MAKERERE UNIVERSITY

UTILIZATION OF MODERN RE-USABLE MENSTRUAL PADS AMONG SCHOOL GOING ADOLESCENT GIRL AGED (10 – 19) YEARS IN BIDI BIDI REFUGEE SETTLEMENT YUMBE DISTRICT, UGANDA

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DECLARATION

I Amulen Esther, declare that this dissertation is a true reflection of my own inspiration and has never been submitted to any academic institution for any award.

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<td>WHO</td>
<td>World Health Organization</td>
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<tr>
<td>URCS</td>
<td>Uganda Red Cross Society</td>
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<tr>
<td>UNHCR</td>
<td>United Nations High Commission for Refugees</td>
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<tr>
<td>UNFPA</td>
<td>United Nations Population Fund</td>
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<tr>
<td>STI</td>
<td>Sexually Transmitted Infection</td>
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<td>RTI</td>
<td>Reproductive Tract Infection</td>
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<tr>
<td>PI</td>
<td>Plan International</td>
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<td>OPM</td>
<td>Office of the Prime Minister</td>
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<td>NRC</td>
<td>Norwegian Refugee Council</td>
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<tr>
<td>MHM</td>
<td>Menstrual Hygiene Management</td>
</tr>
<tr>
<td>IFRC</td>
<td>International Federation of Red Cross</td>
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<tr>
<td>FIN</td>
<td>Finn Church Aid</td>
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<td>FGD</td>
<td>Focused Group Discussion</td>
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<td>DRC</td>
<td>Danish Refugee Council</td>
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OPERATIONAL DEFINITIONS

Adolescence: Adolescence in girls has been recognized as a special period which signifies the transition from girlhood to womanhood. The World Health Organization (WHO) has defined adolescence as the age group of 10-19 years.

Literacy rates: The ability of the adolescent refugee girls (10-19) to read and write.

Menstrual hygiene management: refers to the spectrum of interventions deemed necessary and appropriate to ensure adolescent girls and women in various contexts can privately, safely and hygienically manage their monthly menstrual flow.

Menstruation: is the periodic discharge of blood and mucosal tissue from the uterus, occurring approximately monthly from puberty to menopause in non-pregnant women.

Modern re-usable menstrual pad: These may simply be old strips of fabric or strips of cotton that have been tailored to fit into underwear or holder.

Reproductive tract infection: is a broad term that includes sexually transmitted infections (STIs) as well as other infections of the reproductive tract. These other infections may be the result of the over growth of the bacteria and other organisms that normally live in the vagina. RTIs also include infections that are a result from unhygienic menstrual management and inadequate infection prevention practices by health care providers.

Utilization: The ability of the adolescent girls to use the same piece of pad that she had used before for the second time. This was assessed through self-reports.
ABSTRACT

Background: Menstrual Hygiene Management (MHM) is a spectrum of interventions necessary to ensure adolescent girls and women in various contexts hygienically manage their monthly menstrual flow. We assessed the knowledge, perceptions, level of utilization, Barriers and enhancers towards the use of modern reusable menstrual pads by school going adolescent girls.

Methods: This was a cross-sectional study involving both quantitative and qualitative data collection technique. A total of 477 school going adolescent girls aged 10-19 years were interviewed. Seven (7) focused group discussions were held with girls (15 years above) and Seven (7) key informant interviews were held with the senior women teachers in the selected schools. Univariate, bivariate and multivariate analyses were conducted to determine factors associated with utilization of the modern reusable menstrual pad. Qualitative data analysis was conducted using deductive context analysis approach.

Results: The majority (86%) of the school going adolescent girls were using modern reusable menstrual pad. Most of the respondents (94%) and (83%) in secondary and primary respectively had knowledge about how to maintain the pad. Similarly, the majority (86% and 75%) had a positive perception towards the use of the modern reusable menstrual pad. Factors significantly associated with use of pads were tertiary level of education (APR=1.17, 95% CI=1.05-1.31), relatives employed with an NGO or are civil servants (APR=0.85, 95% CI=0.74-0.98 and APR=0.88, 95% CI= 0.80-0.97), those who preferred disposable pads (APR=1.12, 95% CI=1.00-1.24).The enhancers of use were comfort, knowledge, durability, culture and family support. Barriers to use of the pad include lack of soap, limited buckets and fear to wash the pad among others.

Conclusion and Recommendation There is high use of re-usable pads coupled with high knowledge and positive perception towards use of modern reusable menstrual pad. Implementing partners should ensure continued adequate supply of pads, soap and buckets for effective use of modern reusable pads.

Keywords: Reusable pads, knowledge, perception, factors, Refugee, South Sudanese, Uganda
CHAPTER ONE

1.0 Introduction and background

1.1 Introduction

As part of the female reproductive growth, menstruation is considered widely as an indicator of maturation and puberty. Though this is a natural progression in any female, there are physical health, social and economic factors that have contributed to the variations in the observations of menstrual cycles, disorders such as urogenital infections, characteristics and management in women and young girls. According to a 2012 United Nations report on adolescents and youth, Adolescence is the period of transition between childhood and adult-hood, where a girl or boy experiences puberty which is a process of physical, psychological and emotional development; In girls, a key marker of puberty is menarche (first menstruation). This is experienced between the age of ten and nineteen, and menopause between late-forties and mid-fifties (Elledge et al., 2018).

Worldwide, 52% of the female population is of reproductive age, meaning approximately 1.9 billion women and adolescent girls menstruate each month for between two and seven days (Claire, 2016). Menstruation is the periodic discharge of blood and mucosal tissue from the uterus, occurring approximately monthly from puberty to menopause in non-pregnant women though it is reflected on with fear among the refugee girls (Hennegan et al., 2017). This bleeding expels unfertilised eggs from the uterus, for a period of between two to seven days, during which time most women and girls report a number of symptoms including Period pains’, including abdominal cramps from the strain of the muscles and the widening of the birth canal, nausea, fatigue, as well as emotional and psychological signs and symptoms have been documented in medical research (Proctor and Farquhar, 2006). There are various types of pads which can be used to absorb the menstrual blood and they include disposable pads, modern re-usable, tampons
and menstrual cups. Modern Re-usable menstrual pad can be defined as strips of fabric or strips of cotton that have been tailored to fit into underwear or holder. Disposable pads refer to one-time use pad and tampons. They are imported from high income nations to Africa (Adinma and Adinma, 2008)

Menstrual Hygiene Management is a spectrum of interventions deemed necessary and appropriate to ensure adolescent girls and women in various contexts can privately, safely and hygienically manage their monthly menstrual flow (Society, 2015). Adequate menstrual hygiene management refers to when women and adolescent girls use clean menstrual materials such as disposal and re-usable pads, tampons, menstrual cups to absorb or collect menstrual blood. The girls must be able to change the absorbents in privacy as often as necessary for the duration of the menstrual cycle, using soap and clean water for washing the body as required, and they should have access to facilities to dispose off the used menstrual management materials (VanLeeuwen and Torondel, 2018b). Studies show that Menstrual management is a pervasive issue for women and adolescent girls globally, and it becomes critical in times of crisis (Sommer et al., 2016a, Claire, 2016)

If MHM is not handled appropriately can cause infections of the urinary tract, pelvic inflammatory diseases and vaginal thrush, as well as unpleasant odor, soiled garments and ultimately shame, leading to infringement on the girls’ dignity (Ndana, 2018). The material resources available and the socio-economic position of women and adolescent girls are factors that impact their choice in menstrual management methods, and their ability to practice these management methods safely (Claire, 2016)
1.2 Background

Over 30 million adolescent girls and women in the world are currently displaced due to conflict and disasters across the world (Claire, 2016). A common and significant challenge the adolescent girls face is the ability to manage their menstruation safely, comfortably and with dignity. In many emergency contexts, adolescent girls lack access to basic materials, such as sanitary pads, cloths and underwear that are needed to manage the monthly flow (Schmitt et al., 2017).

Globally menstruation and its management also have social and cultural implications which may in turn impact women and girls. There is growing need nationally and globally to address the challenges faced during menstruation, for example ensuring availability of soap, access to clean water and creating awareness among the adolescents to ensure that menstrual hygiene is properly managed. Key priorities need to be identified while addressing the problem.

Although menstruation is a natural process, it is linked with several misconceptions and practices, which sometimes result in to adverse health outcomes such as Reproductive Tract Infections (RTI). For example, in India Menstruation is regarded as something unclean and dirty in the society because of myths and beliefs, bringing about little knowledge about the subject. Adolescents having better knowledge regarding menstrual hygiene and safe practices make them less vulnerable to RTI (Yasim, 2013). In many parts of the developing countries, a culture of silence surrounds the topic of menstruation and related issues, as a result many young girls lack appropriate and sufficient information regarding menstrual hygiene (UM et al., 2010).

In some regions of Africa, poor management of menstruation has been recorded to account for absenteeism at school in adolescent girls, though not considered a high contributing factor; it has been recorded that 30% of children drop out before they complete their primary education. Though there has been some debate on the results of poor menstrual health in young girls,
inadequate Menstrual Hygiene Management has been attributed to long-term poor health, fertility issues and poor educational and development outcomes such as human rights, the environmental impact and economic implications (Upashe et al., 2015). Other research results also showed that factors common that hinder adolescent girls from routine day to day functions such as attending school varied from traditional taboos, knowledge, and availability of utilities at schools to access to materials and menstrual products.

These may be accompanied by discomfort, reproductive tract infection, smelling and embarrassment due to soiling.

Over the last 15 years, there has been increasing attention within the global humanitarian emergency response community to addressing the menstrual hygiene management needs of the adolescent girls in post-conflict and post-disaster settings (Aparajita, 2012). In the recent past, Uganda has witnessed increased momentum to address menstrual hygiene management especially in primary schools with the objective of keeping girls in school. Policy and legal frameworks are being instituted by Government to make the committed actors more responsive of menstrual hygiene management. The Ministry of Education and Sports issued instructions to primary schools requiring leadership to implement specific measures aimed at promoting menstrual hygiene in schools (MoES, 2015) which is a problem.

Provision of sanitary kit by Government and UNFPA, containing modern reusable menstrual pads, underwear, pegs, soap and bucket to all the adolescents and women was brought as a solution to menstrual hygiene management to present girls’ dignity, health, education and psychosocial wellbeing (Hennegan et al., 2016). There are different types of pads worldwide such as disposal pads which are mostly associated to availability of infrastructure and facility,
period pants, menstrual cups, menstrual sponges and cloth which have also been made in a modern way (Oduor et al., 2015). Other types of materials used by adolescents during menstruation include paper, grass, leaves and tissue (Phillips-Howard et al., 2015). For the low income countries like Uganda, adolescents may not be in position to afford the disposal pads and these may lure them to sexual relations in exchange for money.

There are so many actors implementing various activities related to menstrual hygiene management agenda, but there is no data on who is doing what, where and how it’s being done. In refugee settlements like BidiBidi adolescents still face challenges like inadequate changing facilities for privacy, soap, water and drying space for adolescents using reusable pads. However, there is no information on utilization of modern reusable menstrual pads in BidiBidi refugee settlement. This study therefore seeks to assess the utilization of modern reusable menstrual pads among the school going adolescent girls aged 10-19 years in BidiBidi refugee settlement.
CHAPTER TWO

2.0 Literature Review

2.1 Knowledge and Perceptions on use of pads

A number of studies show that while the majority of girls are aware of menstruation before menarche (their first menstrual period), a significant number are not, and most girls do not fully understand the physical process of menstruation (Mahon and Fernandes, 2010). Menstruation is the most outwardly visible portion of a woman’s menstrual cycle. It occurs once after every four weeks, lasting 3 to 5 days. Menarche, or onset of menstruation, marks a significant turning point in the life of adolescent girl. This will alter the perception of the girl and the pressure the society may place on her (Sommer and Kirk, 2008). When a girl starts to menstruate, there is a perception in the Kenyan culture that she has left children and now she may get jumpy (McMahon et al., 2011).

According to Crofts et.al, 2012, there is a myth that anyone who came across someone’s blood would be cursed. In a study carried out among girls who attended good schools and considered themselves rich, considered washing menstrual blood as dirty and irritating. The manner in which a girl learns about menstruation and its associated changes may have an impact on her response to the event of menarche. This will prepare them psychologically, socially, emotionally and it equips them with knowledge on how to handle them during the menstruation process. A study done in Napel by Water Aid revealed that majority of the women in reproductive age was reported not prepared for their first period in any way. A common belief among Gujjar girls was
that menstruation was the removal of bad blood from the body necessary to prevent infection (Dhingra et al. 2009).

