and may exacerbate certain medical conditions such as asthma, migraines, anxiety, eating disorder and mental disorders (Oni & Tshitangano, 2015; Asyikin et al., 2016; Thakur *et al.*, 2014).

There are different types of disorders that accompany menstruation which are common amongst adolescents and women of reproductive age. These disorders may be categorised into psychosomatic/physical which include dysmenorrhea and premenstrual syndrome (PMS), those related to length of menstrual cycle such as amenorrhea, oligomenorrhea and polymenorrhea and lastly those related to the amount of blood loss such as hypomenorrhea and menorrhagia (Yassin, 2012; Asyikin *et al.*, 2016).

Menstrual disorders are the main cause of anxiety and psychological stress in young girls (Oni & Tshitangano, 2015). Those suffering are also at risk of developing life-threatening conditions such as bleeding disorders, pregnancy complications and gynaecological cancers.

Globally, the prevalence of menstrual disorders ranges from 51 % to 90% amongst young girls and adults. A study done by Samreen *et al.* (2016) revealed 51% prevalence of dysmenorrhea, 24% menorrhagia, 48% PMS and 10% irregular menstrual periods. Another study done in Saudi Arabia by Rafique (2018) revealed 87% prevalence of dysmenorrhea, 46,7% PMS, 34% menorrhagia and 9,2% amenorrhea. A study by Shah *et al.*, revealed 88.6% prevalence of dysmenorrhea, 22% PMS, 22% amenorrhea and 12,5% oligomenorrhea. Kumar and Gupta (2017) revealed 53.8% dysmenorrhea, 67% PMS, and 35% irregular periods. Other studies that have revealed a higher prevalence of menstrual disorders include those done by Vanitha, Edward, Varadharajan & Rani (2017) (Kanmani & Ravisankar, 2016) ; (Lawan, Yusuf, Musa,

& UM, 2010) ; Deborah, Priya, & Swamy, 2017). (Karout, 2015) done in Saudi Arabia and (Aref, Rizwan, & Abbas, 2015) done in Pakistan.

In Africa, studies done in Nigeria, Ethiopia, Egypt and South Africa revealed a prevalence ranging from 45 % to 95 % in menstruating women. Some of these studies include studies done on menstrual disorders include study by Nooh *et al.* (2015) Yassin (2015); Ekong *et al.* (2015); Kullima *et al.* (2017); Oni and Tshitangano (2015) and Lacovides *et al.* (2015).

Although menstruation presents disorders such as dysmenorrhea which is painful and menorrhagia which can make a person feel uncomfortable, young girls and adults still do not seek medical treatment and those who seek medical treatment do that because of the severity of the pain (Karki & Gupta, 2017; Nor Asyikin *et al.*, 2016). Health seeking behaviour of females suffering from menstrual disorders is influenced by several factors such as lack of knowledge, level of education, cultural myth and traditions, and socio-economic status. Because of these factors most adolescents and adults tend to be silent about menstrual disorders and accept these disorders as a normal part of menstrual cycle (Yassin, 2015). A study by Rahatgaonkar, Wakankar, Oka and Kamblev (2018) also attested that the above mentioned factors become an obstacle in health-seeking behaviour.

Health seeking behaviour of females suffering from menstrual disorders has been reported to be poor in both developed and developing countries. A survey conducted by Chen, Shieh, Draucker & Carpenter (2018) in the United States of America among woman suffering from dysmenorrhea revealed that majority of them do not seek medical treatment. Another study conducted by Wong (2018) in Hong Kong revealed that only a small proportion of girls sought medical help when suffering from menstrual disorders. In another study by Wong (2018) in Hong Kong amongst adolescence prevalence of 80% of dysmenorrhea was obtained and only 6% were reported to have sought medical treatment and 70% resorted to self-medication.

Kanmani & Ravisankar (2016) reported that a study done in India revealed that 72.9 % have never consulted a doctor regarding menstrual disorders or reproductive illness, and only 27.1 % have sought help. A study done by Oni & Tshitangano, (2015) in South Africa revealed that adolescent girls use unprescribed over the counter medicine to ease the pains. This is similar to a study done by Ekong, Udofia, Johnson & Ekanem (2015) which also revealed the use of over the counter medicine such as Panadol, Buscopan and the non-steroidal inflammatory drugs (NSAIDS) such as Ibuprofen, Felden and Ladinax and it also revealed that rural girls were also using traditional medicine (Olowokere, Oginni, Olajubu, William, & Irinoye, 2014). In a study conducted by Laksham *et al.* (2019) a prevalence of 79% of menstrual disorders was obtained and only 36% of respondents sought medical treatment, 10% resorted to home remedies, 6% self-medication and 43% did not seek treatment at all.

1.2. Problem statement

Menstruation is an important milestone in a girl's life as it marks the transition from girlhood to womanhood (Nooh, Abdul-Hady & El-Attar, 2016). Despite being important in the reproductive of females, it is often not talked about, resulting in young girls being poorly informed, this is observed mostly in rural and poorly educated environment. Thus, menstrual problems are failing to be dealt with in time and they result in future reproductive problems. Menstrual disorders have many causes and studies have found relationship between diet and eating disorders, exercise and body mass index, stress, smoking, pelvic infections and early menarche (Ramathuba, 2018; Aref *et al.*, 2015). Menstrual disorders are a problem in females in both developed and developing countries. Several studies have been done around the world regarding menstrual disorder. However, in South Africa not much is reported on menstrual disorders and this does not indicate that the problem does not prevail. Ramathuba, (2018) reported that adolescents 182 (67%) experienced dysmenorrhoea between ages 16-19 years which lasted about four days and Limpopo province has been pointed out to be one of the province with high prevalence of teenage pregnancy. This can influence menstrual disorders, because unprotected sex may result in sexually transmitted infections (STIs) and could result in pelvic infections, one of the aetiologies of menstrual disorders (Aref *et al.*, 2015).

The most prevalent disorders are dysmenorrhea, PMS, menorrhagia, amenorrhea and oligomenorrhea. Due to lack of information about menstrual disorders, many adolescent girls tend to be hesitant, shy and scared to seek help and accept menstrual disorders as normal and suffer in silence. Furthermore, unattended menstrual disorders could result into serious medical conditions such as infertility, gynaecological cancers, anaemia and osteoporosis and suffers with certain medical conditions such as asthma, acnes, migraines anxiety and eating disorders are at risk of exacerbation of those conditions due to menstrual disorders (Yassin, 2015; Nor Asyikin *et al.*, 2016). Although unattended menstrual disorders could result in serious health threats, early diagnosis and management can help avoid these consequences. However, this depends on knowledge and awareness of the subject. Therefore, the present study seeks to investigate the prevalence of menstrual disorders amongst adolescent girls.

1.3. Study rationale

Menstrual disorders affect the quality of life of many females around the world. However, it has been ignored by policy makers, health planners and researchers in many countries. Studies have been done in South Africa addressing menstrual knowledge and hygiene, however, little have been explored on menstrual disorders. At times when girls miss school, it might not be due to lack of sanitary facilities but may be because they are experiencing menstrual disorders that if left unmanaged would result in future reproductive problems. Therefore, the present study seeks to assess the prevalence of menstrual disorders and health-seeking behaviour of adolescents.

1.4. Significance of the study

Adolescent girls might gain knowledge about menstruation and improve their menstrual health and seek help. The community might acquire knowledge on **menstrual disorders**, might break the cultural barriers to discuss menstruation openly, and improve health-seeking behaviour. The findings might assist the health services to improve health promotion strategies and reinforce health education. The findings might help the Department of Education to see the need to include reproductive health aspect in the curriculum.

1.5. Aim of the study

To determine the prevalence of menstrual disorder and health seeking behaviour of adolescents in Greater Giyani Municipality.

1.6. Objectives of the study

1. To identify the prevalence of menstrual disorders in adolescence in Greater Giyani Municipality, Limpopo province.
2. To describe the health seeking behaviour of adolescents in Greater Giyani Municipality Limpopo Province.

1.7. Definition of terms

Prevalence is defined as the proportion of population living with a specified health outcome within a specified time (Alexander, Lopes, Ricchetti-masterson & Yeatts, 2015.). In this study, prevalence refers to the number of adolescents found with any type of menstrual disorder at the time of the study.

Adolescents- World Health Organisation defined adolescent as a stage between 10 to 19 years of age that include significant and critical changes in growth and development and puberty (WHO, 2015). For this study, an adolescent refers to any girl aged between 14 to 19 years of age attending secondary schools at the time of the study.

Menstrual disorders are defined as physical and emotional problems that interferes with the normal menstrual cycle causing pain, usually heavy bleeding delayed menarche or missed period (Kulshrestha & Durrani, 2019). In this study, menstrual disorders refer to any problems that affect the adolescents before and during their menstruation period and that also disrupt their daily activities.

Health-seeking behaviour- Health or care seeking behaviour has been defined as any action undertaken by individuals who perceive themselves to have a health problem or to be ill for the for the purpose of finding an appropriate remedy (Oberoi, Chaudhary, Patnaik & Singh, 2016). For this study, health -seeking behavior means measures taken by adolescents and their family when they experience any discomfort during their menstruation.

1.9. Outline of the Chapters

Chapter 1

The chapter provided an overview of the study, the statement of the problem, objectives of the study, research questions of the study, significance of the study and definition of operational terms, where operational terms are defined in the context of this study.

Chapter 2

This chapter deals with literature review of previous studies. It gives highlights on menstruation, types of menstrual disorders, treatment of menstrual disorders and health-seeking behaviour.

Chapter 3

This chapter deals with research methodology and approach used in the study. It gives highlights on study design, study setting, study population, sampling procedure, data collection method and data analysis methods.

Chapter 4

Chapter four deals with study findings, presented in graphs

Chapter 5

In chapter five, study findings are discussed and compared to other studies conducted on the same phenomenon.

Chapter 6

Chapter six provides conclusion, recommendations, and limitations of the study.

Conclusion

The chapter provided an overview of the study, the statement of the problem, objectives of the study, research questions of the study, significance of the study and definition of operational terms in the context of this study.

CHAPTER 2

LITERATURE REVIEW

This chapter presents literature review of all the topic covered in the questionnaire. Menstruation, menstrual disorders, and treatment are discussed according to literature.

2.1 introduction

The menstrual cycle is controlled by combination of the hypothalamus, hypophysis, ovaries, and uterus. The hypothalamus and pituitary gland control the reproductive hormones. The first hormone to be produced is the gonadotropin-releasing hormone (GnRH), which stimulates the pituitary gland to release follicle- stimulating hormone (FHS) and luteinizing hormone (LH). The FH and LH commands the ovaries to secrete oestrogen and progesterone. Normal menstruation results from progesterone withdrawal from oestrogen- primed endometrium (Begum *et al.*, 2016; Olowokere *et al.*, 2014).

Phases of menstrual cycle

The menstrual cycle can be divided into four phases, namely: menstrual phase, follicular phase, ovulation phase, and luteal phase (Begum *et al.*, 2016).

(i) Menstrual phase (day 1-5)

This phase starts on the first day of menstruation and ends on the 5th day of menstrual cycle. During this phase, the inner lining of soft tissue vessels exits as the menstrual fluid through the vagina. Due to contraction of the uterine and the additional muscle to expel the menstrual fluid and cramps may occur (Begum *et al.*, 2016).

(i) Follicular phase (day 1-13)

This phase also starts on the first day of menstruation but lasts on the 13th day of the cycle. Hormones to stimulate the egg cells in the ovaries are secreted by pituitary gland. One egg cell starts to mature into a sac-like called a follicle and it will take 13 days for the egg cell to reach maturity. While the egg cell matures, a hormone that stimulates the development of endometrium is secreted by its follicle (Aqsa & Zaka, 2017; Begum *et al.*, 2016).

(ii) Ovulation phase (day 14)

The pituitary gland secretes a hormone that makes the ovary to release a matured egg cell on the 14th day of the cycle. The cilia of the fimbria sweep the released egg into the fallopian tube. Fimbria are finger-like projection located at the end of fallopian tubes close the ovaries and cilia are slender hair-like projection on each fimbria (Begum *et al.*, 2016; Aqsa & Zaka, 2017).

(iii) Luteal phase (day 15-28)

Luteal phase starts on the 15th day and last until the end of the cycle. The egg released during ovulation phase remains in the fallopian tube for 24 hours and disintegrate if the sperm cell does not impregnate it. The hormone that causes the uterus to retain its endometrium get exhausted by the end of menstrual cycle and causes menstrual phase of the next cycle (Begum *et al.*, 2016; Aqsa & Zaka, 2017).

