

**ACCEPTABILITY OF RE-USABLE SANITARY TOWELS BY
ADOLESCENT GIRLS' IN PRIMARY SCHOOLS IN BAR
SAURI SUB LOCATION, SIAYA-COUNTY**

BY

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Millions of girls in Sub-Saharan Africa are disempowered by the simple biological process of menstruation. Affordable and hygienic sanitary protection is not available to adolescent girls in many areas. Introduction of reusable sanitary towel aimed at enhancing economic and environment sustainability has still not been fully utilized because of lower acceptability. In the MVP Sauri intervention programme on the adoption of re-usable sanitary towels, it was noted that menstruation is not just a private affair but had the potency to become public, embarrassing and often a source of stigma for the girls. Accessing re-usable sanitary protection was also tied to lack of facilities for the girls to dispose off used sanitary towels as well as lack of private spaces where the adolescent girls could comfortably change. This study sought to determine acceptability of re-usable sanitary towels by adolescent girls in primary schools in Bar Sauri Sub location, Siaya County. The specific objectives of the study were; to assess the extent re-usable sanitary towels are acceptable among adolescent girls in Bar Sauri Sub location primary schools, to establish the socio cultural factors affecting the acceptability of re-usable sanitary towels among adolescent girls in Bar Sauri Sub location primary schools and to analyze the socio economic factors affecting the acceptability of re-usable sanitary towels among adolescent girls in Bar Sauri Sub location primary schools. This study adopted the theory of Cultural ecology by Julian Steward (1972) that stipulated how local cultures develop technological strategies and material practices to adapt to the ecological conditions. This study adopted cross sectional descriptive research design to enhance triangulation of data. The study was carried out in Bar Sauri Sub Location Siaya County, where the reusable sanitary towels intervention by Millennium Village Project was undertaken. The entire population of the respondents involved in the initial MVP programme was 222 pupils and they were all adopted for the study (Census). Primary Data was collected using questionnaires and focus group discussion. Secondary Data from surveys and reports (District Education reports, Surveys from Millennium Villages Project and the Sauri baseline survey reports) were used in the study. Statistical Package for Social Scientists (SPSS) version 18 was used to perform descriptive statistics for quantitative data while qualitative data from FGD were analyzed according to the emerging themes and sub themes. The findings indicated that (58%) of respondents did not prefer to use reusable sanitary towels; this was attributed to the high hygiene standards associated with the product. The findings equally indicated that (38%) of the respondents still viewed menstruation as a taboo and were reluctant to participate in the study. The findings further indicated that (45%) of respondents felt that the level of poverty was very high. The study concluded that, reusable sanitary towels though a noble idea there was need to improve on the product capabilities. It was further concluded that there was need to create much awareness and education to the community with regard to attitudes change on menstruation. The study recommended the need for adequacy of water for washing the reusable sanitary towels and bathing, availability of hygienic materials and solid waste management of the towels. There was also the need for policy formulation on menstrual management and sensitization to the rural and urban folk both male and female on menstruation issues.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Every day, an estimated 200 million menstruating girls in low-income countries struggle to find clean water for washing, private places for changing and adequate menstrual absorbing materials. Social systems, political indifference and cultural customs can compound these problems. Governments, institutions and NGOs have realized that without addressing obstacles related to menstrual hygiene management, the achievement of Millennium Development Goal targets by 2015 (United Nations, 2011) will be hampered (Tjon Ten, 2007).

In recent years women in Europe preferred to use Re usable sanitary pads because they are easier to manage especially when you put the environment management into consideration. However utilization was still low as evident in the US and Canada where over 12 billion disposable sanitary towels and tampons are “disposed of” each year. In Australia and New Zealand the figure is well over 700 million tampons and 1 billion pads. Every single day in the UK, approximately 2.5 million tampons, 1.4 million disposable sanitary towels and 0.7 million panty liners are flushed down the toilet according to Women Environment Network (2014). Until disposable sanitary pads were created, cloths were widely used to collect menstrual blood. Women often used variety of home-made menstrual pads which they crafted from various fabrics or other absorbent materials to collect menstrual blood.