Knowledge about menstruation is usually got from mothers, social media like television, teachers and fellow peers who tend to speak about it freely. Social media acts as a supplement to the untimely information provided by the parents. It’s believed that girls whose mothers education status is secondary and above are more likely to have more knowledge about menstruation unlike their counterparts (Upashe et al., 2015). According to a study revealed that majority of the girls got their information from their mother and peers (Mahon and Fernandes, 2010)

Girls in low-income and middle-income countries start puberty with knowledge gaps and misconceptions about menstruation. This takes them un-aware, when they are not prepared to cope with and unsure where to seek help from. This is because the adults around them like parents and teachers are uncomfortable to freely speak about the subject (Chandra-Mouli and Patel, 2017). Girls and women in reproductive age with knowledge have misconceptions, others believe that menstruation is a physiological process while others believe it is a curse or disease (Adhikari et al., 2007). An additional knowledge gap among the adolescents is the lack of awareness about the exact source of the menstrual blood (Bobhate and Shrivastava, 2011). Age has a significant influence on knowledge whereby the older one grows the more knowledgeable they become compared to their counterparts. Education level also has an influence on menstrual hygiene knowledge (Chandra-Mouli and Patel, 2017).

Girls who have heard about menstruation are 99.6%, 57.9% heard it before the menarche and 28.7% of the girls knew about the exact process of menstruation. Most of them know that
menstruation is a unique phenomenon to only females. In summary most of the girls do not have adequate knowledge about menstruation and how to maintain it (Shanbhag et al., 2012). Women having better knowledge regarding menstrual hygiene and safe practices are less vulnerable to RTI and its consequences. Therefore, increased knowledge about menstruation right from childhood may improve safe practices and may help in mitigating the suffering of millions of women (Tiwari et al., 2006).

2.2 Utilization of the pads

Utilization is the ability of the adolescent girls to use the same piece of pad that she had used before for the second time. Utilization of the modern reusable pad can be influenced by various factors.

2.2.1 Culture/Belief

In many developing countries like Zambia, the natural process of menstruation is dealt with in secrecy. This is due to taboos related to sexuality and reproduction, gender norms and values related to culture and religion. These norms act as barriers to communication on reproductive health issues among adolescents (Lahme et al., 2018). As a result, less attention is given to this area of menstruation and menstrual hygiene. The lack of information can lead to stress, soiling of garments and bad odor, hence shame and physical problems such as urinary tract infection, pelvic inflammatory diseases and virginal thrush (Mahon and Fernandes, 2010)

2.2.2 Context

Health hygiene and sexual and reproductive health are recognized as areas for health education interventions in schools, providing information to enable girls to make informed choices. This however focuses primarily on individual behavior change rather than the context the girls lives in
In refugee settlements and war zone like areas, disposable pads are mostly related to availability of infrastructure and facilities unlike re-usable pads which tend to be more accessible. Re-usable pads have been introduced into refugee camps as an intervention for menstrual hygiene management, with the potential to be more cost effective, sustainable and appropriate solution compared to disposal pads in context with limited waste management (Sommer et al., 2016b). Due to rapid urbanization, there is increasing incomes, product availability, distribution and increased mobility hence increased use of disposable pads (Elledge et al., 2018). Studies across the areas of Low Middle Income Countries have reported disposable pads, re-usable (cloth) and tissue as the most used menstrual hygiene absorbents (Sommer et al., 2013, van Eijk et al., 2016).

The distribution of menstrual hygiene products depends on the type of disaster and state of emergency which is prevailing; hence determine the type of pads to be supplied. During acute phase the menstrual products will be provided but in the protracted phase of the emergency girls have to go back and use their traditional methods (Upashe et al., 2015). The varying social economic backgrounds of the displaced population determines the types of pads to be used (Leaning and Guha-Sapir, 2013). A study conducted in some camps in Uganda (Rhino and Adjumani) showed that the utilization of reusable pads was at 25% and 44% which is low unlike disposal pads which are at 56% and 75% (Wilson et al., 2012).

### 2.2.3 Menstrual hygiene and type of absorbents

Menstrual hygiene management is characterized by practices such as the type of absorbent material used and the frequency changed, associated body washing, the methods of washing, drying and storing reusable pads as well as other contextual factors, such as the location of menstruation-related changing and washing practices. These practices can be influenced by
water, sanitation and hygiene (WASH) facilities at the household and school level, and the quality of, and access to, these facilities varies significantly between and within countries and its context (Marni et al., 2016). When this is available it will influence the use of the modern reusable menstrual pad. A study carried out in India revealed that 62% of the women were using reusable pads though they had a challenge with washing and drying because of lack of knowledge and cultural taboos and 42% are using disposable pads (Sinha and Paul, 2018).

Menstrual Hygiene Management practices can be unhygienic and inconvenient, particularly in resource constrained settings, with poor WASH access, have been found to be associated with different reproductive tract infections and vulva vaginal candidiasis and with psychosocial stress outcomes (Torondel et al., 2018). Reproductive Tract Infections (RTIs) are a major public health concern worldwide and are particularly common in low-income settings. Candidiasis is the second ranked reproductive urinary tract infection which is affecting 75% women of reproductive age (Torondel et al., 2018).

Studies in Africa have found out that the utilization of disposal pads is as low as 18% amongst women and the rest are using cloth and toilet paper as absorbents (Upashe et al., 2015). According to a study conducted in Nigeria amongst the secondary girls the most used absorbent was toilet paper with 41.3%, disposal pad was at 32.7% and cloth was at 14.4% (Adinma and Adinma, 2008). A study carried out in Zambia showed that utilization of reusable pads among the school going adolescent girls was at 33% (Ndana, 2018).
2.3 Factors Affecting Use

2.3.1 Barriers

a) Culture/Belief

Girls and women from different cultures have unique menstrual beliefs that influence how they manage menstruation, including strongly held taboos around disposal of menstrual waste. Aside from social norms regarding the management of menstrual bleeding, women and girls have a number of behavioural norms that they are expected to adopt during times of menstruation. These are socio-cultural and religious customs which dictate the management of menstruation. These practices are often compound factors of the already poor socio-economic and nutritional status of women and girls in these countries, which may place them in a particularly vulnerable position during their menstrual period. This is similar to the choice of menstrual material, the preferred method of disposal for the sanitary pad is culturally informed through myth, taboo and/or resource availability (Claire, 2016). In addition, perceived cultural taboos around discussing MHM by teachers and mothers bring about discomfort and is viewed as a barrier (Schmitt et al., 2017, Upashe et al., 2015).

b) Changing facilities and menstrual products at home

The awareness of practices and access to facilities needed to maintain good hygiene during menstruations were generally found to be lacking. In Bangladesh, India and Nepal the majority of women in rural areas use reusable cloths to absorb menstrual blood (Mahon and Fernandes, 2010). In order to kill harmful bacteria that can cause infection cloths should be washed with soap and dried in sunlight. Lack of facilities, including safe water and clean, private toilets, coupled with the taboos and embarrassments associated with menstruation, mean that many
women and girls do not have anywhere to change their cloths and are not always able to wash themselves regularly. Many are unable to wash their cloths adequately and have nowhere to dry them hygienically, instead they must find secretive, dark places to hide their cloths (Mahon and Fernandes, 2010). In other studies girls discussed limited supply of the menstrual products, confusion on biological aspects of menstruation and limited knowledge on logistical implication of menstruation. Girls who receive and are educated on how to use and maintain the re-usable pads are more likely to use the pads compared to their counterparts (McMahon et al., 2011).

c) Changing facilities at school

There is no comprehensive data on coverage of water and sanitation facilities in schools in Bangladesh, India and Nepal, but what evidence there suggests that the majority are inadequately serviced. A study of 4,300 primary schools by UNICEF and the Government of Bangladesh found that 47 per cent had no functioning water source, 53 per cent did not have separate latrines for girls, and on average the schools had one latrine serving 152 pupils (Mahon and Fernandes, 2010).

d) Menstrual hygiene management

Many of the studies suggest clear links between poor menstrual hygiene, that is, re-using cloths that have not been adequately cleaned and dried, and not being able to wash regularly, and urinary or reproductive tract infections and other illnesses (Mahon and Fernandes, 2010). This will discourage women and girls of reproductive age from using the modern reusable menstrual pads because they know that, when they use chances of getting infections are high.
2.3.2 Enablers

a) Promoting availability of low-cost reusable pads

The availability and access to low cost reusable pads encourage use through use of programs. This will increase awareness about the availability of the menstrual product. A study carried out in Jabalpur, Bhopal and Gwalior cities found that, sanitary pads were made available at community toilets and also self-help groups were trained to produce low-cost pads. Owing to the availability of pads, and regular discussion of hygienic practices during menstruation, women and adolescent girls changed their practice of using old sets of cloth to sanitary pads. Within a period of six months it was found that local shops which had not previously stocked pads are now offering a variety (Mahon and Fernandes, 2010).

b) Adapting infrastructure

A study carried out in India found that Water Aid had influenced government to construct separate latrines for girls and boys in schools and to ensure water supply is also available. Disposal units with incinerators had been attached to the girls’ toilets and in community sanitation blocks to take care of used pads (Mahon and Fernandes, 2010). The availability of this facilities helps to ensure that girls manage their periods safely, privately and with dignity thus promoting good menstrual hygiene and retention of the girls in school.

c) Capacity building

The capacity building of school teachers and health service providers to disseminate information timely and accurately to both boys and girls about biological and psychological aspects of puberty, menstruation and product use (menstrual absorbents). Male sensitization at community
level to increase their understanding and therefore foster supportive attitude and will remove discriminatory practices by women and girls (Sinha and Paul, 2018).

In summary therefore the study identified the gaps as being lack of changing facilities at school, cultures surrounding menstruation and the use of some menstrual absorbents, limited number of pads to the girls and infrastructures to facilitate good menstrual hygiene both at school and home. Furthermore, the study assessed the knowledge and perception of the girls towards the use of the reusable pads in comparison to the current literature.
3.0 Problem Statement, Justification and Conceptual Framework

3.1 Problem Statement

Utilization of the modern reusable pads among refugees in Uganda is low. Utilization as low as 25% and 44% have been reported in Rhino and Adjumani settlements respectively (Wilson et al., 2012). This makes utilization of reusable pads a challenge for adolescent girls. For that reason, management of menstrual hygiene also becomes challenging for adolescent girls and women in refugee settlements. Indeed, studies have shown that 25% of teenagers are not able to maintain their menstrual hygiene. Poor menstrual hygiene exposes 10% of adolescents to reproductive and Urinary tracts infections and discomfort especially when the reusable pad is washed in contaminated water (Phillips-Howard et al., 2015, Travers, 2015). Poor menstrual hygiene can further lead to leakage, stains and menstruation related odor resulting to teasing by boys hence increased school dropouts and 30% absenteeism from school(Yadav et al., 2018, Brown et al., 2012)

Many factors influence utilization of reusable pads including: knowledge, attitude/perceptions, and cultural believes and availability of the pads among others. In a study conducted among Ugandan schools in non-refugee setting, it is believed that if the blood washed from the reusable pads is found, it could be used for witchcraft (Crofts and Fisher, 2012). Reusable pads are also regarded as dirty and irritating to wash. Moreover, even if an adolescent was willing to wash a reusable pad, this may still be challenging in a refugee setting because adolescents are faced with additional challenges of inadequate clean water, soap and limited space for drying (VanLeeuwen and Torondel, 2018b).
In order to increase utilization of reusable pads, Government and Implementing partners including Danish Refugee Council (DRC), Uganda Red Cross, International Federation of Red Cross and Norwegian Refugee Council have sensitized, equipped the teenagers with skills through training on how to make reusable pads as well as supplying both reusable, disposal pads and menstrual cups in schools and communities like Rhino camp, Eden zone (DRC 2018, Societies 2015). However limited information is documented on the current utilization of the modern reusable pads in BidiBidi. This study aims to assess utilization of modern reusable pads in BidiBidi refugee settlement.