2.2. Types of menstrual problem

2.2.1 Dysmenorrhea

Dysmenorrhea is defined as severe, painful cramping sensation of lower abdomen which begins shortly before or at the start of menses and may last for 1-3 days (Unsal *et al.*, 2010). Dysmenorrhea is sometimes accompanied by headache, dizziness, diarrhoea, bloating, nausea and vomiting, backache and leg pains. It is the most common disorder and it is said to affect 50% of menstruating women, irrespective of nationality and age. Dysmenorrhea may be categorised into two different types, primary and secondary. Primary dysmenorrhea is defined as painful menses in females without any underlying condition and usually occurs in adolescents shortly after menarche and tends to decrease with age and after pregnancy, but it is not always the case (Gebeyehu *et al.*, 2017; Lacovides *et al.*, 2015). Secondary dysmenorrhea is defined as menstrual pain associated with an underlying pathology and occurs years after menarche. Secondary dysmenorrhea can be caused by disorders such as endometriosis, pelvic inflammatory disease, intra-uterine devices, irregular cycles, ovarian cysts, cervical stenosis and many others, with endometriosis being main cause. In secondary dysmenorrhea pain starts often starts 1- 2 weeks before menses and lasts until few days after menses stops (Gebeyehu *et al.*, 2017; Lacovides *et al.*, 2015).

Some studies on prevalence of menstrual pains have shown that dysmenorrhea is related to factors such young age, low body mass index (BMI), smoking, early menarche, prolonged menstrual flow, pelvic infections psychological disturbance, genetic influence, and history of sexual assault. These are said to influence the prevalence and severity of dysmenorrhea. Dysmenorrhea is the most common gynaecological disorder amongst female adolescents (Ekong *et al.*, 2015; Gebeyehu *et al.*, 2017; Kumar *et al.*, 2016).

Treatment of dysmenorrhea

In primary dysmenorrhea, treatment is aimed at symptomatic relief and the suppression of ovulation. Nonsteroidal anti-inflammatory drugs (NSAIDs) is also used for the relief of primary dysmenorrhea (Begum *et al.*, 2016). However, some women do not respond to NSADs. In these women, combined oral contraceptives are used as second line therapy and offer considerable health benefits such as reducing cramps, acyclic bleeding and breast cysts and lessen ovarian and endometrial neoplasms. Oral contraceptives should not be given to women aged 35 years and older with hypertension and or smoking history, with family history of or risk factor of arterial or venous thrombotic disease, with undiagnosed abnormal uterine bleeding, with liver or gall bladder disease and migraines. Other therapeutic treatment for management of dysmenorrhea includes transcutaneous electric nerve stimulation, transdermal nitro-glycerine patches and surgical intervention such as laparoscopic uterosacral nerve ablation surgery. Many women resort to non- pharmacologic therapies to manage pain although they are ineffective. These approaches include heating pads, extra bed rest, physical exercise, aromatic oils, ginger root tea and salt water (Lacovides *et al.*, 2015).

In case of secondary dysmenorrhea, treatment of an underlying disorder is crucial, if possible, it should be corrected to relieve symptoms. The options of first line treatment for secondary dysmenorrhea include, prostaglandin synthetase inhibitors, oral contraceptives, danazol and progestins (Begum *et al.*, 2016)

2.2.2 Premenstrual Syndrome (PMS) and Premenstrual dysphoric disorder (PMDD)

Premenstrual syndrome is a group of physical, emotional, and behavioural symptoms, which takes place during the last week of luteal phase of menstruation (Deoray & Page, 2018; Begum *et al.*, 2016). These symptoms usually do not start until day 13 in the cycle and resolve within four days after bleeding commences. PMS may begin at any time during the women's reproductive years, but in most cases, it occurs between late 20s and early 40s (Begum *et al.*, 2016). PMS is caused by the changes in the blood levels of oestrogen and progesterone, and it is experienced by majority of menstruating women who are in their 20s and 30s. The main symptoms of PMS are mood swings and irritability, nervousness, agitation, anger, crying spells, insomnia, and difficulty in concentrating, lethargy, depression, and severe fatigue. Other symptoms such weight gain, oliguria, breast tenderness and pain are due to fluid retention. Neuro-vascular symptoms such headache, vertigo, syncope, paresthesias of extremities, easy bruising and palpitation also occur. Abdominal bloating, constipation, nausea, vomiting and appetite changes and food craving are some examples of gastrointestinal symptoms which also occur in PMS. These symptoms differ from woman to woman

and cycle to cycle and are usually brief and not disabling, however, in some women normal functioning may be disturbed (Yassin, 2012).

Treatment should be given to patients who are seriously affected and whose daily activities affected. In case where emotional disturbance is limited to mood swings proper diet can be used to control the condition, adequate sleep, and rest. In some patients, the PMS is accompanied by epileptic fit and lowered blood sugar, appropriate treatment should be given to such patents. Fluid retention may be relieved by reducing salt and salty foods and using diuretic before the onset of symptoms. Counselling may help to cope with PMS and modifying daily activities may reduce stress. Bloating may be reduced by taking smaller frequent meals. Food rich in calcium and carbohydrates are also helpful (Lacovides *et al.*, 2015; Begum *et al.*, 2016).

There are medications used for treatment of PMS and they include nonsteroidal anti-inflammatory drugs (NSAIDs), hormones and antidepressants. Hormonal therapy such as oral contraceptives is effective in some patients. Irritability and nervousness are treated with benzodiazepine. For management of psychologic and physical symptoms selective serotine reuptake inhibitors are the most effective. Fatigue, depressed mood and overall health may be improved by doing activities such as aerobics, walking, cycling and swimming. Headache, anxiety or insomnia may be reduced by deep breathing exercises. Calcium, magnesium, vitamin b-6, vitamin E are also effective in relieving the symptoms of PMS (Lacovides *et al.*, 2015; Begum *et al.*, 2016).

2.2.3 Amenorrhea

Amenorrhea is defined as the absence of menstruation, and it is categorised into primary and secondary amenorrhea. Primary amenorrhea is when a girl does not menstruate by the age of 16 years with normal secondary sexual characteristics and does not show signs of secondary sexual characteristics by the age of 14 years. While secondary occurs when menstruation that was regular before stops for at least three months and it is more common than primary amenorrhea. Amenorrhea can occur as result of pregnancy, breast-feeding or menopause or can occur as result of medical problems such as ovulation abnormality, birth defects, obesity, eating disorders, excessive exercise or thyroid disorder (Begum *et al.*, 2016).

2.2.4 Menorrhagia (Heavy bleeding)

Menorrhagia is menstrual flow that lasts longer, usually more than seven days and heavier than normal, resulting in more than 80 ml of blood being lost. Dysmenorrhea usually accompanies menorrhagia due to the large clots that are passed (Begum *et al.*, 2016). It a common problem, affecting a quarter of female population and negatively affect physical,

emotional and social quality of life and reduce work capacity (Bruinvels *et al.*, 2016). Menorrhagia is characterised by passing of large blood clots, need for double sanitary protection, need for frequent change of tampons and towels and flooding to clothes or bedding. Sufferers are prone to iron deficiency, which can progress to iron deficiency anaemia, due to loss of too much blood (Bruinvels *et al.*, 2016). Menorrhagia can be associated with fibroids, endometriosis, adenomyosis, cervical or endometrial malignancy, intrauterine devices, or pelvic infection. It can also be caused by factors related to hypothyroidism or bleeding disorders (Gokyildiz *et al.*, 2013).

2.2.5 Oligomenorrhea

This is a condition in which menstrual cycles are infrequent, greater than 35 days. It is common in early adolescents and does not usually indicate medical problem. However, it can occur as symptom of health problem (Begum, Das and Sharma, 2016). It affects about 10.4% of women worldwide and it is usually associated with other medical conditions such as polycystic ovarian syndrome (PCOS), functional prolactin levels, anorexia nervosa, athletes and vegetarian diet. Treatment depends on the underlying cause and should be given with the aim of treating both the menstrual disorder and the underlying cause (Yavari *et al.*, 2014; Aqsa & Zaka, 2017) .

2.6. Health seeking behaviour

Health-seeking behaviour is defined as any action that anyone who perceived themselves ill or sick take with the aim of getting appropriate remedy (Zhang, Fehg, Wong, Benjamin, Cowling & Lou, 2020). Health seeking is an important element of preventing early diagnosis and management of a disease condition. Patterns of health seeking behaviour could be helpful to public health practitioners and policy makers to improve health system and health promotion strategies. It can also help in reducing cost, disability, and death from disease. However, good health seeking behaviour is guided by several factors such as decision making. People also seek medical help based on the intensity of their pain (Mboweni & Sumbane, 2019).

There are several factors such as traditional norms and practices, ignorance, myths and taboos and lack of adolescent friendly health care facility affect health-seeking behaviour of adolescents negatively (Thakur *et al.*, 2014). It was also reported that adolescent fails to seek health due to negative of nurses, waiting times, distance to the health care facility and lack of knowledge, religion and social status. Several studies conducted amongst adolescents on health seeking on various illnesses reported poor result.

Globally, health seeking behaviour amongst adolescents suffering from menstrual disorders has been reported to be poor (Gustina & Djannah, 2017). A study conducted in Bangladesh among adolescent girls aged 15-19 years yielded poor results on health-seeking despite the

high prevalence of menstrual disorders in the area (Kabir, Saha, Wirts & Gazi, 2014). Similarly, Kanmani and Ravisankar (2016) reported that 72.9% of their respondents never consults a doctor when they experience menstrual disorders. Gustina and Djannah (2017) reported that there is correlation between attitude and health-seeking behaviour when it comes to menstrual problems in girls.

Conclusion

This chapter provides review of existing literature which include topics such as menstruation and its phases, types of menstrual disorders and treatment and health-seeking behaviour.

CHAPTER 3

RESEACH METHODOLOGY

3.1 Introduction

This chapter presents the methodology of the study, and it gives an overview of how the study was conducted. It comprises of the following heading study design, study setting, study population, sampling, sample size calculation, data collection and ethical considerations.

3.2 Study design

The study employed a quantitative cross-sectional, descriptive design to describe the prevalence of menstrual disorders and health-seeking behaviour amongst adolescents. This design was regarded suitable because it enabled the researcher to describe the prevalence at one point in time and identify the health-seeking behaviour.

3.3 Study site

Greater Giyani Municipality is one of five local municipalities falling within Mopani District municipality in Limpopo province. The other four local municipalities are Greater Tzaneen, Greater Letaba, Ba-Phalaborwa and Maruleng. The town is located +/- 185 km from Polokwane, +/- 100km from Thohoyandou and +/- 550km from Tshwane. It is demarcated into 30 wards and 60 councillors. The municipality has 10 traditional authority areas comprising of 91 villages. Giyani is the largest of population concentration, employment, shopping and recreational facilities.

Greater Giyani Local Municipality has five education circuits namely: Nsami with 10 secondary schools, Klein Letaba with 13 secondary schools, Groot Letaba with 12 secondary schools, Manombe with 15 secondary schools and Shamavhunga with 15 secondary schools. The recreational facilities at most schools are absent if not limited and most learners are not involved in extramural activities. The study site was selected due to the high teenage pregnancy statistics. Teachers in high schools reported high absenteeism due to pregnant leaners not attending school and lack of sanitary towels and poor disposal facilities at schools impacting on menstrual hygiene (Ramathuba, 2015; Mushwana, 2015).

3.4 Study population

A population is defined as all individuals that meet the criteria for a group to be studied and from which a representative sample is taken (Banerjee & Chaudhury, 2010). The study population was adolescent girls. The target population was adolescent girls in grade 9 to 12 who have attained menarche. The researcher has chosen grade 9 leaners because it was believed that they are old enough to have attained menarche. And also because the ages of grade 9 leaners range from 14 to 15 years and life orientation starts at Grade 7, as result these

learners would have attained understanding of the concepts that may be used in the questionnaire.

3.5 Sampling

Sampling is the process of selecting representative units of a population for a study in a research investigation (Taherdoost, 2017) .

3.5.1 Sampling of circuits

Greater Giyani Municipality has five education circuits; three circuits namely: Nsami, Manombe and Klein Letaba were selected using random sampling method. The researcher wrote the names of all the circuits in small pieces of paper, placed them inside a jar, mixed them and picked three without looking. Four schools were included in the study because it was convenient to the researcher in terms of budget and time to conduct the study and the fact that four schools can be able to produce an acceptable sample size.