India population has 225 million adolescent girls for whom menstrual hygiene options are needed to meet the needs of women and girls. Indian government has made strides towards increasing knowledge and the accessibility of re-usable sanitary materials in some areas. The National Rural Health Mission programme for example, provided reusable sanitary napkins at subsidized prices to adolescent girls in 259 districts and supported the production of re-usable sanitary napkins by women’s groups in 45 additional districts. Findings from studies of cultural practices related to MHM and girls in several regions revealed the topic of menstruation still remained a taboo and

consequently majority of girls experienced menarche with little information (UNICEF, 2009)

Across sub-Saharan Africa schoolgirls tend to use two main types of sanitary protection materials. Those who can afford opt for imported commercially produced sanitary pads. Most girls who are poor typically use pieces of material, folded and placed into underwear (Verdemato, 2005). These 'cloths' are usually washed and re-used. Other blood absorbing materials include toilet paper, leaves, newspaper, cotton wool and extra layers of clothing. Although Reusable sanitary towels can be reused for years thus providing a significant reduction on sanitation and solid waste systems, they require a higher up-front cost than disposable pads, which can sometimes be prohibitive to low-income women. They also require access to clean water and soap and drying resources that are not always available in poor communities.

Addressing the challenges associated with menstruation has been constrained by the many myths in several societies. For example, the mythical belief in many societies has been that menstrual blood is dirty and harmful, resulting in girls who are menstruating being restricted from participating in some activities for fear that they may 'contaminate' others and the things they may touch (Allen & Fautino, 1983; Delaney, 1988; Knight, 1991).

In response, a number of NGOs and sanitary product manufacturers have begun campaigns to increase availability of re-usable sanitary towels, with a stated goal of improving school attendance (Deutsch 2007, Callister 2008, Cooke 2006). The largest of these is a program by Proctor & Gamble which has pledged \$5 million toward providing puberty education and sanitary products, with the goal of keeping girls in school (Deutsch 2007). The Clinton Global Initiative has pledged \$2.8 million to aid businesses that provide inexpensive re-usable sanitary pads in Africa to contribute to improvement in school and work attendance. In addition to these large scale efforts, a number of smaller NGOs, UNICEF, FAWA and CARE have undertaken similar programs (Cooke, 2006; Bharadwaj and Patkar, 2004).

An intervention was run by the Foundation of Hope Life Center (FHLC), which rolled out a programme for this purpose in 2007. The organization provided needy girls with reusable sanitary towels. FLHC has also been able to sponsor 1000 poor girls in Kenya by raising funds on their behalf from donors and volunteers. This has been possible by encouraging shops and supermarkets to donate reusable sanitary towels. The organization has also stepped up publicity by word of mouth, media and religious institutions to contribute towards this cause (FHLC, 2011).

Similarly, the Kenya Broadcasting Corporation (KBC) through Metro FM, introduced and led a campaign donating sanitary towels to adolescent girls on monthly basis in the informal settlement of Kiandutu in Thika but still acceptability was low (Africa news, 2011).

Another informal settlement that benefited from a similar campaign was the Mukuru slum area in Nairobi, where a project called 'Huru' began in 2008 with the aim of providing reusable sanitary pads to school-going adolescent girls. Funded by Johnson & Johnson, PEPFAR, the Elton John Foundation and America Share/Micato Safaris, the project hired young people from Mukuru to make the pads and assemble each pack in a sample of five pads for use during the day, three for night use along with three pairs of panties, a water proof bag to store the pads and soap for washing the pads as well as a manual on how to use the pads. Findings revealed that sustaining hygienic practice through use of washing materials remained a challenge (Fleischman, 2011).

Meanwhile, in April 2011, the Afri-can foundation in partnership with women in Kisumu produced 600 packs containing 4 re-usable sanitary pads with the involvement of the community banks and schools where the pads would be sold. This project followed a market-based approach to the provision of re-usable sanitary towels although donors were being sought to support this project (Afri-can, 2011). Safaricom has also contributed immensely to keeping girls in school by donating sanitary towels to 43 secondary schools in Rachuonyo district in April 2012. Over 5000 girls benefitted from the organization's support, which constituted a drawstring bag, 24 packets of sanitary towels and three pairs of underwear which also became a short term intervention (Otieno, 2011).