3.2 Justification

In 2018, 68.5 million people had been displaced. This number has continued to grow significantly in 2019 (VanLeeuwen and Torondel, 2018b). Currently Uganda is experiencing a large influx of refugees approximately 1.3 million people (OPM 2019). This study is particularly timely during this period because menstrual hygiene is a big challenge. Several implementing partners such as Norwegian Refugee Council, Uganda Red Cross and International Federation of Red Cross are involved in distribution of both re-usable and disposal pads. The findings of the study hoped to provide information on knowledge, perceptions and the current level of utilization of the modern re-usable menstrual pads among the school going adolescent girls aged 10-19 years. These findings hope to reveal to the implementing partners additional information that is needed by the adolescents to enable improve the level of utilization of the pads. Proper menstrual hygiene among the school going adolescent girls will help address the issues of infections, school dropouts, absenteeism, soiling, and shame among the girls.
The findings hope to be timely in guiding plans of the government, implementing partners and stakeholders as well as designing targeted interventions towards management of menstrual hygiene. The findings hope to contribute towards advocacy, resource mobilization and policy by documenting required hygiene practices which will help government, implementing partners and other stakeholders to sensitize, distribution of the reusable pads hence achieving the required menstrual hygiene practices.

3.3 Research Questions

1. What is the knowledge of the school going adolescent girls about use of modern re-usable menstrual pads in BidiBidi Refugee settlement?
2. What are the perceptions of school going adolescent girls towards use of modern re-usable menstrual pads in BidiBidi refugee settlement?
3. What is the level of utilization of pads among school going adolescent girls in BidiBidi Refugee settlement?
4. What are the factors affecting the use of modern re-usable menstrual pads among school going adolescent girls in BidiBidi refugee settlement?
3.4 Conceptual framework

Conceptual framework on factors associated with acceptability and utilization of modern reusable menstrual pads

Institutional factors
- Government and Implementing partners support
  - Training on pad making
  - Supply of the pads
  - Sensitization of girls on the use of the pads

Community factors
- Family support
- Segregation
- Culture
- Access to clean water and soap
- Space in households
- Health facilities
- Bathrooms and toilets

Acceptability and Utilization of modern reusable pads

Individual factors
- Age
- Religion
- Tribe
- Culture
- Perception
- Knowledge

Outcome
- Improved menstrual hygiene
- Reduced Infections (RTI)
- Reduced school dropout
- Confidence among the adolescent girls

Adapted and modified from Purola 1986 with modification
3.4.1 Narrative conceptual framework

The conceptual framework for this study was adopted from Purola which highlights the interaction of various factors in the health system. According to the above conceptual framework, utilization of modern reusable pads is determined by institutional factors, community and individual factors.

The individual factors including age, religion, level of education, tribe, culture, perception and knowledge. Community factors include family support, culture/belief, access to clean water and soap, space in households, health facilities, bathrooms and toilets. Institutional factors include Governments and implementing partners. These institutions play different roles such as supplying of the modern re-usable pads to the schools and sensitization of the girls on the use of the modern re-usable pads.

The institutional, community and individual factors interact in various ways and can influence the outcome of utilization of the modern reusable pad. For example, when the implementing partners supply the reusable pad and provide access to soap and clean water, this can lead to utilization of the reusable pad. This improves hygiene thus reducing urinary tract infections.

Sensitization on use of the reusable pad increases the knowledge of the girls on use and brings about family support and adjusts on the culture/belief. This at the end influences the acceptability and use of the re-usable pad.
CHAPTER FOUR

4.0 Study Objectives

4.1 General Objective

To assess the factors affecting utilization of modern reusable menstrual pads among the school going adolescent girls aged 10-19 in BidiBidi Refugee settlement Yumbe District, Uganda in order to make recommendations that will contribute to high utilization of modern reusable menstrual pads hence promoting good menstrual hygiene management among adolescents in Uganda.

4.2 Specific Objectives

i. To assess the knowledge and perceptions about modern menstrual re-usable pads of the school going adolescent girls in BidiBidi refugee settlement.

ii. To determine the level of use of pads (modern re-usable and disposal) among the school going adolescent girls in BidiBidi refugee settlement.

iii. To assess the factors affecting the use of modern re-usable menstrual pads among the school going adolescent girls in BidiBidi refugee settlement.
CHAPTER FIVE

5.0 Methodology

5.1 Study Area
The study was conducted in BidiBidi refugee camp settlement, Yumbe west Nile Uganda. Yumbe district has a population of approximately 484,822 people. 16.3% have access to primary school with a distance of 5 km, 51.7% have access to secondary school with a distance of 5 km (public and private) and 44.5% have access to the public health facilities with a distance of 5 km (Statistics, 2016).

BidiBidi settlement was established in September 2016 to host the rapid influx of South Sudanese refugees, primarily arriving from the Equatorial region. The population at the settlement rapidly increased to over 270,000 people making it one of the largest refugee settlements in the world (UNHCR, 2017). Of that total population 1000 women in reproductive age and teenagers received menstrual hygiene kits. This was implemented in BidiBidi zone one village 15, 17 and 18 of Imvepi camps respectively (Society, 2015)

5.2 Study Population
The population in this study was comprised of school going adolescent girls aged 10-19 years, who had started menstruation and were using both re-usable and disposal pads to absorb the menstrual blood. They should have been also staying in BidiBidi refugee camp, Yumbe district in West Nile Uganda.
5.3 Study Design

This was a cross-sectional study which entailed qualitative and quantitative methods of data collection to assess utilization of modern re-usable menstrual pads among the school going adolescent girls in BidiBidi refugee settlement, Yumbe district Uganda.

5.4 Sampling size

Both quantitative and qualitative methods of data collection were used.

5.4.1 Quantitative

The interviewer administered structured questionnaires which were used to collect data on level of use, perception and knowledge on use of the modern reusable menstrual pads. The questionnaires were in English and for those who did not understand, the linguistic research assistants would translate to them directly

5.4.1.1 Sample Size Determination of Quantitative

The sample size was determined using the Kish Leslie (1965) formula below;

\[ N = \frac{Z^2 \cdot PQ}{E^2} \]

Where

- N = sample size
- \( Z_{a/2} \) = 1.96 (standard normal value at \( \alpha = 5\% \) level of significance)
P = utilization of re-usable pads among adolescent Kenyan girls 25% (Phillips-Howard et al., 2015, Wilson et al., 2012)

\[ Q = 100\% - P \]

\[ \delta = \text{Maximum error the investigator allowed} \]

\[ Z=1.96, \ P=25\%=0.25, \ Q= (1-p) \ 1-25=0.75, \ \delta=0.05 \]

\[ N=1.96^2 \times 0.25 \times 0.75 \]

\[ 0.05^2 \]

\[ n =288.12 \]

If the design effect is applied in order to adjust for clustering effect, the sample size was inflated by a Design Effect (DE) to get an adjusted sample size by multiplying it with the DE.

\[ 289\times1.5=434 \]

Adjusting for 10% non-response

\[ 10 \times434 \]

\[ 100 \quad =43 \]

\[ 434+43=477 \]

Therefore, my sample size was 477 females
5.4.2 Sampling size determination for qualitative

Table 1: Flow of sampling process in each school

<table>
<thead>
<tr>
<th>School</th>
<th>Population size</th>
<th>Sample proportional to school population size</th>
<th>Sample size assigned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary school 1</td>
<td>496</td>
<td>(496/2299) x 477</td>
<td>103</td>
</tr>
<tr>
<td>Primary school 2</td>
<td>217</td>
<td>(217/2299) x 477</td>
<td>45</td>
</tr>
<tr>
<td>Primary school 3</td>
<td>159</td>
<td>(159/2299) x 477</td>
<td>33</td>
</tr>
<tr>
<td>Primary school 4</td>
<td>270</td>
<td>(270/2299) x 477</td>
<td>56</td>
</tr>
<tr>
<td>Primary school 5</td>
<td>236</td>
<td>(236/2299) x 477</td>
<td>49</td>
</tr>
<tr>
<td>Secondary school 1</td>
<td>246</td>
<td>(246/2299) x 477</td>
<td>51</td>
</tr>
<tr>
<td>Secondary school 2</td>
<td>400</td>
<td>(400/2299) x 477</td>
<td>83</td>
</tr>
<tr>
<td>Secondary school 3</td>
<td>275</td>
<td>(275/2299) x 477</td>
<td>57</td>
</tr>
<tr>
<td>Total sample size</td>
<td>-</td>
<td>-</td>
<td>477</td>
</tr>
</tbody>
</table>

Data Collection methods for Qualitative

Focused group discussions (7) of (15-19 and above) adolescents were conducted and 7 key informants were conducted with the experienced Senior Woman Teachers of the eligible schools.

During the discussion’s audio recording was done. A tape recorder was used to record the interviews and notes were also being taken.

5.5 Sampling procedure

5.5.1 Sampling Procedure of quantitative

Multistage sampling was applied with different methods at each level. BidiBidi site was purposely chosen because it had the highest number of refugees. As such, a sufficient number of school going adolescent girls was expected in the settlement with a potential to provide the required sample size.
The settlement has five zones, each having five (5) primary schools and 1 secondary school, totaling 25 primary and 5 secondary schools. Simple random sampling was done to select the five primary schools. This was done by writing the names of all the primary schools in zone 1, 2, 3, 4 and 5 in the papers, which were folded well, placed in a non-transparent bag, shaken well and one paper was randomly picked and replaced each time, to ensure that the probability for a school to be selected remains the same. The name of the selected school was noted each time until the five primary schools were selected. If an already selected school was re-selected, the ballot was folded and replaced, and the procedure was repeated. The selected primary schools included Rockland, Nipata, Hope, Yagani and twajiji primary school. The three secondary schools were purposively selected based on how many female adolescents were available in the school. They include Valley view SS (246), YOYO SS (400), and Highland SS (275).

5.5.2 Selection of Respondents for Quantitative

Proportionate to size sampling was done to determine the total number of students to be got from each selected school for quantitative data. The information on the total number of adolescents attending school was got from school enrolment records prior to data collection. The data of the individual school number of adolescents was added together to get the total number of the adolescent girls in eight schools.

After the number of students to be got from each school was determined proportionate to size was used to determine how many students were to be got from each class. This was done by getting the total number of students for each individual school and it was divided by the total number of classes. That is to say, the total of each primary school was divided by three (P.5, P.6 and P.7) and the total of each secondary school was divided by four (S.1, S.2, S.3 and S.4).
To select the respondents, the sampling frame was developed using the class register. If it was a mixed school the names of the girls aged 10-19 were extracted to anew sheet with the help of the senior woman teacher. Computer generated random numbers were used to conduct simple random sampling. A random starting point was selected from the table of random numbers, this was done by placing the table of random numbers flat on the table, with eyes closed, a random starting point was marked with a pen. Each 3-digit combination that corresponded to the numbers assigned to individuals in the sampling frame was included in the study, the combinations were picked continuously but in case the same combination number was picked, it was ignored and the next was picked. The process was repeated until the required sample size was selected.

5.5.3 Selection of Respondents for Qualitative

With the help of senior woman teacher adolescent girls who had ever used and were currently using modern re-usable pads were selected for the focused group discussion. In total eight schools were selected and One FGD was supposed to be held in each school. Saturation was reached and only seven FGDs were held. The adolescent girls were to be divided into two groups 10-14 and 15-19 to ensure homogeneity, but I happened to get girls of the same age bracket (15-19). This was because the girls of 14 and below shied away from participating in the focused group discussion.

8 Key informants were interviewed basing on how long someone has worked as a senior woman teacher in school around the camp premises, but only 7 were interviewed because no new information was being generated.
5.5.4 Selection criteria

5.5.4.1 Inclusion criteria

All the adolescent girls aged 10-19 years leaving and studying in schools around BidiBidi refugee settlement. All adolescent girls who were aged 10-19, had started menstruation and had ever used or were currently using modern reusable pads participated in the FGDs.

5.5.4.2 Exclusion criteria

All adolescent school going girls who did not consent to participate in the study were excluded from the study.

5.6 Study Variables

5.6.1 Dependent variable

The dependent variable is utilization of modern reusable pads through good menstrual hygiene management. This was assessed through self-report by the school going adolescent girls who were menstruating and were using the modern re-usable pad for the second time and disposable pads for purposes of menstrual hygiene management. The dependent variable was measured by asking questions to adolescents. For those who responded yes were considered as utilizing the reusable pad while those who responded no were regarded as not using the pad.