3.5.2 Sampling of schools

Four schools namely; Famandha, Hanyani, Mavalani, Risinga were selected from three circuits using non- probability purposive sampling method based on their teenage pregnancy statistics. The researcher requested information regarding teenage pregnancy statistics in the circuits from the Mopani District Education Department.

3.5.3 Sampling of respondents

Respondents were selected using non-probability convenience sampling methods because not all girls were given equal chance to participate. Girls from grade 09 to 12 who were available when the researcher visited the school were recruited and enrolled into the study.

3.6. Inclusion and exclusion criteria

Adolescent girls attending grade 9 to 12 aged between 14 to 24 years old who have attained menarche and were available at the time the researcher visited the school were recruited and enrolled into the study. Adolescents attending grade 9 to 12 who had not attained menarche and not available at school were not included in the study.

3.7 Sample size

Table1: Sample of respondents

Name of school	Population	Sample
Secondary A	1300	130
Secondary B	1111	111
Secondary C	590	59
Secondary D	960	96
	3961	396

Source: Department of education 2019 enrolment figures

$$n = N + N(e)^2$$

$$n = 3961/1 + 3961 \times (0.05)^2$$

360

then add 36

=396

Three hundred and sixty girls were sampled from all four selected schools and 10% was added for representativeness in case of non-response. Sample size was calculated using the Slovin's formula, where n represented the sample size, N population size and e the margin of error. In this regard, the total population was 3961. The researcher used confidence level of 95% hence $e=0.05$ to calculate the sample size. The formula yielded a sample of 360 respondents and 10% which is 36 was added in case of non-response.

3.8 Data collection instrument

Data was collected using a self-administered questionnaire containing three sections namely, demographic data e.g. age, age of menarche, type of menstrual disorders and health seeking information. The researcher reviewed the tools from previous studies to prepare the questionnaire. The questionnaire was written in English and took 20 minutes to complete.

3.9 Pre-testing of research instrument

Pre-testing refers to a method which allows the researcher to assess survey questions or questionnaire before the actual data collection (Taherdoost, 2017). The main aim of pre-test was to evaluate whether the respondents would understand the questions and would also allow the researcher to assess response latency, the amount of time it will take to complete individual items in the survey as well as the full survey. The researcher selected thirty learners from one sampled school but those learners did not form part of the study.

3.10 Data collection process

Appointments were made with schools; consent forms were left at schools for learners to take home to parents to get permission and informed consent was sought from learners. Learners were seated in their classrooms and were provided with questionnaire and a pen. The researcher went through the questions with learners for clarity to improve response rate. Questionnaires were collected immediately after completion. The researcher assisted learners who were struggling to understand some of the terms used in the questionnaire.

3.11. Validity and Reliability

3.11.1. Validity

Validity refers to the degree in which the instrument measures what it is supposed to measure (Bolarinwa, 2015).

3.11.2 Face Validity

Face validity involved asking experts opinions about whether an instrument measures what it is expected to measure (Heale & Twycross, 2015). Face validity was ensured by asking the staff from the University of Venda, Department of Public Health and members of the Higher Degrees Committee (HDC) of the School of Health Sciences to examine the questionnaire in order to see its eligibility and assisted in improving it.

3.11.3 Content Validity

Content validity ensures that the content of the instrument adequately covers the content it intends to measure Bolarinwa, (2015). Content validity is often measured by relying on the knowledge of people who are familiar with the construct being measured. Senior researchers and professors who were familiar with the study topic were asked to analyze the tool.

3.12. Reliability

Reliability refers to the degree in which a test produces the same results when repeated over time (Bolarinwa, 2015). Reliability can be achieved through three major forms, namely test-retest, alternate form reliability and internal consistency (Chan, Yiu, Yuen, Sahota & Chung, 2009; Bolarinwa, 2015; Heale & Twycross, 2015). To ensure reliability, the test-retest method was done to participants who were not going to form part of the final study by administering the questionnaire twice over a period of two weeks to avoid the participants from memorizing the questions.

3.13 Data analysis

Data was analysed using Statistical Package for Social Sciences (SPSS) Software. Prevalence of each menstrual disorder was calculated and descriptive statistics (Frequency and percentages) and Pearson's Chi-square were used to obtain association between variables. Figures such as bar charts and pie charts were used to present summarised data.

3.14 Ethical consideration

The researcher presented the study proposal to the Public Health Department and School of Health Degree Committee. Permission to conduct the study was obtained from University of Research Ethics Committee, Department of Education, Limpopo Province and Department of Education Mopani District. Permission to conduct the study was also granted from the school governing bodies (SGBs) and parents.

3.14.1 Informed consent

The purpose of informed consent is to ensure that the researcher provides sufficient information to the participants so that they can make an informed decision about whether to or not enrol in a study (Fouka & Mantzorou, 2014). The researcher informed participant about their rights, the purpose of the study, the procedure to be undergone and the potential risk and benefits of the study. A separate meeting with the Schools Governing Bodies (SGB) and parents was held and the researcher informed them about the purpose of the study, the rights of the learners and requested permission to enrol their children into the study.

3.14.2. Privacy

Privacy refers to an individual's right to control access to personal information, but also includes access to their body (Fouka & Mantzorou, 2014). Participants had the right not to answer questions if they feel that it will be invading their privacy and the researcher respected their view

3.14.3. Confidentiality

Confidentiality refers to proper safeguard measures to protect the privacy of participants and their information from unauthorised access, disclosure, modification, loss and theft (Fouka & Mantzorou, 2014). In this study, information provided by the participants to the researcher would not be shared to the third person without the participants' permission and participants' names were not written on the questionnaire.

3.14.4 Anonymity

Anonymity means that either the researcher or anyone associated with the study knows the identity of the participants (Fouka & Mantzourou, 2014). The researcher created a unique identity code to each participant to ensure that information provided cannot be linked to the participants.

3.14.5 Right to self-determination

To ensure participants have right to self-determination, the researcher must ensure that potential participants understand that they have right to decide whether to participate in the study voluntarily (Barrow & Khandhar, 2019). The researcher informed participants that they are not obliged to participate and that they may withdraw from the study at any time without being penalised

Conclusion

The study employed descriptive cross-sectional approached. Data was collected through a self-administer questionnaire with open-ended questions. 386 questionnaires were handed to participants and 360 were fully completed.

CHAPTER 4

DATA ANALYSIS AND INTERPRETATION OF FINDINGS

4.1. Introduction

This chapter presents the analysis and interpretation of findings, presented under the following categories: Socio-demographic, symptoms experienced during menstruation, types of menstrual disorders experienced, Health-seeking behaviour and negative effects of menstrual disorders.

Purpose

The overall aim of the present study was to determine the prevalence of menstrual disorders and health-seeking behaviour of adolescent girls in Greater Giyani Municipality.

The specific objectives were to:

- To identify the prevalence of menstrual disorders in adolescence in Greater Giyani Municipality, Limpopo Province.
- To describe the health seeking behaviour of adolescents in Greater Giyani Municipality, Limpopo Province.

Data was collected from 396 adolescent girls from 4 different secondary schools in Greater Giyani Municipality. Out of the 396 questionnaires handed to participants, 385 completed the questionnaires while 11 did not, resulting in 97% response rate. Data was collected using a self-administered questionnaire, captured on Excel then exported into SPSS version 26 and descriptive statistical analysis was employed.

4.2. Presentation of findings

4.2.1. Socio-demographic profile of participants

Ages of participants.

The mean of the respondents was 15.65 years. The ages of study participants were 14-16 years n=318 (80%), 17-19 years n=72(18%) and 20-24 years n=6 (1.5%). The majority of girls were between 14- 16 years because the target population was girls from grade 9 to 10 and expected age of a high school learner is 13- 18 years. Figure 1 shows the ages of participants.

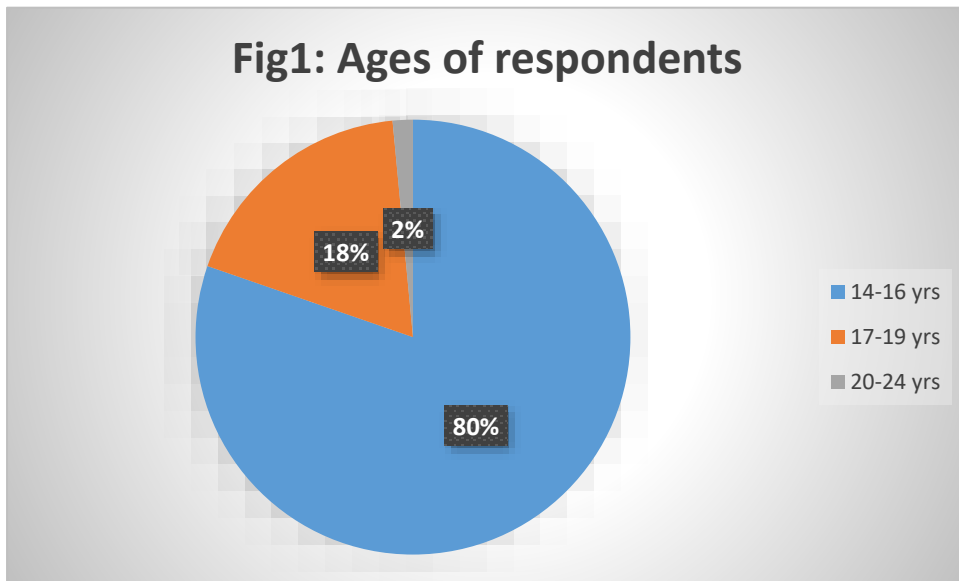


Figure 1: Ages of respondents

4.2.2 Age at menarche

The average menarche age of respondents was 13 .1 years. The ages of participants ranged from 9-10 years n=6 (1.5%), 11-12 years n=60 (15%), 13-14 years n=102 (25.8%) and older than 15 years n=12 (3%). This study shows that majority of girls from this community reached menarche at ages 11- 14 years which a bit late as the normal age for girls to start menstruating is between 9 and 10 years. This could be an indication of the social status of the study population, because menarche is influenced by various factors such diet.

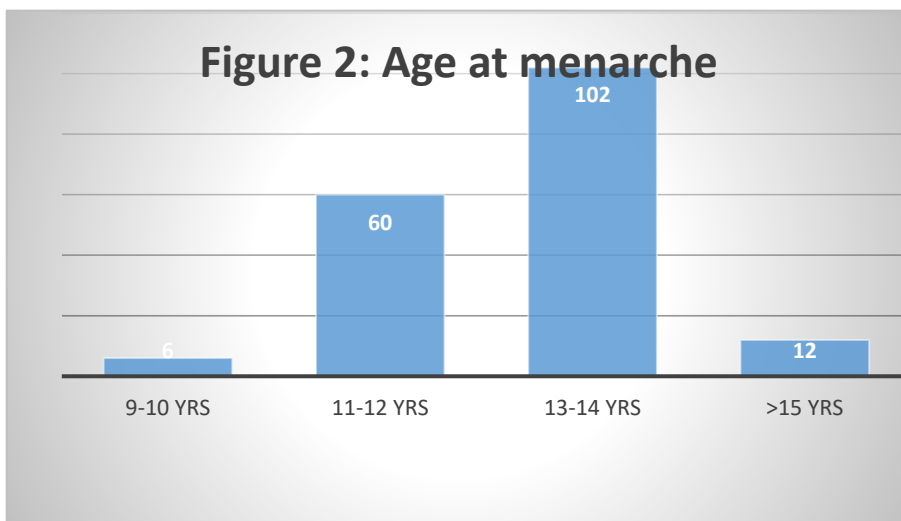


Figure 2: Age at menarche

4.2.3 Religious affiliation of participants

In terms of religion majority of participants are affiliated to charismatic n=230 (58%) religion, minority belongs to other religions ZCC n=72 (18%), Protestants n=38 (9.8%), Apostolic n=34 (8.6%;) and only 22(%) reported that they are not affiliated to any religion. Religion has been described on various studies as one of the factors that influence menstrual disorders as well as health-seeking. Figure 3 displays different religious groups that the study participants belong to.