Since re-usable sanitary towels are long-lasting towels or cloth pads which can be cleaned with soap and dried in sunlight, they are ideal where access to clean running water and soap is readily available together with sufficient private washing facilities that do not affect the amount of drinking water. An advantage clearly identified by Ugandan girls was that they last for up to a year making them 11 times cheaper than a year supply of disposable pads (Crofts and Fisher 2012). Compounding these customary challenges is the lack of access to reusable sanitary protection and towels, which dis-empowers girls, as they have to stay at home to avoid staining their clothes with blood in public. Commercially produced disposable sanitary pads are too expensive for most African schoolgirls of whom the majority live in poverty (Kinoti, 2008). In South Sudan commercial sanitary products are available only in a small number of locations, but are financially out of reach of most girls. In Uganda, a packet of 10 pads costs on average US\$1.35, in Kenya it cost almost the same US\$1 which is more than the daily income of many working parents. In comparison, cloths which may be taken from rubbish heaps are considered to be less hygienic because they may not get washed thoroughly (Verdemato, 2005). Chafing can occur if cloths are not dried thoroughly or have poor absorbency (Seymour, 2009). Reusable sanitary pads are therefore designed to bridge the gap between these two materials.

In poor families, providing adequate clothing for the whole family can be a challenge, and even finding used fabric rags to make home-made reusable sanitary towels can be very difficult. The study conducted by Forum for African Women Educationalists (FAWE, 2006), in Uganda observed that monthly cost for sanitary towels was just too expensive especially where several girls were living in a household, and access in these remote areas was often a barrier. Many girls relied on old rags, newspapers, and leaves to manage their menstrual flow resulting to general discomfort, embarrassing licks and even infections (Averbach, 2009). The issues emerging from these studies have led to many campaigns in both poor rural and poor informal urban settlements in a bid to provide adolescent girls with re-usable sanitary protection and help bridge disparities between adolescent girls and boys both in primary and secondary education in Kenya.

Today in Kenya menstrual hygiene management is not only a health concern, but also an educational policy concern – and has become a key factor in the country’s bid to achieve the Millennium Development Goal (MDG) of eliminating gender disparity in primary and secondary education by 2015. In this study acceptability as affected by, socio-cultural factors, Socio-economic factors and knowledge on menstruation hygiene management will be evaluated. It is assumed that if these factors are understood and in-calculated in the process of developing and promoting re-usable sanitary towels, their level of acceptability by adolescent girls will increase and thus lead to their greater empowerment and involvement in developmental activities thus fulfilling the universal achievement of the Millennium Development Goals (MDGs) of improving universal primary education and eliminating gender disparity in primary and secondary schools by 2015.

1.2 Statement of the problem

Millions of girls in Sub-Saharan Africa are disempowered by the simple biological process of menstruation. Affordable and hygienic sanitary protection is beyond the reach of most adolescent girls, who in Africa are the majority of the unemployed and those living in poverty. They resort to the use of unhygienic rags and cloths which put them at the risk of infections. UNICEF estimates that 1 in 10 menstruating African girls skip school four to five days per month or drop out completely. A girl absent from school due to menstruation for four days of every 28 day cycle loses 13 learning days, the equivalent to two weeks of learning, every school term. Kenyan government intervened to provide adolescent girls with disposable sanitary protection to bridge gender disparities through distribution of free disposable sanitary towels. However, the program appeared not sustainable though it provided short term solution. More recently, alternative sanitary products such as reusable sanitary towels have been introduced by NGOs and have gradually been entering low-income markets presenting significant benefits in terms of costs and environment-friendly disposal (FAWE, 2006). The Millennium villages Project for girls’ education intervention employed a combination of incentives that sought to stimulate affordable re-usable sanitary towels for girls in Bar Sauri Sub location since 2008, to enhance gender equality and empowerment as well as universal primary education (MVP, 2013). Introduction of reusable sanitary towel that was aimed at

enhancing economic and environment sustainability has been minimally utilized perhaps due to lower acceptability and the reasons are unclear. In the MVP Sauri intervention programme on the adoption of reusable sanitary towels it was noted that menstruation is not just a private affair but has the potency to become public, embarrassing and often a source of stigma for the girls. The study critically observed the difficulty faced by adolescent girls in accessing sanitary protection resulting from their struggle to meet their daily needs and yet the acceptability of re-usable sanitary towels was not assessed. This highlighted the fact that accessing re-usable sanitary protection was also tied to a lack of facilities for the girls to dispose of their re-used sanitary towels as well as lack of private spaces where the girls could comfortably change. In view of this discrepancy, the purpose of the study sought to determine acceptability of reusable sanitary towels by adolescent girls in primary schools in Bar Sauri Sub location, Siaya County.

1.3 Research Questions

1. What is the extent of acceptance of re-usable sanitary towels among adolescent girls in primary schools in Bar Sauri Sub location?
2. What are the socio cultural factors affecting the acceptability of re-usable sanitary towels among adolescent girls in primary schools in Bar Sauri Sub location?
3. What are the socio economic factors that affect the acceptability of re-usable sanitary towels among adolescent girls in primary schools in Bar Sauri Sub location?