5.6.2 Independent variable

In this study, the variables which were considered as predisposing or independent variables were individual factors, institutional factors, barriers and enhancers which had individual and community factors. Information on them was collected and their influence on the dependent variable measured.
Individual factors were Age, level of education (primary and secondary), Religion (Christians, Muslims), tribe, culture, perception and knowledge of the adolescent school going girls.

Community factors included: family support, culture, Access to clean water and soap, space in households, Health facilities, bathrooms and toilets.

Institutional factors were: supply of the pads and sensitizing girls on use of modern re-usable pads.

5.7 Data collection

5.7.1 Training of research assistants

Research assistants were recruited based on the criteria of ability to read, write and were in position to speak fluent English and the language widely spoken in the settlement. They were thoroughly trained for one day to ensure that they understood the study, the research tools, how to collect data from the study participants, community entry techniques (norms and traditions within refugee community) to ensure quality and consistency of the questionnaire.

5.7.2 Pre-testing of data collection tools

Pre-testing of the tools in BidiBidi refugee settlement was done to assess whether the questionnaires and guides were easily understood by the study participants and make necessary changes before the start of the study. I went to BidiBidi refugee settlement where I managed to collect 12 girls. Six of them were interviewed and the questions which seemed not to be understood to them were removed from the questionnaire. I conducted a focused group discussion with the other six remaining girls and the questions which were in the FGD guide
were all understood, so no changes were made. One key informant was interviewed and she understood the key informant guide very well.

5.7.3 Supervision of data collection

This was done by the principal investigator to ensure that correct data is collected from the field.

5.8 Data Management and Analysis

5.8.1 Data Management

5.8.1.1 Data management (Quantitative)

At the end of each data collection day, the number of participants reached versus the number of tools filled out was crosschecked. Furthermore, the completeness of the tools was checked to ensure that all the required responses are obtained, unless the respondent declined to provide particular information, otherwise, the researches were asked to return for the missing information.

The data was entered by data entrants to minimize errors; the dataset was cleaned in preparation for analysis.
5.8.1.2 Data management (Qualitative)

During Focused group discussions, notes were taken, but also the Focused group discussions were audio recorded. The Focused group discussion recordings were transcribed after to substantiate the notes taken. Both the recordings and the transcribed data were stored for analysis.

5.8.2 Data Analysis

5.8.2.1 Quantitative data analysis for objective one and two

Quantitative data was entered into excel and exported to STATA. The univariate analysis was conducted and presented in tables of frequencies and percentages, in order to understand the different characteristics of the respondents and the nature of the variables so that necessary adjustments such as categorization would be made accordingly.

To assess the knowledge and perceptions about modern re-usable pads among the school going adolescence in BidiBidi refugee settlement

Knowledge was measured in two categories of you have knowledge or you don’t have knowledge.7 questions about knowledge were asked and every correct answer was given a score of 1 and 0 score was given for incorrect or do not know. Later all scores were summed up. 75% above that girl was knowledgeable and 74% below that girl was not knowledgeable (Chandra-Mouli and Patel, 2017).

Likert scale was used for measuring the perceptions of the school going adolescent girls. Seven questions were asked and 1 was given for every correct answer and 0 for any wrong answer or do not know. Later all scores were summed up and any score above 75% was positive attitude and below 74% was negative attitude (Yadav et al., 2018).
To assess the level of utilization (reusable and disposable) among the school going adolescent girls aged (10-19) years in BidiBidi refugee settlement Yumbe District, Uganda.

Utilization was measured using proportions

Modified Poisson regression analysis with robust standard error to account for clustering was used because the prevalence of the outcome (utilization) was above 10%. Evidence shows that using logistic regression when the prevalence of binary outcome is above 10% may be misleading since it may lead to over estimation of the Prevalence Ratios (Barros and Hirakata, 2003) and for that reason it would lead to misleading findings. Cross-tabulation between the outcome variable (Utilization) and the various independent variables was done. Bi-variate analysis was then done to obtain prevalence ratios, all the variables at bi-variate analysis with p-values <0.2 were considered for multivariate analysis. Modified poison was used to determine the factors independently associated with the utilization of modern re-usable menstrual pads. All the independent variables with p-values <0.05 at multivariate modified Poisson analysis, were considered as significant factors associated with utilization of modern re-usable menstrual pads.

5.8.2.2 Qualitative data analysis for objective one and three

To assess the factors affecting the use of modern reusable menstrual pads among the school going adolescence in BidiBidi refugee settlement, in order to find out the barriers and enhancers towards the utilization of the modern reusable pad.

The deductive content analysis approach was used for analysis, with the following stages: coding the transcribed data from the interview; identifying categories from the interview scripts; grouping the categories into major determined themes to derive meaning under each of themes to explain the findings (Hsieh and Shannon, 2005).
5.9 Ethical Considerations

The dissertation was forwarded to the higher Degrees, Research and Ethics committee at Makerere University School of Public for approval from the Higher Degrees Research and Ethics Committee (HDREC) before any engagement with study subjects. Initially the researcher had planned to get consent and ascent from the parents and adolescent girls but given the fact that it is not a normal setting, the leadership advised that they should introduce the selected schools to me. The researcher therefore, sought for permission from OPM, District Education Officer, Implementing partner (Fin Church Aid) and Head teacher. In BidiBidi settlement Fin Church Aid is in charge of education services and therefore holds the mandate to approve all activities related to education including research. As such, their approval was mandatory in order to access the participants. Without their approval, parents’ and head teachers’ consent was null and void. However, following approval by Fin Church Aid to access participants, further consent and ascent was obtained from participants themselves. Privacy was ensured by carrying out interviews in places far away from other people (trees and private rooms) (FGDs and key informants). Confidentiality of the data was maintained through coding of the transcribed information.

5.10 Study Limitations and strength

This study is among the few studies if not the only one that has used a robust method of analysis. It utilized modified Poisson regression with robust standard error to identify factors associated with utilization of modern reusable pads among adolescents. This method eliminates the possible over estimation of the prevalence ratios given that the prevalence of the outcome was above 10%. It is also among the few studies if not the only one that has attempted to determine level of utilization of reusable pads in a refugee settlement.
Besides the strength of this study, it also faced a few limitations; first, the findings of this study depended largely on the responses of the participants which may be subject to social desirability bias because some of the aspects of the study were sensitive especially among adolescents. It is possible for adolescents to under report their utilization of reusable pads. However, confidentiality and privacy was provided during data collection to facilitate sharing of sensitive information. Adolescents were interviewed alone in class rooms where there were no other students. The participants were also assured that their names would not be noted on the questionnaire.

Secondly there was recall bias in the study as the girls were asked to recall when they started their menstruation. This was managed by probing the girls further by asking them at which age or class they first received their menstrual blood.
CHAPTER SIX

6.0 Results

6.1 Characteristics of the study population

Table 2: Socio demographics characteristics of respondents

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Frequency (n)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age in years</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-13</td>
<td>12</td>
<td>2.5</td>
</tr>
<tr>
<td>14-16</td>
<td>113</td>
<td>23.7</td>
</tr>
<tr>
<td>17-19</td>
<td>352</td>
<td>73.8</td>
</tr>
<tr>
<td><strong>Level of Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>286</td>
<td>59.9</td>
</tr>
<tr>
<td>Secondary</td>
<td>191</td>
<td>40.0</td>
</tr>
<tr>
<td><strong>Religion</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catholic</td>
<td>137</td>
<td>28.7</td>
</tr>
<tr>
<td>Protestant</td>
<td>222</td>
<td>46.5</td>
</tr>
<tr>
<td>Moslem</td>
<td>72</td>
<td>15.1</td>
</tr>
<tr>
<td>Pentecostal</td>
<td>37</td>
<td>7.8</td>
</tr>
<tr>
<td>Others</td>
<td>9</td>
<td>1.9</td>
</tr>
<tr>
<td><strong>Country of Origin</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sudanese</td>
<td>382</td>
<td>80.0</td>
</tr>
<tr>
<td>Congolese</td>
<td>12</td>
<td>2.5</td>
</tr>
<tr>
<td>Ugandan</td>
<td>83</td>
<td>17.4</td>
</tr>
</tbody>
</table>

6.1.1 Participant characteristics

Majority of the adolescent girls were aged 17-19 (73%). Highest number of the girls were from primary 286/477(59%) and secondary 191/477(40%). More than a third of participants were Protestants 222/477(46%) and Catholics were 137/477(28%). Majority of the participants were south Sudanese 382/477 (80%) with a few Ugandans 83/477(17%) (Table 2).
Table 3: Guardians Social demographic Characteristics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency (n)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Person stayed with at home</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother only</td>
<td>175</td>
<td>36.7</td>
</tr>
<tr>
<td>Father only</td>
<td>46</td>
<td>9.6</td>
</tr>
<tr>
<td>Mother and father</td>
<td>53</td>
<td>11.1</td>
</tr>
<tr>
<td>Guardian</td>
<td>203</td>
<td>42.6</td>
</tr>
<tr>
<td><strong>Guardian/parent’s level of Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>145</td>
<td>30.4</td>
</tr>
<tr>
<td>Secondary</td>
<td>60</td>
<td>12.6</td>
</tr>
<tr>
<td>Tertiary</td>
<td>74</td>
<td>15.5</td>
</tr>
<tr>
<td>None</td>
<td>135</td>
<td>28.3</td>
</tr>
<tr>
<td>Don’t know</td>
<td>63</td>
<td>13.2</td>
</tr>
<tr>
<td><strong>Occupation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farmer</td>
<td>240</td>
<td>50.3</td>
</tr>
<tr>
<td>Employed by an NGO</td>
<td>56</td>
<td>11.7</td>
</tr>
<tr>
<td>Trader</td>
<td>83</td>
<td>17.4</td>
</tr>
<tr>
<td>Civil servant</td>
<td>32</td>
<td>6.7</td>
</tr>
<tr>
<td>House wife</td>
<td>66</td>
<td>13.8</td>
</tr>
</tbody>
</table>

6.1.2 Guardian Characteristics

As shown in table 3, majority of the girls stayed with their guardians at home 203/477 (42%) and most of the other respondents stayed with mothers 175/477 (36%). The highest number of the girls relatives had ended in primary 145/477 (30%) and other relatives did not belong anywhere in the levels of education which were stated in the questionnaire 135/477 (28%). More than a third of the relatives were farmers 240/477 (50%) and some other were traders 83/477 (17%). (Table 3)
6.2 Level of knowledge on use and maintenance of the reusable pad

Table 4: Level of knowledge on use and maintenance of the reusable pad

<table>
<thead>
<tr>
<th>Variable (Knowledge)</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary (286)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledgeable</td>
<td>238</td>
<td>83.2</td>
</tr>
<tr>
<td>Not knowledgeable</td>
<td>48</td>
<td>16</td>
</tr>
<tr>
<td><strong>Secondary (191)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledgeable</td>
<td>180</td>
<td>94.2</td>
</tr>
<tr>
<td>Not knowledgeable</td>
<td>11</td>
<td>5.7</td>
</tr>
</tbody>
</table>

Among adolescents who were in primary school, 238/286 (83%) were knowledgeable about reusable pads. Whereas 180/191 (94%) of the adolescent girls were knowledgeable secondary respectively about the use modern menstrual reusable pads.

During FGDs the girls were also able to state what causes menstruation, types of pads commonly used to absorb the menstrual blood and how to keep their reusable pads clean and safe for use. Similarly, they stated the main source of the pads as implementing partners and the durability of the modern reusable menstrual pad. Majority of the girls in the focused group discussion stated that they first soak the reusable pad for a few minutes, squeeze the water off the pad, pours off the dirty water into the latrine, gets clean water then applies soap, pours off that water then cleans it with clean water. After that hang it on the line under the sunshine and puts a light cloth with a peg on top of the reusable pad.

“I wash my pink pad with clean water with soap, then after put on the wire. I also put a light cloth on it with a peg such that not all people can see it clearly” (FGD [participant 1] in secondary school 1)
Table 5: Perceptions towards the use of the modern reusable menstrual pad

<table>
<thead>
<tr>
<th>Variable (Perception)</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary N= (286)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive</td>
<td>217</td>
<td>75.9</td>
</tr>
<tr>
<td>Negative</td>
<td>69</td>
<td>24.1</td>
</tr>
<tr>
<td>Secondary N= (191)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive</td>
<td>165</td>
<td>86.3</td>
</tr>
<tr>
<td>Negative</td>
<td>26</td>
<td>13.6</td>
</tr>
</tbody>
</table>

Three quarters 217/286 (75.9 %) of the girls in primary schools had positive perception towards the use of the modern reusable pads. Among those who were in secondary school, 165/191 (86.3 %) had positive perception towards the use of the modern reusable pads.