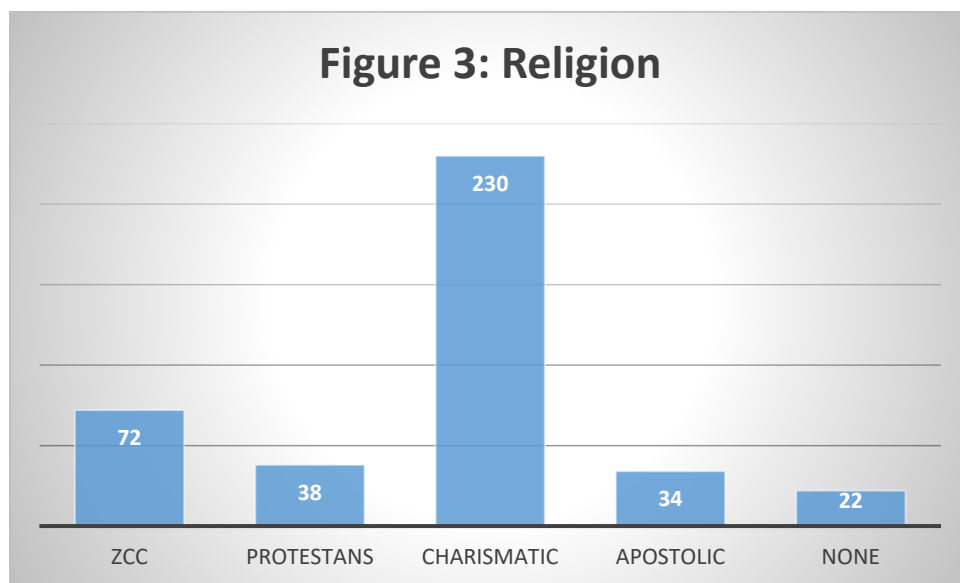


Figure 3: Religion

4.2.4. Socio- Economic status of mothers

Socio-economic status plays an important factor of menstruation menarche. Nutrition has been mentioned as one major factor that contribute to menarche. In this study, majority of participants' mothers are unemployed n=234 (59%) and only n=161(40.7%) are employed. Figure 4 displays the socio-economic status of mothers.

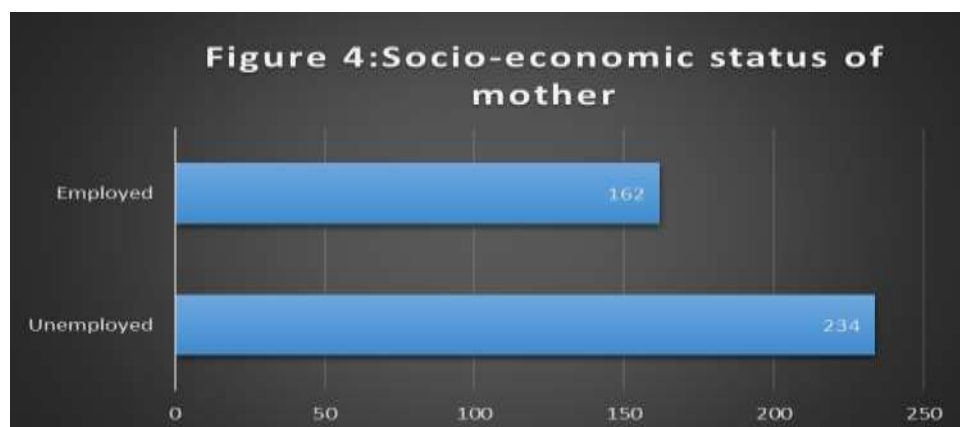


Figure 4: Socio-economic status of the mother

4.2.5. Level of literacy of mothers

Just like economic status, level of literacy of mother is also considered an important risk factor for various disease or conditions. Literacy of mother is also one of risk factors of menstrual disorders. This study shows that majority of mothers have higher secondary n=119 (30%), tertiary n=108 (27%) and secondary n=103 (26%) education respectively. The minority has primary n=18 (4.5%) and none n=42 (10%). The findings indicate that majority of participants' mothers can read and write. The figure below shows the level of literacy of mothers.

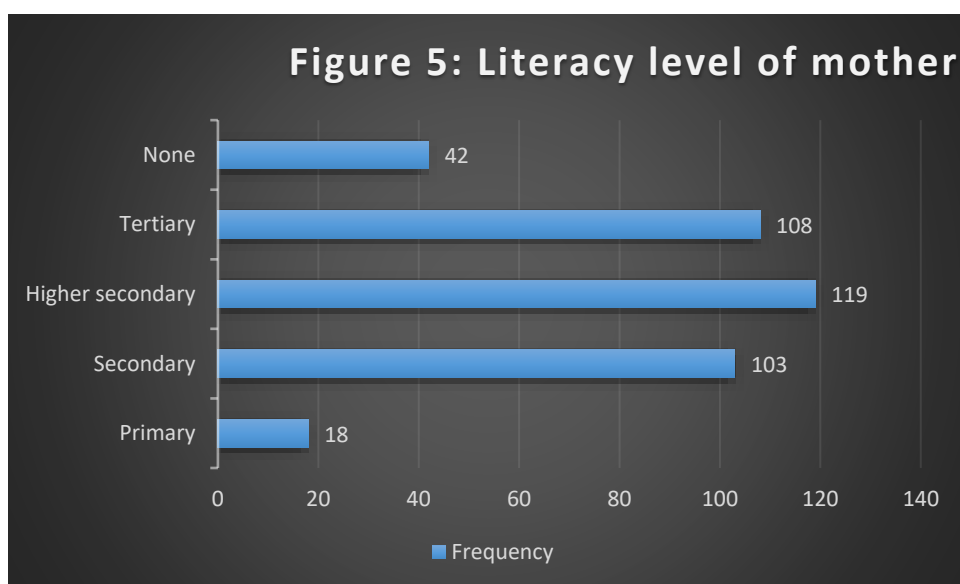


Figure 5: Literacy level of the mother

4.2.6. Symptoms experienced during menstruation

In terms of the symptoms associated with menstruation, n=155 (39.1%) participants experience headache and dizziness during menstruation, 124 (31.4%) lower abdominal cramps, n=43 (10.9%) decreased physical activity, n=41 (10.4%) fatigue and n=12 (3%) edema. Menstruation is accompanied by various symptoms and this study also revealed that most girls' experienced lower abdominal cramps followed by decreased activity. Figure 4 shows symptoms experienced by participants.

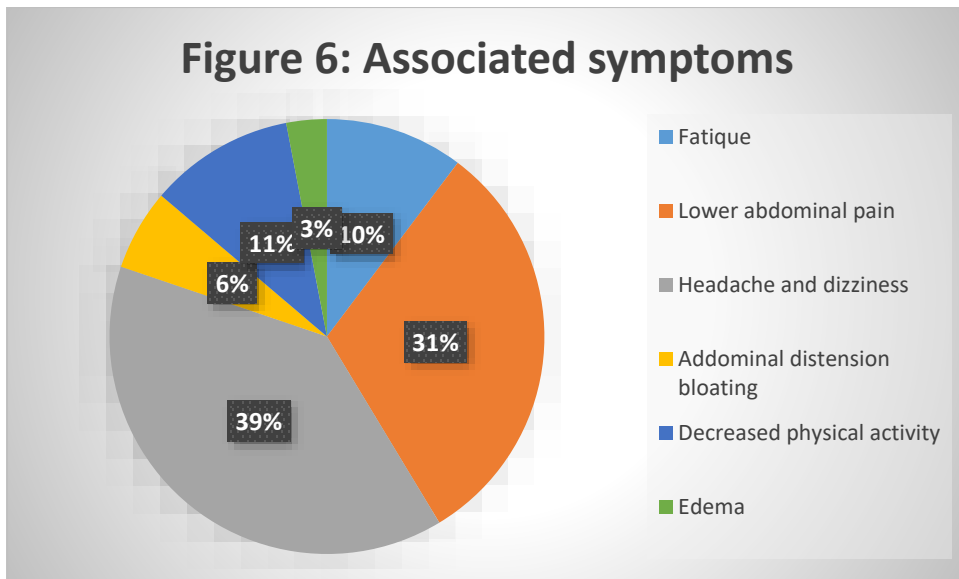


Figure 6: Associated symptoms

4.2.7 Regularity cycle

In the present study, majority of participants (n=269) reported that they experience regular period and a minority (n=112) reported irregular periods. Figure 5 displays the regularity of the periods.

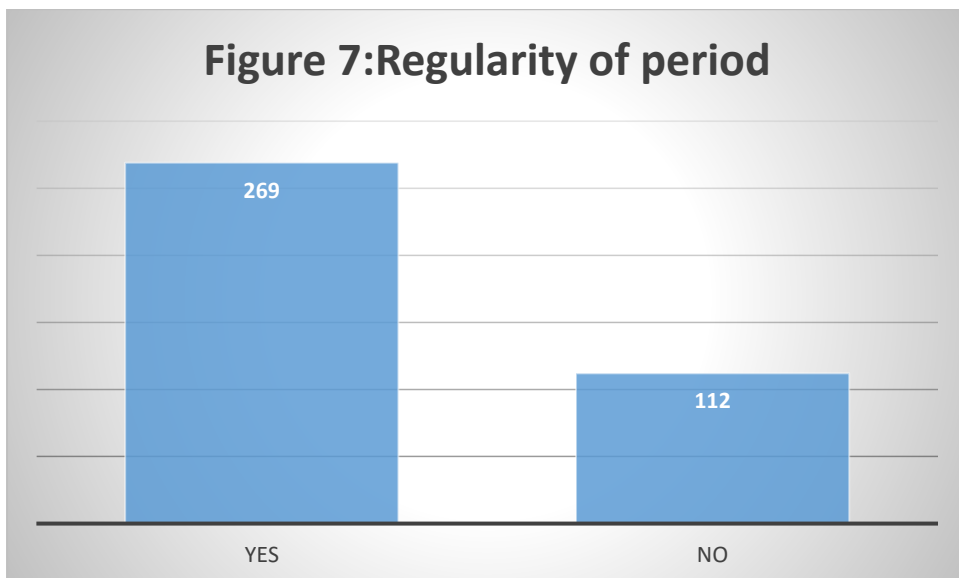


Figure 7: Regularity of period

4.2.8 Amount of bleeding

In terms of the amount of bleeding, n=122 (31.4%) adolescents reported scanty/ drop flow or oligomenorrhea, n=234 (60.3%) average flow, and n=32 (8.2%) heavy menstrual flow also

referred to as menorrhagia, it is a serious menstrual disorder that can contribute to learners being absent from school.

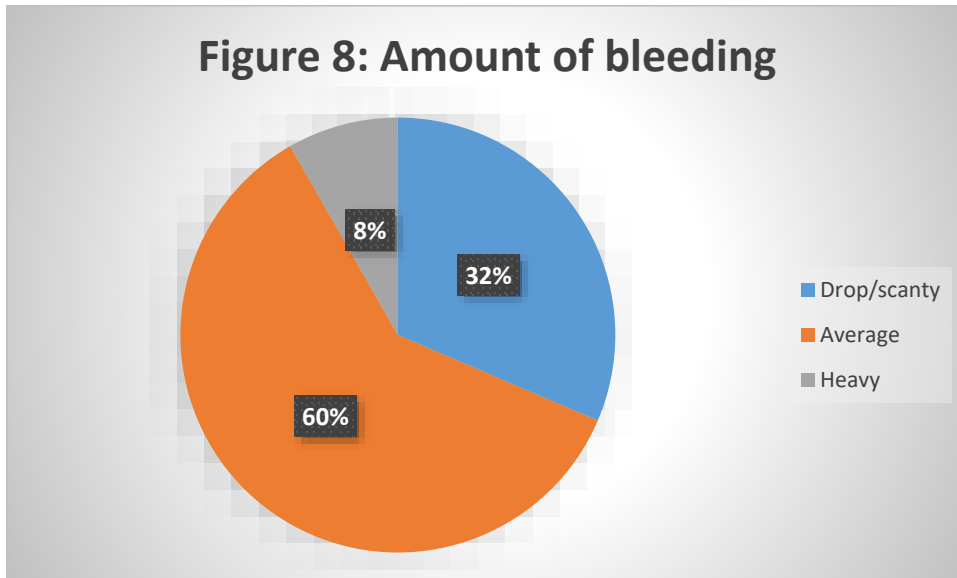


Figure 8: Amount of bleeding

4.2.9 Types of menstrual disorders

The types of menstrual disorders experienced were dysmenorrhoea, amenorrhoea, and menorrhagia. Of the 388 adolescents $n=94$ (24.4%) answered that they have dysmenorrhoea, $n=85$ (22.5%) premenstrual dysphoric disorder, $n=5$ (1.3%) have menstrual cycle greater than 35 days and $n=131$ (34.0%) reported normal 28-day cycle.