The FGD participants expressed mixed feelings about modern reusable pads. Some of the participants stated that they liked reusable pads because they are soft, comfortable and absorb more menstrual blood. While some of the FGD participants maintained that they didn’t like them because they feared washing the blood.

“I like the reusable pad because it is comfortable and absorbs more blood, I can’t easily spoil my cloth and it takes a long period of time while am using it” (FGD [participant 11] primary 1)

“I don’t like the pink pad because I fear to wash my blood so when I have my money I buy the blue pads and use” (FGD [participant 8] secondary 2)
6.3 Level of Utilization of Pads

Majority of the girls were using modern reusable menstrual pad 418/477(87%) while 59/477 (12%) were using disposable pad.¹

¹ Majority of the respondents were using modern reusable menstrual pads compared to menstrual cup and clean piece of cloth.
Table 6: Bivariate analysis for factors associated with the utilization of the modern reusable pads

<table>
<thead>
<tr>
<th>Variable</th>
<th>N (477)</th>
<th>% Use of pads</th>
<th>Crude PR (95%CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age in years</strong></td>
<td></td>
<td>Disposable</td>
<td>Reusable</td>
</tr>
<tr>
<td>10-13</td>
<td>22</td>
<td>4.6</td>
<td>1</td>
</tr>
<tr>
<td>14-16</td>
<td>193</td>
<td>40.5</td>
<td>18</td>
</tr>
<tr>
<td>17-19</td>
<td>262</td>
<td>54.9</td>
<td>40</td>
</tr>
<tr>
<td><strong>Level of Education</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>286</td>
<td>59.9</td>
<td>26</td>
</tr>
<tr>
<td>Secondary</td>
<td>191</td>
<td>40</td>
<td>33</td>
</tr>
<tr>
<td><strong>Religion</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catholic</td>
<td>137</td>
<td>28.7</td>
<td>10</td>
</tr>
<tr>
<td>Protestant</td>
<td>222</td>
<td>46.5</td>
<td>34</td>
</tr>
<tr>
<td>Moslem</td>
<td>72</td>
<td>15.1</td>
<td>6</td>
</tr>
<tr>
<td>Pentecostal</td>
<td>37</td>
<td>7.8</td>
<td>6</td>
</tr>
<tr>
<td>Christ Disciple</td>
<td>6</td>
<td>1.3</td>
<td>1</td>
</tr>
<tr>
<td>Seventh day Adventist</td>
<td>3</td>
<td>0.6</td>
<td>2</td>
</tr>
<tr>
<td><strong>Person at home</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother only</td>
<td>175</td>
<td>36.7</td>
<td>17</td>
</tr>
<tr>
<td>Father only</td>
<td>46</td>
<td>9.6</td>
<td>9</td>
</tr>
<tr>
<td>Father &amp; mother</td>
<td>53</td>
<td>11.1</td>
<td>4</td>
</tr>
<tr>
<td>Guardian</td>
<td>203</td>
<td>42.6</td>
<td>29</td>
</tr>
<tr>
<td><strong>R/L level of education</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>145</td>
<td>30.4</td>
<td>21</td>
</tr>
<tr>
<td>Secondary</td>
<td>60</td>
<td>12.6</td>
<td>13</td>
</tr>
<tr>
<td>Tertiary</td>
<td>74</td>
<td>15.5</td>
<td>4</td>
</tr>
<tr>
<td>None</td>
<td>135</td>
<td>28.3</td>
<td>18</td>
</tr>
<tr>
<td>Don’t know</td>
<td>63</td>
<td>13.2</td>
<td>3</td>
</tr>
<tr>
<td><strong>Occupation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farmer</td>
<td>240</td>
<td>50.3</td>
<td>26</td>
</tr>
<tr>
<td>Employed by an NGO</td>
<td>56</td>
<td>11.7</td>
<td>10</td>
</tr>
<tr>
<td>Trader</td>
<td>83</td>
<td>17.4</td>
<td>19</td>
</tr>
<tr>
<td>Civil servant</td>
<td>32</td>
<td>6.7</td>
<td>1</td>
</tr>
<tr>
<td>House wife</td>
<td>66</td>
<td>13.8</td>
<td>3</td>
</tr>
<tr>
<td><strong>Country of origin</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sudanese</td>
<td>382</td>
<td>80.1</td>
<td>52</td>
</tr>
<tr>
<td>Congolese</td>
<td>12</td>
<td>2.5</td>
<td>1</td>
</tr>
<tr>
<td>Ugandan</td>
<td>83</td>
<td>17.4</td>
<td>6</td>
</tr>
<tr>
<td><strong>Source of information</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family member</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Received the information</td>
<td>367</td>
<td>76.9</td>
<td>34</td>
</tr>
<tr>
<td>Did not receive</td>
<td>110</td>
<td>23.1</td>
<td>25</td>
</tr>
<tr>
<td><strong>Teachers</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Received</td>
<td>412</td>
<td>86.4</td>
<td>46</td>
</tr>
<tr>
<td>Did not receive</td>
<td>65</td>
<td>13.6</td>
<td>13</td>
</tr>
<tr>
<td><strong>Peers</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Received</td>
<td>303</td>
<td>63.5</td>
<td>25</td>
</tr>
<tr>
<td>Did not receive</td>
<td>174</td>
<td>36.5</td>
<td>34</td>
</tr>
</tbody>
</table>
6.3 Factors associated with utilization

At bivariate analysis (presented in table 6), the variables that were significant were: Age in years (17-19) (0.88: 0.79-0.99), being in secondary (0.91: 0.84-0.98), being a protestant (0.91: 0.85-0.98), those with relatives in tertiary (1.11: 1.01-1.21) and those who didn’t know their relatives level of education were 48 and 15, primary and secondary respectively (1.11: 1.02-1.21). Also occupation was significant (girls whose relatives were traders (0.86: 0.76-0.98), civil servants (1.08: 1.00-1.17) and house wives (1.07: 1.00-1.15). Furthermore, source of information was also significant (girls who didn’t receive information from family members (1.17: 1.05-1.31) and peers (1.14: 1.05-1.24)).

The girls aged 17-19 years, in secondary, protestant, and those whose relatives were traders were less likely to utilize reusable pads as shown in the prevalence ratios above. On the other hand, girls whose relatives were in tertiary, those who didn’t know their relatives level of education, those whose relatives were civil servants, house wives as well as those who did not receive information from family members and peers were more likely to utilize the reusable pads.
Table 6: Bivariate analysis for factors associated with the utilization of the modern reusable pads

<table>
<thead>
<tr>
<th>Variable (n=477)</th>
<th>Use of pads</th>
<th>CPR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Disposable</td>
<td>Reusable</td>
</tr>
<tr>
<td><strong>Source of the pad</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We buy</td>
<td>413</td>
<td>86.6</td>
</tr>
<tr>
<td>Implementing partners</td>
<td>35</td>
<td>7.3</td>
</tr>
<tr>
<td>Our parents give</td>
<td>29</td>
<td>6.1</td>
</tr>
<tr>
<td><strong>Family support</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Received support</td>
<td>460</td>
<td>96.4</td>
</tr>
<tr>
<td>Did not receive</td>
<td>17</td>
<td>3.6</td>
</tr>
<tr>
<td><strong>Culture support</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Received support</td>
<td>461</td>
<td>96.7</td>
</tr>
<tr>
<td>Did not receive</td>
<td>16</td>
<td>3.4</td>
</tr>
<tr>
<td><strong>Pad preferred</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reusable</td>
<td>418</td>
<td>87.6</td>
</tr>
<tr>
<td>Disposable</td>
<td>59</td>
<td>12.4</td>
</tr>
<tr>
<td><strong>Why pad preferred</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Durability Yes</td>
<td>363</td>
<td>76.1</td>
</tr>
<tr>
<td>No</td>
<td>114</td>
<td>23.9</td>
</tr>
<tr>
<td><strong>Affordability</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>50</td>
<td>10.5</td>
</tr>
<tr>
<td>No</td>
<td>427</td>
<td>89.5</td>
</tr>
<tr>
<td><strong>Recommend a friend</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>469</td>
<td>98.3</td>
</tr>
<tr>
<td>No</td>
<td>8</td>
<td>1.7</td>
</tr>
</tbody>
</table>

Factors which were associated with the use of the modern reusable menstrual pad were; parents being source of pads, not receiving culture support, those who preferred disposable pads, durability of the pad, affordability of the pad and being recommend by a friend.

Girls who had parents as source of pads and girls that said the disposable pads were not durable were more likely to use the reusable pads. The prevalence ratios being (CPR=1.09, CI=1.01-1.19)
and CPR= 1.71, CI= 1.45-2.00) respectively. However, girls who did not receive culture support, who preferred disposable pads, not able to afford reusable pads, and those who were not recommended by a friend were less likely to use reusable pads. The prevalence ratios being (CPR= 0.49; CI= 0.28-0.86, CPR= 0.21, CI= 0.13-0.35, CPR= 0.71, CI= 0.57-0.87 and CPR= 0.14, CI= 0.02-0.88) respectively (Table 7).
Table 8: Bivariate analysis for factors associated with the utilization of the modern reusable pads

<table>
<thead>
<tr>
<th>Variable (n=477)</th>
<th>Use of Pads</th>
<th>CPR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Disposable</td>
<td>Reusable</td>
</tr>
</tbody>
</table>

**How will training help**  
**Saves money & time**

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>CPR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>366</td>
<td>111</td>
<td>1.0</td>
</tr>
</tbody>
</table>

**Benefit of pad making**  
**(Business)**

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>CPR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>192</td>
<td>285</td>
<td>1.0</td>
</tr>
</tbody>
</table>

**I Don’t struggle when periods come**

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>CPR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>381</td>
<td>96</td>
<td>1.0</td>
</tr>
</tbody>
</table>

**Information before menarche**

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>CPR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>465</td>
<td>12</td>
<td>0.65(0.41-1.07)</td>
</tr>
</tbody>
</table>

**Info on MHM**

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>CPR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>474</td>
<td>3</td>
<td>1.0</td>
</tr>
</tbody>
</table>

**Drying in hidden places**

<table>
<thead>
<tr>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Strongly disagree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>102</td>
<td>27</td>
<td>3</td>
<td>324</td>
<td>21</td>
</tr>
<tr>
<td>21.4</td>
<td>5.7</td>
<td>0.6</td>
<td>67.9</td>
<td>4.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>81</td>
<td>24</td>
<td>2</td>
<td>295</td>
<td>16</td>
</tr>
<tr>
<td>1.0</td>
<td>1.11(0.94-1.32)</td>
<td>0.83(0.37-1.88)</td>
<td>1.14(1.03-1.27)*</td>
<td>0.95(0.74-1.24)</td>
</tr>
</tbody>
</table>

**Sensitization on use**

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>29</td>
<td>57</td>
<td>84</td>
<td>307</td>
</tr>
<tr>
<td>6.1</td>
<td>11.9</td>
<td>17.6</td>
<td>64.4</td>
</tr>
<tr>
<td>2</td>
<td>7</td>
<td>3</td>
<td>47</td>
</tr>
<tr>
<td>27</td>
<td>50</td>
<td>81</td>
<td>260</td>
</tr>
</tbody>
</table>

* indicates statistical significance at p<0.05
Factors which were associated with the use of the modern reusable menstrual pad were; training on use of reusable pads can save money and time, reusable pads can be used for business, Sensitization on use of reusable pads and drying of reusable pads.

Girls who did not agree that training on use of reusable pads can save time and money, use of reusable pads for business, those who strongly disagreed that the reusable pads should not be dried in hidden places, and those who agreed on sensitization on use of reusable pads were more likely to use the reusable pads. The prevalence ratios being (CPR= 1.24, CI=1.11-1.39, CPR= 1.08, CI= 1.01-1.15, CPR= 1.14, CI= 1.03-1.27 and, CPR= 1.13; CI= 1.06-1.21) respectively (Table 6).
Table 9: Multivariate analysis for factors associated with the utilization of the modern reusable pads

<table>
<thead>
<tr>
<th>Variable</th>
<th>Adjusted PR (95% CI)</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age Category</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-13</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>14-16</td>
<td>0.95(0.86-1.05)</td>
<td>0.39</td>
</tr>
<tr>
<td>17-19</td>
<td>0.92(0.82-1.03)</td>
<td>0.19</td>
</tr>
<tr>
<td><strong>Level of Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Secondary</td>
<td>0.95(0.89-1.01)</td>
<td>0.14</td>
</tr>
<tr>
<td><strong>Parent/Guardian level of Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Secondary</td>
<td>1.00(0.91-1.10)</td>
<td>0.88</td>
</tr>
<tr>
<td>Tertiary</td>
<td>1.17(1.05-1.31)</td>
<td>0.003***</td>
</tr>
<tr>
<td>None</td>
<td>1.02(0.94-1.10)</td>
<td>0.62</td>
</tr>
<tr>
<td>Don’t know</td>
<td>1.05(0.97-1.13)</td>
<td>0.18</td>
</tr>
<tr>
<td><strong>Occupation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farmer</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Employed by an NGO</td>
<td>0.85(0.74-0.98)</td>
<td>0.02**</td>
</tr>
<tr>
<td>Trader</td>
<td>0.95(0.87-1.02)</td>
<td>0.16</td>
</tr>
<tr>
<td>Civil Servant</td>
<td>0.88(0.80-0.97)</td>
<td>0.01**</td>
</tr>
<tr>
<td>House wife</td>
<td>1.01(0.97-1.05)</td>
<td>0.46</td>
</tr>
<tr>
<td><strong>Pad preferred</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reusable</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Disposable</td>
<td>0.22(0.13-0.38)</td>
<td>&lt;0.001***</td>
</tr>
<tr>
<td><strong>Drying in hidden places</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly agree</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Agree</td>
<td>1.04(0.88-1.24)</td>
<td>0.6</td>
</tr>
<tr>
<td>Neutral</td>
<td>0.82(0.56-1.86)</td>
<td>0.64</td>
</tr>
<tr>
<td>Disagree</td>
<td>1.12(1.00-1.24)</td>
<td>0.03**</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>0.90(0.69-1.18)</td>
<td>0.45</td>
</tr>
<tr>
<td><strong>Sensitization on use</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Neutral</td>
<td>1.03(0.92-1.15)</td>
<td>0.95</td>
</tr>
<tr>
<td>Agree</td>
<td>1.13(1.06-1.21)</td>
<td>0.03**</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>1.09(0.98-1.22)</td>
<td>0.16</td>
</tr>
</tbody>
</table>
At multivariable analysis the following factors were significant at 95% CI; girls whose relatives had tertiary level of education, those with relatives employed with an NGO or are civil servants, those who preferred disposable pads, those who strongly disagreed that reusable pads are not supposed to be dried in hidden places and those who agreed that girls should be sensitization on use of reusable pads.

Girls whose relatives had attained tertiary level of education were more likely to utilize reusable pads compared to those whose relatives had primary level of education after adjusting for other factors (APR=1.17, CI=1.05-1.31). Conversely, respondents’ whose relatives were employed by an NGO or civil service were less likely to utilize reusable pads compared to the girls whose relatives were farmers (APR=0.85, CI=0.74-0.98 and APR=0.88, CI= 0.80-0.97) respectively. Furthermore, adolescents’ who disagreed that reusable pads were not supposed to be dried in hidden places were more likely to utilize reusable pads compared to girls who strongly agreed to drying it in hidden places (APR=1.12, CI=1.00-1.24). Also, girls’ who agreed that sensitization on the use and maintenance of the reusable pad was important and preferred disposable pads were more likely to utilize reusable pads compared to those who strongly disagreed (APR=1.13, CI= 1.06-1.21, APR=0.22, CI= 0.13-0.38) respectively.
### Table 10: Multivariate analysis for factors associated with the utilization of the modern reusable pads

<table>
<thead>
<tr>
<th>Variable</th>
<th>Adjusted PR (95% CI)</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Source of information</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family member</td>
<td>0.96(0.91-1.03)</td>
<td>0.31</td>
</tr>
<tr>
<td>Peers</td>
<td>0.97(0.92-1.03)</td>
<td>0.38</td>
</tr>
<tr>
<td>Teachers</td>
<td>1.00(0.91-1.10)</td>
<td>0.95</td>
</tr>
<tr>
<td><strong>Source of product</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Implementing partners</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>We buy</td>
<td>0.92(0.83-1.02)</td>
<td>0.12</td>
</tr>
<tr>
<td>Our parents give us</td>
<td>1.02(0.97-1.06)</td>
<td>0.33</td>
</tr>
<tr>
<td><strong>Culture support</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>1.16(0.69-1.95)</td>
<td>0.57</td>
</tr>
<tr>
<td><strong>Why prefer</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Durable</td>
<td>1.03(0.97-1.10)</td>
<td>0.284</td>
</tr>
<tr>
<td>Affordable</td>
<td>1.04(0.92-1.18)</td>
<td>0.49</td>
</tr>
<tr>
<td><strong>Recommend a friend</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>0.40(0.10-1.52)</td>
<td>0.18</td>
</tr>
<tr>
<td><strong>How will it help</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It saves time and money</td>
<td>1.01(0.94-1.09)</td>
<td>0.67</td>
</tr>
<tr>
<td>Business</td>
<td>1.03(0.96-1.10)</td>
<td>0.36</td>
</tr>
<tr>
<td><strong>Information before menarche</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>0.78(0.29-2.05)</td>
<td>0.62</td>
</tr>
</tbody>
</table>

After adjusting for confounding, the factors which were not significantly associated with Utilization of modern menstrual reusable pads were; information before menarche, recommending a friend, culture support, source of information and source of the product.
6.4 Barriers and Enhancers towards the use of the modern reusable menstrual pad

The main barriers identified by the respondents in the seven FGDs and Key informants were: lack of soap, inadequate buckets for washing the pad, infections like Candida due to poor menstrual hygiene as being the barriers towards the use of the modern reusable menstrual pads.

“The most common infection which is got by these girls is candida. This usually occurs when they put on a pad which is not washed well and dump at the same time” (KI from Secondary school 2)

“There is only one bucket at home that we all use for bathing, so I first have to wait for everyone to finish bathing then I wash my pad in darkness such that they don’t disturb me while am washing the pad” (FGD [participant 8] in secondary 1)

Similarly fear to wash the pad after use, unfavorable weather, and lack of changing facilities in the school premises and bags for carrying the used pad were also among the identified factors which acted as barriers towards the use of the reusable pad in all the seven FGDs and Key informant interviews.

“For me before I wash my pink pad, I first pour some water on it, step on it with my leg then I will wash after when the blood has gone away from the pad” (FGD [participant 3] secondary 3)

All the seven FGDs and Key informants identified factors that enhance use of the modern reusable menstrual pads in this study as: comfort of the reusable pad, family and culture support, knowledge on how to maintain the pad, its ability to absorb more blood and durability of the pad. Others were availability of the pad from the women centers, clean water and free access of the pad from the implementing partners.
“I use the pink pad because it’s very comfortable and I put on and use it for longer time I will not spoil my uniform” (FGD [participant 6] in primary school 4)

“Plan international came to our school and gave us reusable pads in first term and they also taught us how to keep the pad clean” (FGD [participant 10] in primary school 2)

In all the seven FGDs, the participants said that their culture favored the use of the reusable pads. They believed that disposable pads are made with chemicals that can cause cancer to them. Three KIs said that adolescent girls who are on periods are not allowed to do some home chores like cooking or even interact freely with other family members.

“*My culture allows me to use this pink pad because this is what they used to use.*

*The pads that they use and throw away have chemicals and can make me get cancer*”

(FGD [participant 6] in secondary school 3)
CHAPTER SEVEN

7.0 Discussion

7.1 Introduction
I conducted an institutional based cross-sectional study among 477 school going adolescent girls aged 10-19 years in both primary and secondary schools in BidiBidi refugee settlement, Yumbe District, West Nile sub-region. The study aimed at assessing acceptability and utilization of the modern reusable menstrual pads among the school going adolescent girls aged 10-19 years in BidiBidi refugee settlement. The study further explored the factors associated with the use of the modern reusable menstrual pad. The results revealed that there was knowledge and positive perception towards the use of the reusable pad, high utilization of the modern reusable pad. Some of the enhancers were family, culture support, knowledge on how to maintain the pad, free access from implementing partners, comfortable. Key barriers included lack of soap, inadequate buckets for washing the pad, infections like Candida due to poor menstrual hygiene.

7.2 Knowledge and perception towards the use of the modern reusable menstrual pad

7.2.1 Knowledge
Most of the respondents in our study knew the cause of menstruation as hormones, this is in contrast to a study that found that majority of the adolescent girls did not know the cause of menstruation (Shanbhag et al., 2012). In our study knowledge on hormones as being related to menstruation causation amongst our study participants could be attributable to the role of the implementing partners who sensitized and trained them before providing the pad both at community and school level.
The other sources of knowledge in this study were mothers, senior woman teachers and peers. This finding is similar to the findings of a study done by Masinde (2019) in Bidibidi that revealed that the implementing partners invited senior teachers of various schools for trainings on menstrual hygiene and how to make the reusable pad. Thereafter, they were given materials for making pads to go and equip their students with the knowledge. In this same study peer to peer dramas were used to pass on knowledge about menstrual hygiene to other adolescent girls (Masinde, 2019). Shanbhang (2012) and Upashe (2015) also found that the most common source of information was mothers, sisters, friends and teachers (Shanbhag et al., 2012, Upashe et al., 2015).

In addition, most of the respondents had knowledge about the use and maintenance of the reusable pad. This could be attributed to the level of education of our study subjects since all were either in secondary or primary school. Our findings are similar to a study done in Nigeria, which established that the girl’s level of education determined the use of the reusable pad (Montgomery et al., 2012).

The qualitative findings revealed that the girls were knowledgeable on the types of pads being used, source of the pads, durability of the pad and correct directions for use and maintenance of the pad.

The types of pads which were commonly known by the girls in this study were disposable, reusable, cloth, cotton wool and menstrual cups. This correlates with a study by Shanbhang’s which found that adolescent girls knew the different types of pads and their use. The source of disposable and reusable pads in our setting was mainly from the various implementing partners who did outreaches in both schools and community level. This is similar to a study done in
Lebanon refugee settlement that found the pads were distributed along with the food ratios by various implementing partners (Schmitt et al., 2017). In addition to the role of implementing partners, within the community were also women centers that freely distributed the two types of pads to the girls. In this study the respondents were knowledgeable about the durability of the reusable pad being a period of six month to one year but on condition that there is good menstrual hygiene. This is similar to study done in BidiBidi and Tororo that found that a reusable pad is supposed to be used for a maximum of one year with good menstrual hygiene accompanied a long to avoid infections (Masinde, 2019).

7.3 Perception
The study showed that most of the participants had a positive perception towards use of the reusable pad however most of the respondents with positive perception towards use belonged to the secondary school level. This could be attributed to the fact that they are older, have more experience in usage and maintenance of pads and have a higher level of education. This high level of positive perception in our study could be attributed to knowledge on how to use and maintain the pad, family, culture and implementing partner support. Similarly a study conducted in India showed that 14% of the girls showed positive attitude towards menstruation and use of pad (Shanbhag et al., 2012). Menstruation and menstrual hygiene management is important in the girls psychosocial well-being. The distribution of pads alone does not cause significant effect on reduction of school absenteeism, but combined with puberty education it causes more presence in schools. A study conducted in Ethiopia, Uganda and Kenya showed that half of the girls reported discomfort, shame, Anxiety and distraction during menstruation especially when they don’t have the pads to use leading to absenteeism at school (Boosey et al., 2014). For girls who have sanitary towels they can stay longer at school and reach higher levels of education,
health outcomes like reduced infections, low infertility rates and improved health in general (Enzler, 2019). To get the physical and emotional support they need to manage their monthly menstruation healthy, safely and with confidence, to take charge of their lives and to feel positive about themselves and their bodies which is valuable for girls’ development and well-being (McMahon et al., 2011). Furthermore, Policies and legal frameworks are being instituted by Government of Uganda to make the committed actors more responsive of menstrual hygiene management (Ministry of Education and Sports, 2015). According to Kabaterine 2004, he found that education systems are moving away from developing only learners’ cognitive abilities towards developing the whole person.