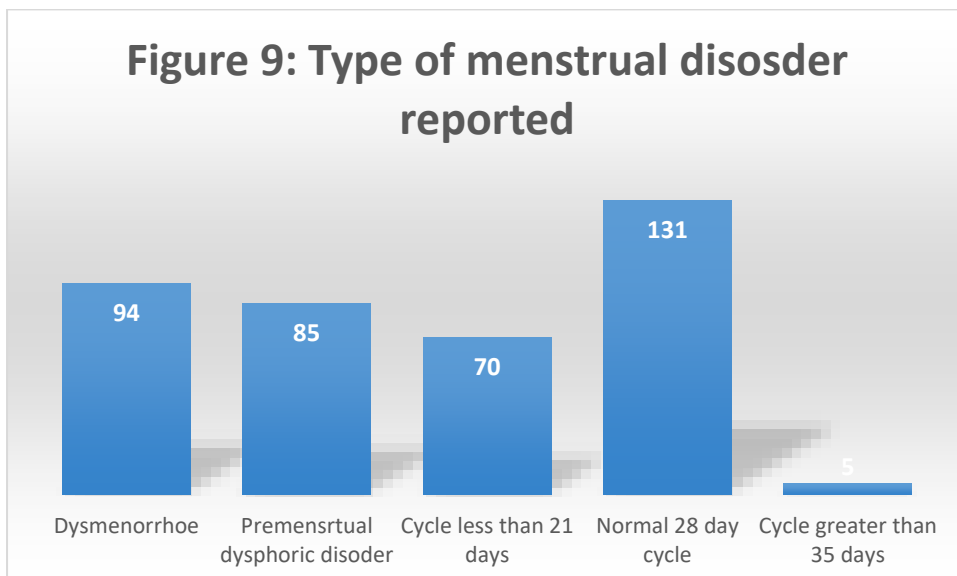


Figure 9: Types of menstrual disorders

4.2.10 Type of menstrual bleeding

The type of menstrual blood ranged from dark bright red experienced by n=174 (45%), dark coloured n=139 (36.2) and clots experienced by n=71(18.5%), and those bleeding with clots, it is highly possible that they have menstrual pains.

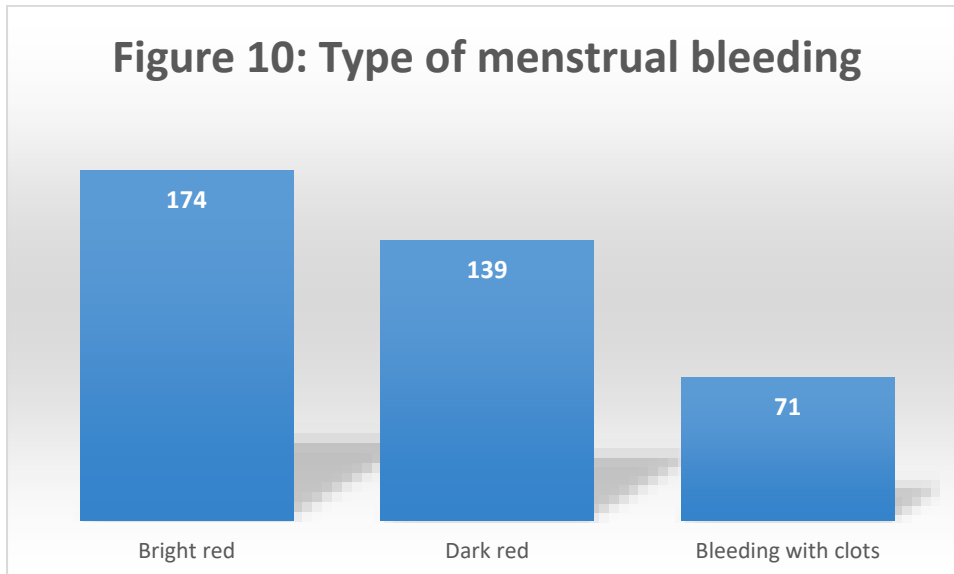


Figure 10: Types of menstrual bleeding

4.2.11. Length of menstrual flow

In terms of the length of the flow, majority of participants reported the flow of 1-3 days n=215 (55%) and 3-7 days while a minority reported a flow of 1-2 days n=41(10%) and more than >8 days n=9(2%). The present study shows that majority of participants have normal menstrual flow. The figure below displays the length menstrual flow.

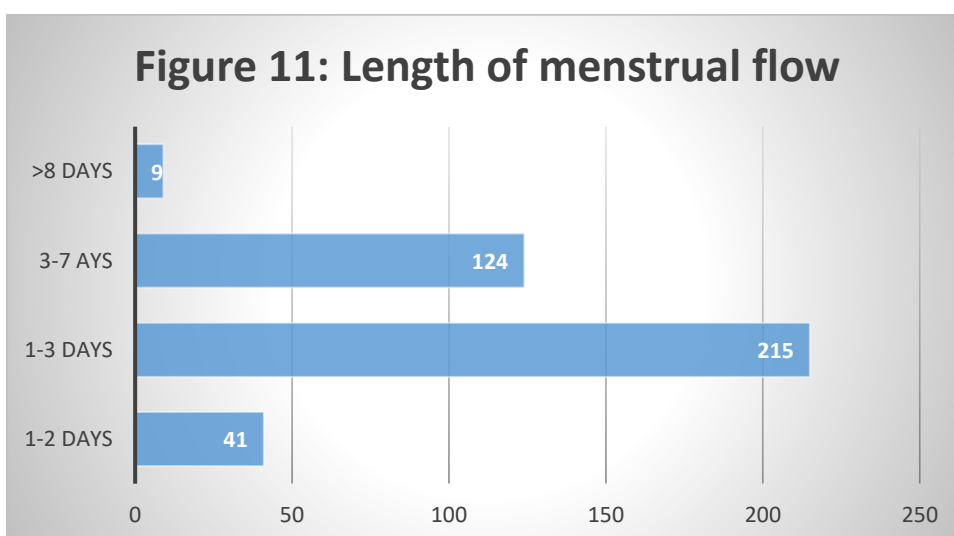


Figure 11: Length of menstrual flow

4.2.12 Characteristic of the pain

The severity of menstrual pain differs from person to person, some people may experience severe pain that hinders them from doing certain routine activities whereas other people experience less pain. In the present study, majority of girls experience moderate pain while minority (n=15 (3.9%) experience mild pain and n=77 (19%) experience severe pain.

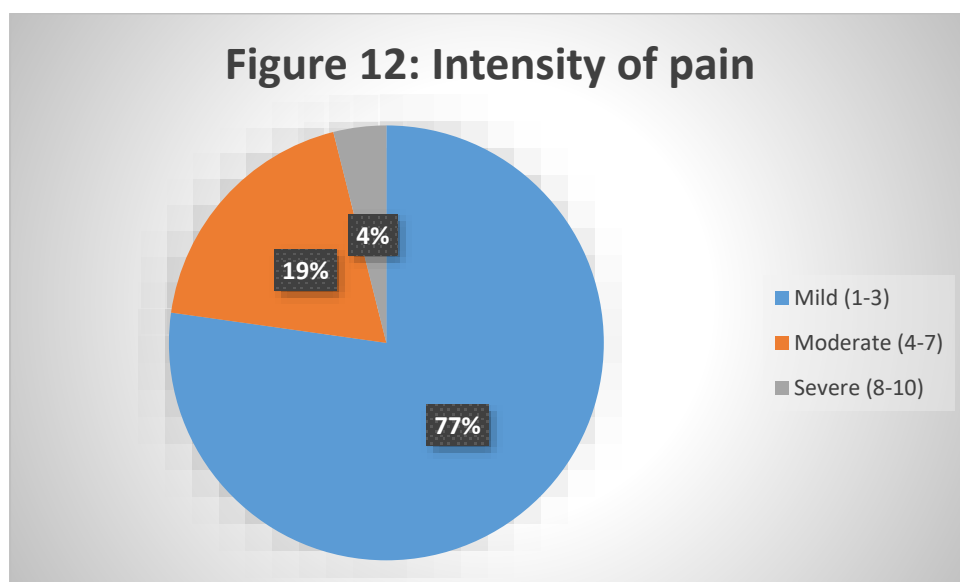


Figure 12: Intensity of pain

4.2.13 Duration of pain

In terms of the duration of the pain n= 62(16%) reported that they experience pain that lasts for 24 -48 hours, while n=27 (7.0%) experience pain lasting for more than 48 hours and lastly majority of the girls (n=299) reported that they experience pain that lasts less than 24 hours. The figure below displays the duration that the pain lasts.

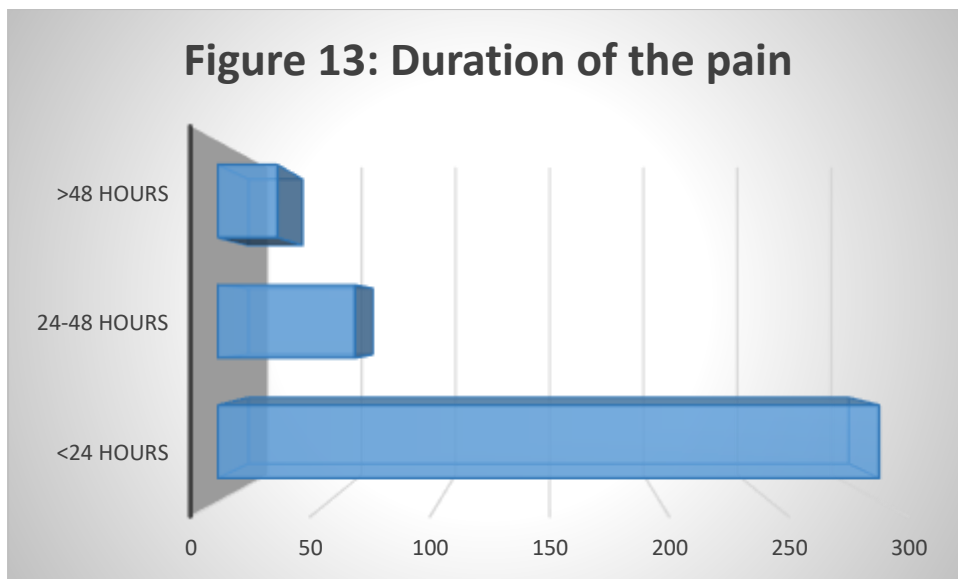


Figure 13: Duration of pain

4.3 Health-seeking

4.3.1 Medical consultation

In terms of medical care seeking, the present study revealed that 55% (n=210) of the girls do not consult a doctor or a nurse when experiencing menstrual problems, while 45 % (n=171) consult a doctor / a nurse. The figure below displays the percentages of participants who consult a doctor/ nurse.

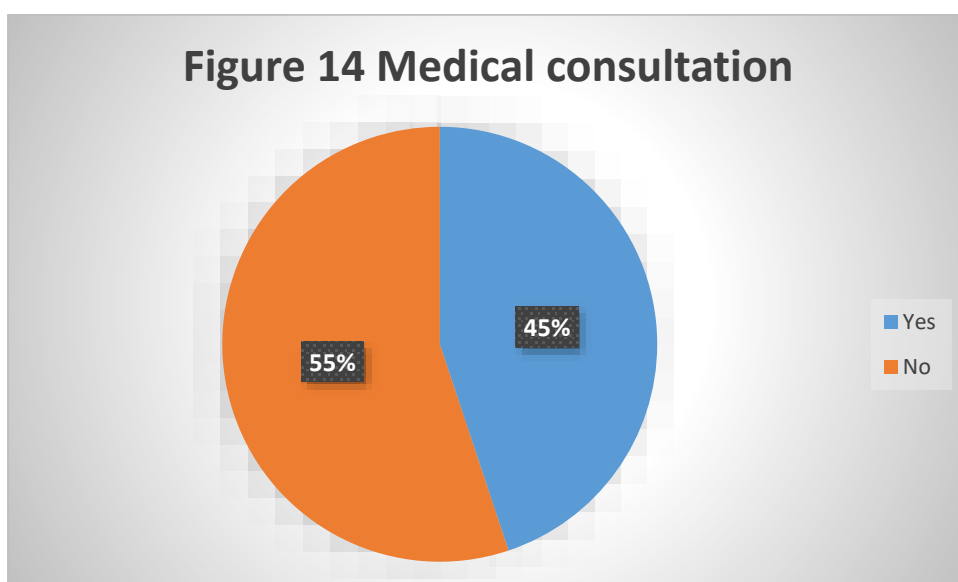


Figure 14: Medical consultation

4.3.2. Self-medication

The use of over the counter analgesics is common amongst female to reduce pain. In the present study, the usage of analgesics was as follows, (n=183) of participants agree to using analgesics while (n=199) disagreed to using painkillers. The figure below displays the usage of analgesics by the participants.