These findings were in line with qualitative findings where the girls said they liked the pad. This was because they are smooth, soft, comfortable and absorb a lot of menstrual blood hence influencing positive attitude and high use of the reusable pad. This finding was related to a study conducted by Ndana, (2018) where the girls said they liked the pad because the material used to make the pad was soft and comfortable. This finding is also similar with what Upashe found. He found that reusable pads are comfortable and low chances of soiling garments hence confidence (Upashe et al., 2015). Others didn’t like the pad because they feared washing it so when they had money, they bought the disposable pad to use. This finding was similar to a study conducted by Ndana (2018) where majority of the girls clearly stated that they used reusable pads as emergency backups when unable to afford disposable pads because they feared washing (Ndana, 2018).
7.4 Level of use of the reusable and disposable pads

The study revealed that the majority (87%) of the adolescent girls in the refugee settlement used the modern reusable sanitary pads while only 12% used disposable pads. The high use of the reusable pads could result to retention of girls at school and good menstrual hygiene because they have access to pads for absorbing the menstrual blood hence reducing the high prevalence of the urinary tract infections among the girls. These findings were higher than those of Ndana, Sinha and Paul who found that Utilization of the modern reusable menstrual pad were at 33% and 64% respectively (Ndana, 2018, Sinha and Paul, 2018).

The high utilization of the reusable pad in this study could be attributed to the difference in the study settings, current mode of distribution, awareness created by the implementing partners hence acceptability and use of the reusable pad. Whereas Sinha and Paul (2018) and Ndana (2018) conducted their studies in non-refugee settings, this study was conducted in a refugee setting where reusable pads were supplied by implementing partners regularly. This study also found that reusable pads were used more than the disposable pads. This finding contradicts the findings of the study conducted by Wilson et al (2012) in Adjumani and Rhino refugee settlement. Willson and colleagues asserted that disposable pads were used more than reusable pads. These findings are surprising because Adjumani, Rhino and BidiBidi refugee settlements are within the same region of Uganda, hosting refugees with similar origins. It would have been expected that the study findings from these two settings are similar. As such, the reason for this difference is not well understood. However, it could be attributed to the difference in social economic status between the two study settings, because according to Schmitt et al (2017) social economic status often influence the preference/choice of the pad (Schmitt et al., 2017).
The study also further revealed that majority of participants who used the reusable pad had attained secondary level of education. This study findings are similar to a study done in Nigeria, which established that the girl’s level of education determined the use of the reusable pad (Montgomery et al., 2012). The reason for this could be that predictably, as the adolescents attain a higher level of education, their understanding and ability to make and use reusable pads increases.

7.5 Factors associated with the utilization of the modern reusable menstrual pad

In this study, the factors associated with use of modern reusable pads were the guardian/parent’s level of education, their occupation, place of drying, pad preferred and sensitization on use of the reusable pad. Adolescent girls whose guardians and parents had attained tertiary level of education were more likely to use the reusable pads than their counterparts. This could be because the guardians and parents who attained the tertiary level of education may be more informed, receptive and may conventionally not be inclined to the myth, taboos and cultural believes that would otherwise prevent the use of the reusable pad. Furthermore, people who are educated have better health seeking behaviors and can easily adopt to new health innovations until the counterparts. These findings are similar to Aniebu’s et al (2009) study findings that revealed that parent’s education influenced the knowledge of the girls on menstrual hygiene management (Aniebue et al., 2009).

The adolescent girls whose guardians/parents were employed were less likely to use reusable pads than those whose parents were not employed. This could be because despite reusable pads being distributed by implementing partners, the KI informants said that sometimes they delayed to supply or supplied few reusable pads. As such, it is possible that only parents who were
employed and therefore, had a regular source of income were able to augment the supply from the implementing partners by buying the disposable pads for their girls though reusable pads reduce the financial burden given the fact that they are bought once a year. This is similar to a study conducted by Upashe who found that using Reusable pads reduces on the financial burden (Upashe et al., 2015). There is no study which has got this finding.

The girls who sundried the reusable pads were more likely to use the pad as compared to those who did not sun dry their reusable pads. This could be because sun drying made reusable pads safer hence limiting the discomfort and susceptibility to infection like candida which would otherwise make the reusable pad less preferred. This finding is similar with what Ndana (2018) found that proper care of sanitary pad mitigates the risk of urogenital infections and that the sun’s heat is a sterilizer and drying the cloths/cloth pads under it sterilizes them for future use (Ndana, 2018).

The girls who were sensitized by the implementing partners on how to maintain, use and make the pad more likely to use the reusable pad unlike those who were not sensitized. These findings are Similar to a study conducted in Zambia. Ndana (2018) stated that having skills on how to make the pads favored the utilization of the pads (Ndana, 2018). This could be because the knowledge imparted in them is of great help towards the maintenance of the reusable pad.

The girls who used the disposable pad were less likely to use the modern reusable menstrual pad. This could be because the girls feared to wash the reusable pad as it was stated by some of the FGD participants. Also, some of them used the reusable pad when they didn’t have money to buy the disposable pad. Studies conducted in Zambia and Middle East also found that majority of the
girls used the reusable pads as emergency backup when unable to afford disposable pads (Ndana, 2018, VanLeeuwen and Torondel, 2018a).

In qualitative analysis, the structure/framework for analysis was based on four themes that were determined from literature prior to analysis. These included: 1) Knowledge; 2) Perception; 3) Enhancers and 4) Barriers toward the use of the pad.

7.6 Enhancers and barriers towards the use of the modern reusable menstrual pad

7.6.1 Enhancers
In our study the enhancers of use of the reusable pad amongst the study respondents were family, culture support, knowledge on how to maintain the pad, free access from implementing partners, comfortable. Furthermore, free availability of the pads at the women center, durability of the pads and availability of changing facilities and clean water for washing the pad is available.

Majority of the Focused group discussion revealed that their families support them through buying of soap, allow them to hang it out and fetching for them clean water which enables them to use the pad. This could be because the implementing partners sensitized them and they adjusted. Similarly, a study conducted in BidiBidi and Tororo found that the parents who were sensitized and taught how to make reusable went ahead and made for their daughters. The boys who were also involved in Sensitization started fetching water and cleaning bathrooms for their sisters, such that they don’t get any infections (Masinde, 2019).

The implementing partners equipped the respondents with the knowledge on how to maintain the pad. The organizations could train them directly or train the senior woman teachers who in turn equipped the girls with the knowledge. A study conducted in BidiBidi and Tororo found that Plan International gathered senior woman of various schools were trained on menstrual hygiene
and how to make the reusable pad. They after transferred the knowledge to various groups of girls (Masinde, 2019).

The implementing partners distributed both reusable disposable and reusable pads which takes a period of six month to one year. The reusable pad stretches for a period of one year when someone has good menstrual hygiene. When one-year elapses and implementing partners have not come back yet, the respondents go to women center to get more reusable pads. This finding was similar to Eve and Ndana (2018) who found that the reusable serves for a period of one year and this acts as an enhancer towards the use of the pad.

The pad was very comfortable according to the FGD and key informants. This is because it’s very soft, it stays in the same position especially when one is putting on a fitting panty, absorbs more menstrual blood and it doesn’t burn. A study conducted in Zambia found that the girls liked the pad because it had a very soft material (Masinde, 2019, Ndana, 2018).

Culture had allowed the girls to use the modern reusable menstrual pads. This is because they believed that the chemicals which were used to make the disposable pads could cause cancer to them. This finding were similar with the ones in a study conducted by Ndana (2018) who found that people in the study area believed that disposable pads are made with chemicals that can cause cancer (Ndana, 2018).
7.6.2 Barriers

The qualitative results revealed that adolescent girls face various challenges while using the pad. This include lack of soap for washing the pad, infections, they fear washing, limited buckets at home, bad weather, lack of family support, lack of bags to carry used pad, lack of changing facilities and implementing partners supply big pads.

The respondent’s revealed candida as a common infection which was a result of poor menstrual hygiene management. This findings were similar to a study conducted in India, which found that the common infection among girls who used reusable pads was candida (Torondel et al., 2018). This brought about discomfort, itches and rashes around the thighs and the private part. A study conducted in Tororo and BidiBidi differed from the study findings. The study found that girls are no longer disturbed with discomfort and infection (Masinde, 2019). The reason for this difference could be because the study was done in a normal setting where the respondents had increased access to facilities such as water and soap to aid the maintenance of the use of the pad.

Some schools did not have changing facilities and clean toilets to facilitate changing of the reusable pad. This finding was similar with Schmitt 2017 who found that a small proportion of girls change during school hours because of lack of changing facilities. This finding is similar to a study which was conducted in an emergency setting which revealed that girl refugees don’t have access to clean facilities hence inability of the girls to manage their menstruation with dignity and privacy (VanLeeuwen and Torondel, 2018b). This encouraged some of the girls especially those who came from far to study half day and go back home. Similarly a study conducted in India found that most girls who were menstruating, were absent from school for three to four days because they lacked sanitary pads and private changing facilities, especially when the flow is very high (Tegegne and Sisay, 2014, Upashe et al., 2015).
The study found that there was a big challenge of soap. Some implementing partners could supply soap when they are just bringing the pad to the girls, but afterwards they don’t. This could be because the implementing partners don’t have enough funding for the project. This is similar to a study conducted in India where it was stated that the women who use reusable pads commonly face a challenge of soap, clean water and drying (Sinha and Paul, 2018). When the pad is washed without soap it will remain containing some blood which may be a media for growth of microorganisms hence making the user susceptible to infections.

These girls don’t have the bags where to put the pad after packing it in the small polythene bag given to them by the implementing partners. So, for those who have homes nearby, they go and come back unlike those who come from far, they go and don’t come back. Similarly a study carried out by Clare suggested that girls should be provided with bags such that they don’t carry sanitary pads around in public (Claire, 2016, Upashe et al., 2015).
CHAPTER EIGHT

8.0 Conclusions and recommendations

8.1 Conclusions

Majority of the respondents had knowledge on use and maintenance of the modern reusable pad. This knowledge was mostly got from the implementing partners who used to sensitize them before the pads were supplied to them.

Majority of the girls liked the reusable with a few who maintained they didn’t like it because they feared to wash it.

Majority of the respondents were using modern reusable menstrual pads and they liked it. The high Utilization of reusable pads indicates that the reusable pads are acceptable and the current mode of distribution and awareness creation about reusable pads are effective.

Majority of the adolescent girls using the reusable pad, were mostly influenced by place of drying, guardians’ /parents’ level of education, employment and the pad preferred. This indicates that parents having knowledge on reusable pad improves awareness and menstrual hygiene among the adolescent girls.

Barriers still exist that hinder utilization of the reusable pads mostly at household level.

Having knowledge, family support and culture support and feeling comfortable in using the reusable pads is very vital in influencing the use of the reusable pad.
8.2 Recommendations

5.1 The implementing partners should maintain the current mode of distribution and sensitization/awareness creation about the reusable pads.

5.2 The implementing partners and parents should continue sensitizing adolescent girls on use of the reusable pads through schools, community settings and youth gatherings. Guardians’/parents should be targeted during educative campaigns since they are the ones who translate to the girls.

5.3 Implementing partners, senior woman teachers and parents should identify adolescent girls who have less preference for the reusable pads and provide them with accurate information in order to change their perceptions and preference for the reusable pad. Furthermore, choice should be widened so that everyone has what she is comfortable with.

5.4 Parents and senior woman teachers need to be educated that blood is not bad and they need to identify girls with infections and help them. They further need to be trained on how to make soap and be told of its relevance towards infection prevention and promotion of good menstrual hygiene hence families encouraging and supporting adolescent girls to use and maintain reusable pads. This training activity can be done at the community level during holidays or weekends.

5.5 The Adolescent girls should continue using and learning to make the modern reusable pads to avoid exposure to reproductive tract infections. The implementing partners should further equip these girls with more knowledge on how to maintain the reusable pad.
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Appendix 1: study consent form

Makerere University

College Of Health Sciences

School of Public Health Institutional Review Board (MakSPH-IRB)

Consent Form

Title of the study: Assessing the Acceptability and Utilization of the Modern re-usable pads among the school going Adolescents aged 10-19 years in BidiBidi refugee settlement

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Introduction

This consent form explains the research study you are being asked to join. Please review this form carefully or (listen carefully to what I will be reading from this form) and ask any questions about the study before you agree to join. You may also ask questions at any time after joining the study.

Purpose of the study:

The study intends to assess Acceptability and Utilization of modern re-usable pads among the school going adolescents, in BidiBidi refugee settlement in Uganda. Girls in refugee settlements are vulnerable and face challenges during menstruation and how to maintain themselves. The poor menstrual hygiene exposes them to infections such reproductive health infection due to use
of dirty water to wash the pads and putting on the wet pads. This is why it is important to conduct the study with an interest of Assessing the Acceptability and Utilization of the modern re-usable among the school going Adolescents aged in 10-19 years in BidiBidi refugee settlement.

**Procedures**

On agreement to participate, you will be requested to participate in an interview for 20 to 30 minutes whereby you will be answering questions from a questionnaire regarding the topic of the study. Your honesty and openness in answering the questions is very helpful to the study.

**Risks/Benefits**

This study will require you to spend time during the interview to answer questions which are not part of the main activities of the day according to your plans. The questions also may ask you about topics related to your private life like affairs which some people feel uncomfortable to discuss with others.

Outcomes of the study will help us to know the Acceptability and Utilization of the modern re-usable pads

**Compensation:** No compensation will be given to you for participating in this research study.

**Protecting data and confidentiality**

All the information from this interview will be kept confidential except for those directly involved in the research. A code instead of the name will be used on the questionnaire to maintain anonymity and the consent form which bears your name will be kept separate from the questionnaire file.

All paper data files will be kept confidential in a locked cabinet for three years, at which time they will be destroyed. The questionnaire will be safeguarded in a sealed envelope and later
transferred on pass-word protected computer of the researcher. Electronic data will not include your name or any of the participants name and results will not be reported as for an individual but a group or summary.

**Right to participation, refuse, withdraw and complain**

Your participation is voluntary and you can choose to take part in the study or not. You can also stop your participation at any time. Your decision to take part, or not and your responses will not affect the use of the modern re-usables

Should you have question or problems regarding this study, please contact the researcher or supervisors on the number provided above.

**Statement of consent**

I …………………………………………… having been explained to the purpose of the research, my roles, benefits and risks involved in the research. I am aware that my information will be kept confidential and that also participating in the study does not waive my legal rights to withdraw or access quality health services. I have also been given chance to ask any question before signing and therefore, I voluntarily agree to be in the study.

Name and Signature of participant________________________________________________

Name and Signature of interviewer______________________________________________
Appendix: 11 Structured Questionnaire

Section A: Social demographic

I am going to ask you questions about your self

A1. What is your age in years?
   1. 10-12
   2. 13-15
   3. 16-19

A2. What is your level of education?
   1. Primary school
   2. Secondary school

A3. What is your Religion?
   1. Catholic
   2. Protestant
   3. Moslem
   4. Pentecostal
   5. Christ Disciple
   6. Seventh day Adventists

A4. Whom do you stay with at home?
   1. Mother only
   2. Father only
   3. Mother and father
   4. Guardian

A5. What is your guardian’s/parents level of education?
   1. Primary
   2. Secondary
   3. Tertiary
   4. None
   5. Don’t know

A6. What is you’re his/her occupation?
1. Farmer
2. Employed by an NGO
3. Civil servant
4. House wife

A7. What is your ethnicity?
1. Sudanese
2. Rwandese
3. Ugandan
4. Others

Section B: Level of Utilization

Now am going to ask to you questions about use of pads

B1. At what age did you start your periods?
   1. 15 and below
   2. 16
   3. 17
   4. 18
   5. 19

B2. Have you heard about menstrual pads?
   1. Yes
   2. No

B3. If yes, which of the following pads have you heard of? (Tick all that apply)
   1. Modern re-usable pads
   2. Disposable pad
   3. Cloth
   4. Others (Toilet tissue, Tampons, Menstrual cups)

B4. How did you get to know about the product? (Tick all that apply)
   1. Family member (Mother, sister, aunt, brother, others)
   2. Teachers
   3. Peers
4. Electronic media (TV, Radio)
5. Print media (newspapers, books)
6. Social media(whatsup,facebook, twitter)

B5. Which of the product do you commonly use during menstruation? (Tick one)
   1. Modern re-usable pads(if this answer 7,8,9,10,11,12) (13or 14 not both)
   2. Disposal pads (if this go straight to b15)

B6. How do you get the product?
   1. Implementing partners
   2. We buy
   3. Our parents give
   4. Others

B7. If its yes (B6 1), Did the implementing partners teach you how to maintain the pad?
   1. Yes
   2. No

B8. If it’s B5 (1), do you like modern re-usable menstrual pads?
   1. Yes
   2. No

B9. If you have ticked B5 (1) how often do you use modern reusable pad
   1. Every time I get my periods
   2. some times
   3. Rarely

B10. What do you use when washing the modern re-usable pad?
    1. Water only
    2. Water and soap

B11. Where do you hang your pad after washing?
     1. Outside the house
     2. Inside the house
     3. Sometimes outside /sometimes inside
     4. others

B12. For those who use modern re-usable pads, is it comfortable (tick one response)?
1. Yes
2. No

B13. If yes (B12, 1), how comfortable is it? (Tick all that apply)
   1. Smooth
   2. It does not burn
   3. It stays in the same position
   4. Others (specify)…………..

B14. If your response is No (B12, 2) i.e. uncomfortable what causes the discomfort? (Tick all that apply) *(SKIP B14 IF YES)*
   1. Leaking
   2. Feeling dump
   3. Irritates
   4. Did not stay in one place
   5. Does not absorb enough
   6. Heavy
   7. Smelly

B15. If your response is B5 (2), how often do you use the pad? (Disposal pads)
   1. Every time I get my periods
   2. Sometimes
   3. Rarely

B16. How many times in a day do you change the menstrual product that you use?
   1. I don’t change
   2. Once
   3. Twice
   4. More than two times

B17. Does your family support the use of modern re-usable pads?
   1. Yes
   2. No

B18. Does your culture support the use of modern re-usable pads?
   1. Yes
   2. No
B19. Have you ever used
   1. Yes
   2. No
B20. If your response is No, which of the pads do you prefer?
   1. Modern re-usable pads
   2. Disposal pads
B21. why do you prefer the pad ticked above
   1. Comfortable
   2. Durable (takes a long time)
   3. Affordable
B22. Would you recommend a friend to use the modern re-usable pads?
   1. Yes
   2. No
B23. Is it of any great importance to teach you how to make modern re-usable pads?
   1. Yes
   2. No
   3. Maybe
B24. If yes, how do you think it will help you? (tick all that apply)
   1. It saves time and money
   2. Business
   3. I don’t struggle when periods comes

SECTION C: KNOWLEDGE AND PERCEPTION

Knowledge
Now am going to ask questions about knowledge
C1. What causes menstruation?
   1. Hormones
   2. Curse of god
   3. Caused by disease
   4. Don’t know
C2. What is the source of menstrual blood?
1. Uterus
2. Vagina
3. Bladder
4. Abdomen
5. Don’t know

C3. How many days do you take during menstruation?
   1. 1 day
   2. 2 days
   3. 3-4 days
   4. More than 4 days

C4. Do you know about menstrual hygiene?
   1. Yes
   2. No

C5. Do you wash the modern reusable pads?
   1. Yes
   2. No

C6. If yes, what do you use to wash the pad?
   1. Water
   2. Water and soap

C7. Where do you dry the modern reusable pad from?
   1. Inside the house
   2. Outside the house
   3. Sometimes inside or outside
   4. Others

SECTION D: PERCEPTIONS
Now am going to ask you questions about perceptions

D1. It is ok to wash modern reusable pads?
   1. Strongly agree
   2. Agree
   3. Neutral (I don’t know)
4. Strongly disagree
5. Disagree

D2. Reusable pads must be dried in a hidden place away from male members of my family
1. Strongly agree
2. Agree
3. Neutral (I don’t know)
4. Strongly disagree
5. Disagree

D3. Sensitization regarding use of reusable pads is a must for one to use reusable pads
1. Strongly agree
2. Agree
3. Neutral (I don’t know)
4. Strongly disagree
5. Disagree

D4. Using reusable pads is considered to be for Adolescents
1. Strongly agree
2. Agree
3. Neutral (I don’t know)
4. Strongly disagree
5. Disagree

D5. Using reusable pads is not hygienic
1. Strongly Agree
2. Agree
3. Neutral (I don’t know)
4. Strongly disagree
5. Disagree

D6. Using reusable pads is embarrassing
1. Strongly Agree
2. Agree
3. Neutral (I don’t know)
4. Strongly disagree
5. Disagree

D7. It’s not okay to do household activities after washing reusable pads

1. Strongly Agree
2. Agree
3. Neutral (I don’t know)
4. Strongly disagree
5. Disagree

SECTION F: Key Informants Guide

Questionnaire serial Number __________________________ Date of interview……………………

1. In this community, tell us how adolescent girls manage menstrual hygiene (probe for washing, hanging, places for changing to ensure privacy availability of clean toilets, how often do they change)

2. Are there some cultural factors associated to menstrual hygiene management (types of culture, beliefs, myth, norms, and values)?

3. Which pads are mostly available to the adolescent girls (probe for types of pads i.e. modern re-usable pads, disposal pads, cloth, tampons and menstrual cups)?

4. How do the adolescents access the pads (probe for the sources of the pads i.e. family, implementing partners, boyfriend, just buy and others)?
5. Which challenges do the adolescent girls face while maintaining the modern re-usable menstrual pads (probe for access to clean water, soap availability, limited space for drying, culture governing menstruation, and discomfort)?

6. Which health problems are these adolescents exposed to due to failure of maintaining the menstrual hygiene (probe for types of infections, social isolation, stigmatization, absence from school and work)?

7. What is your view about sensitization of the girls on how to maintain the modern reusable menstrual pads (probe for importance of sensitizing the girls)?

DATA EXTRACTION TOOL FOR SENIOR WOMAN TEACHER

Tool for assessing availability of modern re-usable menstrual pads in Schools
School: ………………………………… Date: …………………………………………………

**Availability of Modern Re-usable menstrual pads in Schools**

<table>
<thead>
<tr>
<th></th>
<th>September</th>
<th>October</th>
<th>November</th>
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<tbody>
<tr>
<td></td>
<td>In stock (Yes = Y, No = N)</td>
<td>In stock (Yes = Y, No = N)</td>
<td>In stock (Yes = Y, No = N)</td>
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<tr>
<td>Have they ever supplied pads</td>
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<td>If yes, Which type of pad did they supply</td>
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<td>Which implementing</td>
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<td>How many pads did they bring</td>
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<tr>
<td>How frequent do they supply</td>
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</table>
Tool assessing the number of pads supplied per month by the Implementing partners

<table>
<thead>
<tr>
<th>YEAR</th>
<th>MONTH</th>
<th>NO OF PADS SUPPLIED</th>
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<tbody>
<tr>
<td>2018</td>
<td>January</td>
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<td>February</td>
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Section G: FOCUSED GROUP DISCUSSION GUIDE
Questionnaire serial Number……………………………….. Date of interview………………………….

1. What is menstruation (probe for source of blood, signs and symptoms, experiences on menstruation have you ever received information about menstruation, started at which age)

MATERIALS

2. What menstrual materials do you use (probe for types of pads, affordability, accessibility, which organizations provide, Mode of provision, how frequent do you change, Comfort, Durability)

PERCEPTION

3. What are your views towards the use of modern re-usable menstrual pads? (probe for Attitude, comfort, Knowledge, Culture, drying of the pads, washing)

KNOWLEDGE

4. What do you know about modern re-usable menstrual pads? (probe source of information, ways of washing, methods of drying, possibility of using it without washing, what happens if so)

FACTORS ENABLING THE USE

5. What do you think would enable you to use modern re-usable pads? (probe for family support, culture, knowledge, positive attitude, Affordability and comfort)

CHALLENGES

6. What challenges do you face when accessing and using re-usable pads? (probe for culture, negative attitude, discomfort of the re-usable pads and poor menstrual hygiene)

7. What are your suggestions to improve the use of re-usable pads?

8. Is there anything else someone wants to add?

Thank you for your time and participation