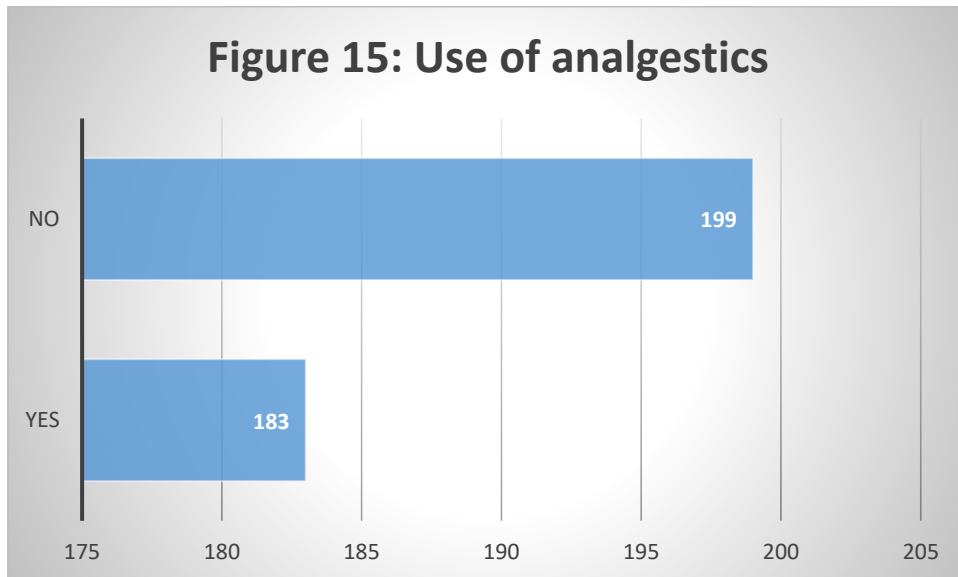


Figure 15: Use of analgesics

4.3.3. Regularity of analgesics use

The study shows that participants use analgesics at different points of their periods. n=115 (31.2%) agreed to using analgesics before the pain start, n=139 (37.7%) use analgesics when the pain start and n=115 (31.2%) when the pain becomes worse. The figure shows the regularity of analgesics usage.

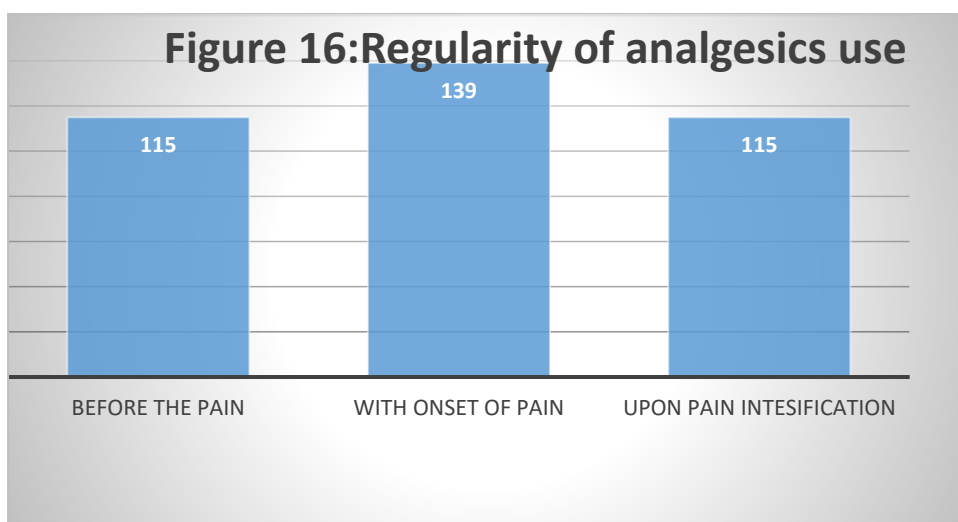


Figure 16: Regularity of analgesic use

4.3.4. Non-pharmacological practices

There are various non-pharmacological practices that people adopt to reduce pain. In the present study, majority (n=153) of girls reported that rest, n=92 (23.9%) watch TV or listen to music, n=77 (20.0%) walk, n=38 (9.9%) use massage, n=25 (6.5%) use heat application, n=153 (39.7%) rest, as a measure to deal with menstrual pain. The figure below displays different non-pharmacological practices used by girls to reduce pain.

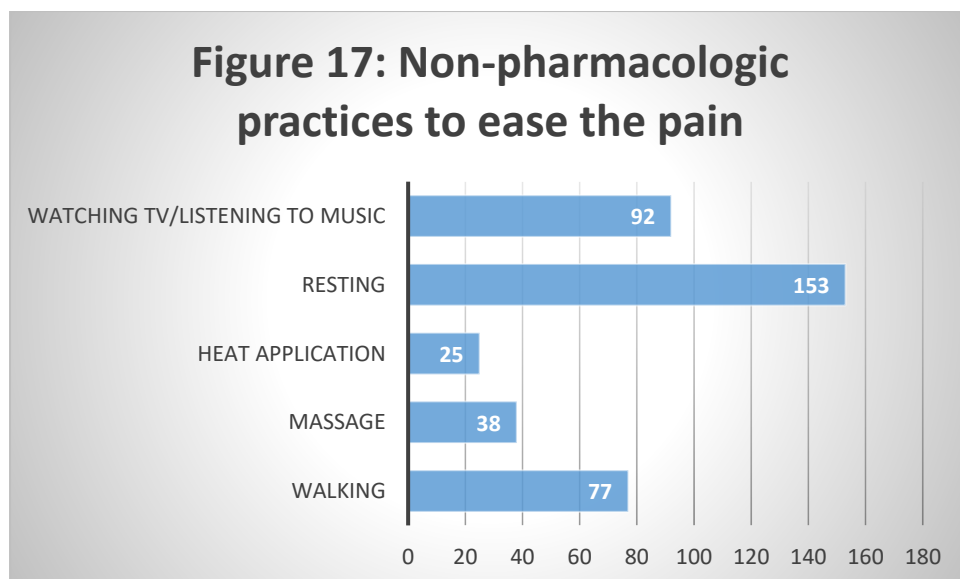


Figure 17: Non- pharmacologic practice to ease pain

4.4 Impact of menstrual disorders

4.4.1. Impact on social life and routine activities

In the present study, n=102 (26.5%) participants reported that they miss school because of menstrual disorders, n=121(30.6%) participants said they do not participate in sport and exercise, n=81 (20.5%) participants agreed that their level of confidence reduced when they menstruate, n=82 (20.7%) said their level of concentration is reduced, n=57 (14.4%) suffer emotional irritability and poor personal relation.

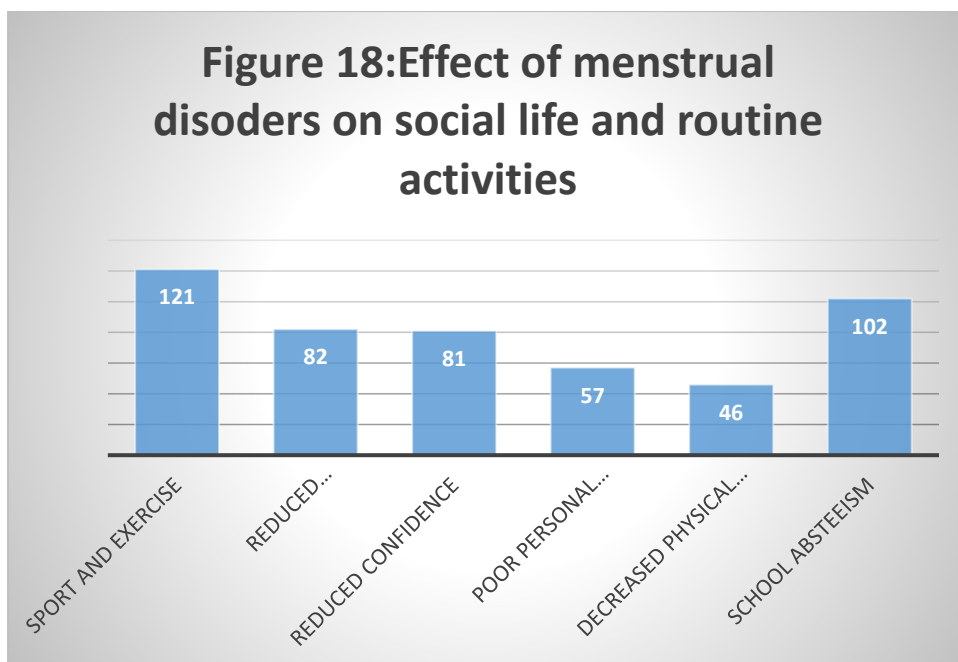


Figure 18: Effects of menstrual disorders on social life and routine activities

4.4.2 Number of school days missed due to menstrual disorders

In terms of the school days missed due to menstruation, majority n=239 (69.9%) of girls reported that they miss only 1 day, while a minority n=45 (13.9%) reported that they miss 1-2 days, n=34 (9.9%) miss 1-3 days and lastly n=24 (7%) miss more than 4 days respectively. The findings indicate that girls miss school days due to menstrual disorders.

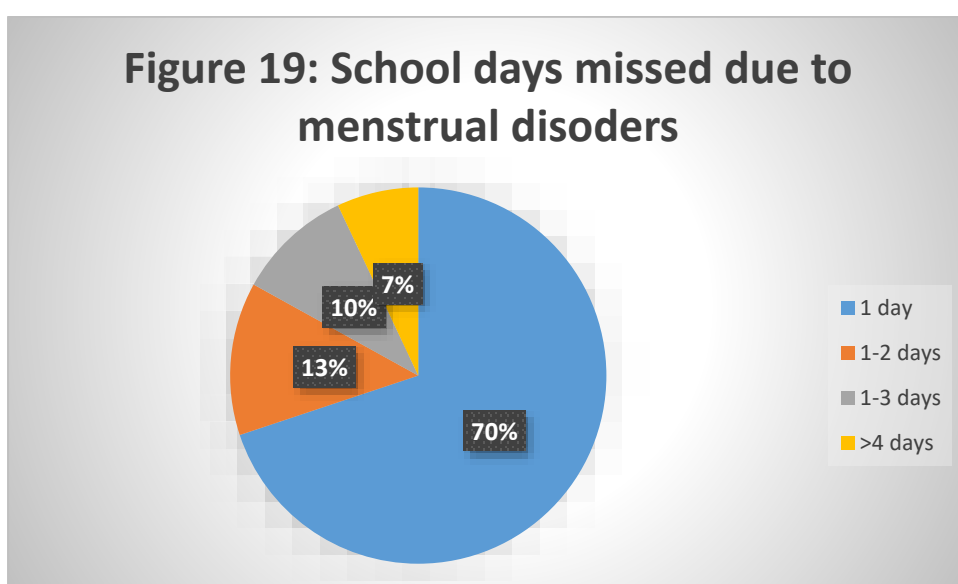


Figure 19: Number of school days missed due to menstrual disorders

Conclusion

The chapter presented the result of the study and it shows that menstrual disorders such as PMDD, dysmenorrhoea, menorrhagia and polymenorrhea are prevalent among the girls of Greater Giyani. The results also revealed that participants use different methods to deal with menstrual pain and negative impact of menstrual disorders.

CHAPTER 5

DISCUSSION OF FINDINGS

5.1 Introduction

This chapter presents the discussion of the study findings and compared them to other studies conducted by other researchers from different countries on the same phenomenon. Menstrual disorders are influenced by several factors such as age, hormone imbalances, family history, smoking, physical activity, diet, and stress. It is important that girls experience regular menstruation cycle as this is a landmark for a normal sexual and reproduction health.

During puberty, a body undergoes major changes, and it can take several years for hormones to reach a balance and irregular menstruation are common during this stage. However, this can be controlled provided medical care is sought. Menstrual disorders reported in the present study are consistent to those found in other studies conducted across different parts of the world amongst girls of the same age group. Health seeking behaviour was also found to be a problem in the present study. Below is the discussion of each disorder as compared to previous studies done by other researchers from various countries.

5.2 Demographic profile

The start of menstruation can be as early as 9 years and as late as 17 years, however, 12 years is said to be the average (Bae *et al.*, 2018). The average age at menarche in the present study was 13 years and it can be concluded that the girls in this study have normal menarche age. Several studies conducted amongst adolescents reported the age of menarche between 12 and 14. In a study done by Aref *et al.*, (2015) amongst adolescents the average age at menarche was also 13 years. Another study by Farotimi *et al.*, (2015) also revealed that majority of girls sampled attained menarche at age 10 years.

5.3 Religion

Religion has been described as one factor that contributes to lack of health-seeking amongst women. Majority of participants in this study are affiliated to Christian religion, while 22% are protestants, 18% ZCC members and 8.6% Apostolic. The churches that the participants are affiliated to are denomination of Christianity. Christianity does not or no longer follow specific rituals of rules related to menstruation (Bhartiya, 2013). However, some churches do not allow members to participate in church when they are menstruating.

It can be concluded that in the present study religion had no influence in the behaviour of the participants

5.4 Socio-economic

Socio- economic status is one of the most determinant of health and has also been listed as a factor of menarche (Kamarulzaman, Mohamed & Ridzuan, 2019). In the present study, 59% of the mothers of participant are unemployed whereas 40.7% are employed. Although almost 50% of participants' mothers are unemployed one can conclude that this did not have a negative effect on them, because the age at menarche in this study was normal and similar to other studies. The feeding schemes in South African schools could also be promoting the nutritional status of rural girls resulting in healthy or normal age of menarche.

5.5 Education of mother

Maternal education is one of the risk factors of menstrual disorders and also contributing in health-seeking reluctance due to lack of knowledge. The present study reported 10% of mothers has no formal education, 4.5% have secondary education, 30% have higher secondary education and 27% has tertiary education. Mothers are the main source of information on womanhood and for this reason her knowledge on the topic is important. However, in South Africa, children are exposed to some reproductive topics through school health programmes, therefore even if the mother is not educated the children can still get important information from their teachers.

5.6 Non- pharmacological practices

There are several non-pharmacological practices that girls adopt to ease menstrual pain. Some of these are non-pharmacological practices include taking a walk reported by 20%, heat application by 6.5%, resting reported by 39.7% and watching TV / listening to music reported by 23.9 %. Aqsa and Zaka (2017) also reported adoption of non-pharmacological practices such as walking, watching TV and heat application among girls experiencing menstrual pains. Adoption of these practices could be influenced by lack of knowledge, shyness to visit the doctor or clinic, or by the intensity of pain. A person who is in much pain is more likely to see a doctor or visit a clinic than someone who is experiencing minor cramps. It is possible that these practices are adopted by those experiencing less pain.

5.7 School days missed due to menstrual disorders

School absenteeism has been reported many times in various studies and one can regard it as the daring effect of menstrual disorders. In the present study, majority (70%) of girls reported that they miss 1 day of school due to menstrual disorders, 13% reported that they miss 2-3 days, followed by 10% that has reported 1-3 days and lastly 7% reported that miss >4 days of school. Although majority of girls miss only one day of school, the issue of menstrual disorder still needs be solved until no school day is missed. Menstruation pains is

usually intense during the first days of period and as days go by it subsides. Girls who are missing school days for more than four days, there could be other factors influencing that, such as lack of sanitary towels especially for rural girls. A study conducted by Tshitangano & Oni (2015) also revealed that girls did not attend school nor do their homework due to menstrual disorders. Gustina and Djannah (2017) and Gebeyehu *et al.*, (2017) also found out that menstrual disorders contribute to school absenteeism and low performance

5.8 Menstrual disorders

5.8.1 Dysmenorrhoea

In the present study, dysmenorrhoea was experienced by 24.4% of adolescent girls. This is in line with the percentages found by other researchers in similar study among the same age group of girls. In study conducted by Oni & Tshitangano (2015), the prevalence of dysmenorrhoea was 27.9%. Another study by Kanmani & Ravisankar (2016); Deborah *et al.* (2017) revealed a prevalence of 28.3% and 22.6% respectively. However, the prevalence of dysmenorrhoea in this study seems to be much low as compared to other studies conducted in Africa as well as overseas. A study conducted by Kamarulzaman *et al.* (2019) revealed a higher prevalence of 90.8%. Ekong *et al.* (2015) found 68.9% and Gustina & Djannah (2017) found 68.8%. Of those experiencing dysmenorrhoea, 3.9% reported their pain as severe, 18.8% as moderate and 16% reported that their pain last for 24-48 hours and 7.6% their pain lasts more than 48 hours. Dysmenorrhoea has been reported as the most common disorder in several studies. However, it is always under reported because girls tend to be silent about it. The number reported in this study is low compared to other studies. This could be due to girls' ignorance and the fact that the study used self-reporting which could lead to recall bias.

5.8.2 Menorrhagia

Menorrhagia is also a common problem in adolescent girls, and it is believed that it goes hand in hand with dysmenorrhoea. In the present study, it was found in 8.2 % of the girls. In a study by Oni & Tshitangano (2015) amongst female adolescents, menorrhagia was found in 10.8% of girls, in another study by Kumar *et al.*, (2016), it was found in 10.4 % of girls. Deborah *et al.* (2017) found 19.4% and Samreen *et al.*, (2016) found 24 % in their study. Menorrhagia could be one of disorders that lead to school absenteeism because it can make someone very uncomfortable. It can make girls reluctant to participate in sports or other activities, miss school, even though they have proper sanitary towels or medication to manage the pain.

5.8.3 Regularity of cycle, amount of blood and type of menstrual bleeding

Menstrual irregularities found in this study were, menstrual cycle greater than 35 days 1.3%, menstrual cycle less than 21 days or polymenorrhea 22.5%, drop/scanty flow 31.3%. Menstrual irregularities have also been reported in several studies conducted amongst

adolescent girls. Studies done by Kumar *et al.* (2016), where the prevalence of menstrual irregularities was 14.0%, while Kanmani & Ravisankar (2016) reported 36.7% of menstrual irregularities amongst women. Irregular menstruation cycles are common among adolescent because they are at stage where their menstrual cycle has not established well, therefore irregularities are understandable because of the age groups of the participants.

5.8.3 Premenstrual dysphoric disorder (PMDD) is a severe form of premenstrual disorder which occurs at the end of luteal phase and disappears when menstruations start. It involves emotional, physical and behaviour symptoms. In the present study, 22.5% of girls reported to experience PMDD. This finding is similar to the study conducted by Eldeeb *et al.*, (2021) among girls in India. However, higher prevalence of PMDD has also been found by researchers such as Tsegaye and Getachew (2019) who found PMDD prevalence of 66.9% amongst young girls in India. PMDD is one of the most common menstrual disorders experienced by girls from both poor and rich socio-economic statuses. However, in girls with low socio-economic status, it can be exacerbated by the stress of not having proper sanitary towels to use during menstruation. In the present study, PMDD can be regarded as one factor that leads to school absenteeism.

5.9 Health-seeking behaviour

In terms of treatment seeking, in this study, only 44.9% of girls consulted a medical doctor or a clinic for menstruation related problems. In this study, 47% of girls use analgesics for their pain, of this 31.3% reported to take before the pain starts, 37.7% take it when the pain starts and 31.2 % took it when the pain increased. Health seeking behaviour findings in the present study are the same as in other studies, in a study conducted by Kumar *et al.* (2016), 34.8% of girls relied on painkiller for their pain, while 41.5% of girls consulted a doctor. Kanmani & Ravisankar (2016) also reported that 46.7% of girls consulted a hospital. Health-seeking behaviour is also influenced by factors such attitude and knowledge. The fact that menstruation lasts for 3-4 days could lead to girls enduring the pain with the attitude that it will lasts only for few days and just ignore it. Girls need to be educated and made aware to understand the importance of health-seeking. As much as menstruation is important milestone of their lives, it is also important to have a healthy menstrual cycle.

5.10. Effect of menstrual disorders on social life and routine activities

The present study reported school absenteeism in 26.5% of girls, 20.7% loss of concentration, 14.4% poor personal relation, 11.6% decreased physical activities, 20.5% reduced level of confidence due to menstrual disorders. This is less compared to 63% social withdrawal, 31.1% missed school, 8% cannot participate in sports and activities reported by Gebeyehu *et al.* (2017). 18% missed school, 37% limited physical activity. Oni & Tshitangano (2015) reported

that 22.68% of girls missed school and 47.68% cannot do their homework. Gustina & Djannah (2017) also reported 46% school absenteeism and 63% loss of concentration due to menstrual disorders. Proper management of PMDD, Menorrhagia and dysmenorrhea can help this problem better because these three disorders have the greatest impact on the social life of girls. Girls should be equipped with knowledge on how to manage menstrual pain so that they can seek help and avoid the negative impact of menstrual disorders.

Conclusion

In conclusion, the present study found a lower prevalence of almost all menstrual disorders, a reasonable health-seeking behaviour and a low impact on social life and normal routine disruption in particular school absenteeism. Literature indicates that menstruation and menstrual disorders are influenced by several factors such as age, maternal education, social status and many others. Only 4.5 % of participants' parents had no formal education whereas majority have either high school or tertiary education. The fact that South Africa has improved nutrition due to the feeding scheme in schools might also have played a role. Government feeding-schemes might also be playing a role in improving the nutrition status of participants. Availability of medical care such as clinics and hospital might be the reason for improved health-seeking behaviour observed in the current study. However, there is need to discourage self-medication as it could be dangerous.

CHAPTER 6

SUMMARY, CONCLUSIONS, RECOMMENDATIONS AND LIMITATIONS

6.1 Introduction

This chapter presents summary, recommendations, limitations, and conclusion of the study.

6.2. Summary of the study

Methodology

The study employed a descriptive cross-sectional design to determine the prevalence of menstrual disorders and health-seeking behaviour among adolescent girls in Greater Giyani Municipality. Study was conducted in four secondary schools in Greater Giyani Municipality and 380 girls were recruited and enrolled into the study. Data was collected through a self-administered questionnaires and results were analysed using SPSS version 16.

Purpose

The purpose of the study was to determine the prevalence of menstrual disorders and health-seeking behaviour of adolescent girls.

Objectives

The study had two objectives namely: to determine the prevalence of menstrual disorders and to determine the health-seeking behaviour of girls. Both objectives were achieved. The study found that participants suffer menstrual disorders, and some seek health care services while some depend on self-medication.

6.3 Recommendations

Recommendation to practice

A need for inclusion of menstruation, menstrual disorders and management items in the school curriculum and health education about menstrual disorders should be provided to mothers of adolescent girls. A program to encourage medical care and to provide them with knowledge regarding the disadvantages of self-medication.

Recommendation to education

Schools must form a health team that learners can consult and get information on menstruation and menstrual disorders. School health education for girls that talk about reproductive health could also be helpful.

Recommendation to policy makers

Policy makers include a subject on reproductive health in school curriculum. This could equip learners with knowledge in early diagnosis. Provide teachers with workshops and training on health issues.

Recommendation to further research

A need for more studies including other secondary schools on different parts of Vhembe district so that the results can be generalised.

6.4 Limitations of the study

The study was conducted amongst four secondary school girls in a Greater Giyani Municipality only, this might lead to some bias because there might be other girls in the community who are not attending school but experiencing menstrual disorders. Girls in other secondary schools in Greater Giyani might be different from the girls in selected schools.

6.5 Conclusion

It can be concluded that menstrual disorders are prevalent among girls in Greater Giyani Municipality because majority of them rely on medical treatment for pain. Various menstrual disorders were discovered with the most prevalent being dysmenorrhoea followed by PMDD, polymenorrhoea and oligomenorrhoea. In terms of health seeking, the study revealed that few participants seek medical treatment for menstrual pain. The study also revealed that several girls seek medical care when they experience menstrual pain while others depend on self-medication. The study also revealed that some participants missed school because of menstrual disorders. The prevalence of menstrual disorders in the current study is less compared to studies done by other researchers. Absenteeism is also less compared to other studies due to the fact that some girls in this study relied on self-medication and that health-seeking was higher in the current study. The problem of health-seeking can be dealt with better by equipping women with scientific knowledge about menstruation. It is important to discourage false belief and myth on menstruation. Young girls may fail to seek medical help not because they cannot afford it but simply because they don't understand the importance of it and the consequences of not getting medical care. It is important to make girls understand the importance of having a healthy menstrual cycle.

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ANNEXURES A: Informed Consent

RESEARCH ETHICS COMMITTEE

UNIVEN Informed Consent

Appendix B

LETTER OF INFORMATION

Title of the Research Study : Prevalence of Menstrual Disorders and Health seeking behaviour amongst adolescents in Greater Giyani Local Municipality, Limpopo Province.

Principal Investigator/s/ researcher: Mavhunga Khumbudzo, MSc

Co-Investigator/s/supervisor/s: Professor Ramathuba DU, PhD and Dr NS Mashau PhD

Brief Introduction and Purpose of the Study

Introduction:

As is important as menstruation is to women's reproduction, it is accompanied by different disorders which may affect quality of female's life and may be a sign of a serious underlying medical condition such as hypogonadism, cancer and coagulation disorders, endometriosis, polycystic ovary syndrome, and may exacerbate certain medical conditions such as asthma, migraines, anxiety, eating disorder, and mental disorders (Oni & Tshitangano, 2015; Nor Asyikin et al., 2016; Thakur et al., 2014).

Purpose of the study

The aim of the study is to describe the Prevalence of Menstrual Disorders and Health Seeking behaviour of Adolescents in Greater Giyani Municipality, Limpopo Province.

Outline of the Procedures

Participants will be selected by non-probability convenience sampling methods. Girls from grade 10 to 12 who will be available when the researcher visit the school will be recruited and enrolled into the study. Participants will be required to give consent of participation before data collection. Data will be collected using a self-administered questionnaire which will take 20 minutes to complete. In a case where participants are struggling with answering some of the questions, the researcher will assist them.

Risks or Discomforts to the Participant: There will be no use of an objects to the participants. Therefore, there won't be any risk or discomfort or harm to the respondents.

Benefits: Adolescent girls might gain knowledge about menstruation and improve their menstrual health and seek help. The community might acquire knowledge on menstrual disorders to break the cultural barriers to discuss menstruation openly and improve health-seeking behaviour.

Reason/s why the Participant May Be Withdrawn from the Study: Should participants feel that they want to withdraw from the study at any point, they will not be penalised.

Remuneration: There will be no payment to the participants for participating in the study.

Costs of the Study: Participants are not expected to pay any money towards the study.

Confidentiality: Confidentiality will be maintained at all time. The researcher will not share information with a third person without the participant's consent. Numbers or codes will be used for each participant to hide their identity.

Research-related Injury: The research does not pose any risk to any research related injury.

Persons to Contact in the Event of Any Problems or Queries:

Please contact the researcher Mavhunga Khumbudzo (Tel no 079 493 4677.), my supervisor Prof DU Ramathuba (Tel no.015 962 8684) or the University Research Ethics Committee Secretariat on 015 962 9058. Complaints can be reported to the Director: Research and Innovation, Prof GE Ekosse on 015 962 8313 or Georges Ivo.Ekosse@univen.ac.za

General:

Potential participants must be assured that participation is voluntary and the approximate number of participants to be included should be disclosed. A copy of the information letter should be issued to participants. The information letter and consent form must be translated and provided in the primary spoken language of the research population

CONSENT

Statement of Agreement to Participate in the Research Study:

- Ihereby confirm that I have been informed by the researcher, *Mavhunga Khumbudzo*, about the nature, conduct, benefits and risks of this study - Research Ethics Clearance Number: __,
- I have also received, read and understood the above written information (*Participant Letter of Information*) regarding the study.
- I am aware that the results of the study, including personal details regarding my sex, age, date of birth, initials and diagnosis will be anonymously processed into a study report.
- In view of the requirements of research, I agree that the data collected during this study can be processed in a computerized system by the researcher.
- I may, at any stage, without prejudice, withdraw my consent and participation in the study.
- I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the study.
- I understand that significant new findings developed during the course of this research which may relate to my participation will be made available to me.

Full Name of Participant	Date	Time	Signature
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I,	
.....			

(*Name of researcher*) herewith confirm that the above participant has been fully

Informed about the nature, conduct and risks of the above study.

Full Name of Researcher

.....	Date.....	Signature.....
-------	-----------	----------------

Full Name of Witness (If applicable)

..... Date Signature.....

Full Name of Legal Guardian (If applicable)

..... Date..... Signature.....

Please note the following:

Research details must be provided in a clear, simple and culturally appropriate manner and prospective participants should be helped to arrive at an informed decision by use of appropriate language (grade 10 level- use Flesch Reading Ease Scores on Microsoft Word), selecting of a non-threatening environment for interaction and the availability of peer counselling (Department of Health, 2004)

If the potential participant is unable to read/illiterate, then a right thumb print is required and an impartial witness, who is literate and knows the participant e.g. parent, sibling, friend, pastor, etc. should verify in writing, duly signed that informed verbal consent was obtained (Department of Health, 2004).

If anyone makes a mistake completing this document e.g. a wrong date or spelling mistake, a new document has to be completed. The incomplete original document has to be kept in the participant's file and not thrown away, and copies thereof must be issued to the participant.

Annexure B: Questionnaire

**PREVALENCE OF MENSTRUAL DISORDES AND HEALTH SEEKING BEHAVIOUR
QUESTIONNAIRE**

Place: -----

PERSONAL INFORMATION

1. Age

14-16yrs	
17-19yrs	
20-24yrs	

2. Grade

Grade 9	
Grade 10	
Grade 11	
Grade 12	
Tertiary/College	

3. Religion

ZCC	
Protestants	
Charismatic	
Apostolic	
None	

4. Socio- economic status of mother

Unemployed	
Employed	

5. Literacy level of mother

Primary education	
Secondary education	
Higher Secondary	
Tertiary	
None	

6. Age at menarche

9- 10years	
11-12years	
13-14years	
>15years	

SECTION B: MENSTRUAL DISORDERS

7. Duration of menstrual flow

1day	
1-2days	
1-3days	
>4days	

8. Family history of dysmenorrhoea

Yes	
No	

If yes

Sister	
Mother	
Mother and sister	
Don't know	

9. Associated symptoms

Fatigue	
Lower abdominal cramps	

Headache and dizziness	
Abdominal distention and bloating	
Decreased physical activity	
Oedema	

10. Menstrual pain and cycle

Dysmenorrhoea	
Premenstrual dysphoric disorder	
Menstrual cycle less than 21days	
Normal 28 day cycle	
Menstrual cycle greater than 35days	

11. Regularity of cycle

Yes	
No	

12. Amount of bleeding

Drops/Scanty (1- 2 pads/day)	
Average (3 pads/day)	
Heavy (2 pads @ a time)	

13. Type of menstrual bleeding

Bright red	
Dark coloured	
Bleeding with clots	

14. Length of menstrual period

1-2 days	
1-3days	
3-7days	
>8days	

15. Characteristic of pain

Mild (1-3)	
Moderate (4-7)	
Severe (8-10)	

16. Duration of pain

<24hrs	
24-48hrs	
>48hrs	

SECTION C: HEALTH SEEKING BEHAVIOR

17. Use of analgesics

Yes	
No	

18. Regular use of analgesics

Yes	
No	

62. Time to use analgesics

Before the pain start	
With the onset of pain	
Upon pain intensification	

19. Consulted doctor/ clinic

Yes	
No	

20. Non- pharmacologic Practices

Walking	
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Massage	
Heat application	
Resting	
Watching TV/listening to music	
Herbal remedies	

21. Sickness absenteeism

Present	
Absent	

22. Number of days absent

1 day	
1-2days	
1-3days	
>4days	

23. Impact on social life

Participation in social event (exercise, sports)	
Reduced level of confidence	
Loss of concentration level	
Poor personal relationship (irritability, emotional instability)	
Decreased physical activity	

Thank you! Please note that the information provided will be held in strictest confidence.

ETHICS APPROVAL CERTIFICATE

RESEARCH AND INNOVATION
OFFICE OF THE DIRECTOR

NAME OF RESEARCHER/INVESTIGATOR:

Ms. K Mavhunga

STUDENT NO:

11552884

PROJECT TITLE: Prevalence of Menstrual disorders and Health Seeking Behaviour of Adolescents in greater Giyani Municipality, Limpopo Province.

ETHICAL CLEARANCE NO: SHS/21/PH/01/0505

SUPERVISORS/ CO-RESEARCHERS/ CO-INVESTIGATORS

NAME	INSTITUTION & DEPARTMENT	ROLE
Prof DU Ramathuba	University of Venda	Supervisor
Dr NS Mashau	University of Venda	Co - Supervisor
Ms. K Mavhunga	University of Venda	Investigator - Student

Type: Masters Research

Risk: Minimal risk to humans, animals or environment (Category 2)

Approval Period: May 2021 - May 2023

The Human and Clinical Trials Research Ethics Committee (HCTREC) hereby approves your project as indicated above.

General Conditions

While this ethics approval is subject to all declarations, undertakings and agreements incorporated and signed in the application form, please note the following:

- The project leader (principal investigator) must report in the prescribed format to the REC:
 - Annually (or as otherwise requested) on the progress of the project, and upon completion of the project.
 - Within 60 days in case of any adverse event (or any matter that interrupts sound ethical principles) during the course of the project.
 - Annually a number of projects may be randomly selected for an external audit.
- The approval applies strictly to the protocol as stipulated in the application form. Should any changes to the protocol be deemed necessary during the course of the project, the project leader must apply for approval of these changes at the REC. Should there be a deviation from the project protocol without the necessary approval of such changes, the ethics approval is immediately and automatically forfeited.
- The date of approval indicates the first date that the project may be started. Would the project have to continue after the expiry date; a new application must be made to the REC and new approval received before or on the expiry date.
- In the interest of ethical responsibility, the REC retains the right to:
 - Request access to any information or data at any time during the course or after completion of the project.
 - To ask further questions; Seek additional information; Require further modification or monitor the conduct of your research or the informed consent process.
 - withdraw or postpone approval if:
 - Any unethical principles or practices of the project are revealed or suspected.
 - It becomes apparent that any relevant information was withheld from the REC or that information has been false or misrepresented.
 - The required annual report and reporting of adverse events was not done timely and accurately.
 - New institutional rules, national legislation or international conventions deem it necessary.

ISSUED BY:

UNIVERSITY OF VENDA, RESEARCH ETHICS COMMITTEE

Date Considered: April 2021

Name of the HCTREC Chairperson of the Committee: Pascal O. Bessong

Signature:




Private Bag 0500, Thohoyandou, Limpopo Province, 0950
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LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
EDUCATION

MOPANI DISTRICT

REF : 2/2/2
ENQ : NKANYANI H.G
DATE : 28 AUGUST 2018

TO : RAMATHUBA D.U

PERMISSION TO CONDUCT RESEARCH: MENSTRUATION AS PART OF CONTINUOUS ACADEMIC PROGRAMME

1. The above matter refers.
2. The Department wishes to inform you that your request to conduct research on the above mentioned Topic has been approved.
3. Your focus should only be limited to schools listed below:

NO.	NSAMI CIRCUIT	MAN'OMBE CIRCUIT	KLEIN LETABA
1.	Mavalani Secondary	Risinga Secondary	Hanyani Thomo Secondary
2.	Famandha Secondary		

4. The following conditions should be considered:
 - 4.1. Arrangement should be made with affected schools.
 - 4.2. The research should not be conducted during Examinations especially the 4th term.
 - 4.3. During research, applicable research ethics should be adhered to, in particular the principle of voluntary participation (the people involved should be respected).
 - 4.4. Upon completion of the research study, the researcher shall share the final product of the research with the Department.
 - 4.5. The research should not have any financial implications to the Department of Education Limpopo Province.
 5. Furthermore, you are expected to produce this letter to schools and offices where you intend to conduct your research since it will serve as proof that you have been granted permission to conduct the research.
 6. The Department appreciates the contribution that you wish to make and wishes you success in your research.


DISTRICT DIRECTOR

28/08/2018
DATE

DEPARTMENT OF EDUCATION
MOPANI DISTRICT, Private Bag X 578 GIYANI, 0826
Tel 015 811 7700 Fax No. 015 812 3412 or 015 812 1688

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