1.4 Objectives of the study

The main objective of the study was to determine acceptability of re-usable sanitary towels by adolescent girls in primary schools in Bar Sauri Sub location. It was guided by the following specific objectives:

1. To assess the extent re-usable sanitary towels are acceptable among adolescent girls in primary schools in Bar Sauri Sub location.
2. To establish the socio cultural factors affecting the acceptability of re-usable sanitary towels among adolescent girls in primary schools in Bar Sauri Sub location.

3. To analyze the socio economic factors affecting the acceptability of re-usable sanitary towels among adolescent girls in primary schools in Bar Sauri Sub location.

1.5 Significance of the study

This study was framed after recognition of a literature gap in studies connecting acceptability of reusable sanitary towels by adolescent primary school girls to enhance active participation and empowerment in line with the MDGs that sought to; enhance universal primary education, gender mainstreaming, improving maternal health and environmental sustainability. The challenges associated with the menstruation cycle especially in the absence of affordable sanitary towels have been a major cause of school girls' poor participation in their day to day core activities. The findings of this study could enhance acceptability of reusable sanitary towels by school going adolescent girls.

1.6 The Scope and Limitation of the study

This study focused only on the experience and practices surrounding adolescent girls on menstruation hygiene management. It took a phenomenological approach that addressed the girls' reported experiences and socio-cultural factors that affected their acceptability towards reusable sanitary towels during their menstruating lives. This study was done in rural public primary schools in Bar Sauri Sub Location, in Kenya. The study was limited to primary schools that were part of the MVP re-usable sanitary towels intervention programme, therefore findings may not be used to generalize issues of acceptability for urban schools and private schools. However, the findings were applicable to all schools and areas in which MVP re-usable sanitary towels programme was employed. In undertaking the research some respondents may have given responses that were not genuine hence jeopardizing the outcome of the study. The researcher strived to develop good rapport with respondents in order to eliminate any suspicion in the study since there was unwillingness of participants to talk about their menstrual experiences, this being a sensitive subject that is accompanied by shame in the African culture. Respondents were sensitized on the importance of the study prior to filling the questionnaire honestly as expected.

1.7 Theoretical Framework

This study adopted the theory of Cultural ecology by Julian Steward (1972). The basic concept of this theory is the idea of the culture core. Cultural core comprises of the basic features of social and economic life that are most closely related to subsistence in a given place. These features include the technological strategies and material practices that local cultures develop to adapt to the ecological conditions of their home place. Technology is adapted to exploit the environmental conditions in place. Family's poverty level as well as their cultural beliefs and practices will often determine which menstrual protective materials the girls use during menstruation. These menstrual materials range from the more conventional disposable sanitary towels, old clothes or rugs, reusable sanitary towels and even to nothing at all.

Cultural diversity emerges from ecological diversity as is evident in the variety of technologies and material practices of subsistence among different cultures. There is also a culture of silence around menstruation leading to the menstrual process being viewed as a weakness of women. The subject is hardly ever discussed in families and even in schools, resulting to lack of information that would make of reusable sanitary towels acceptable by adolescent girls. Kirk and Sommer (2006) identify the lack of knowledge and understanding about menstruation in most traditional and conservative communities as the key source of stigma on what is a normal and natural biological process.

Cultural ecology involves the study of the relationship of technology used in subsistence production to the environment in which it is used in relating behavioral patterns like kinship, customary law, childrearing practices, communal work and religious ritual to the pattern of subsistence strategies.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

This chapter will focused on literature associated with acceptability of re –usable sanitary towels by adolescent girls in primary schools in Bar Sauri Sub Location, Siaya County. The literature review was done in accordance with objectives and research questions that guided the study.

2.1 Acceptance levels of reusable sanitary towels

On average 1 in 10 school girls did not attend school during menstruation. According to teachers, poor conditions of the toilets and lack of privacy and hygiene facilities resulted in girls' absenteeism from school. Even when in attendance, girls reportedly withdrew from school related activities both within and outside the class (UNICEF, 2004). This translates to a considerable 10 percent of the schoolgirls who missed school several days in a month. It is estimated that girls living in sub-Saharan Africa could miss, on average, up to four days of school each month because they lack the basic necessity of re-usable sanitary protection as well as other resources needed to manage their periods. This in effect means that such girls could miss 10 to 20 percent of school days each month and consequently, each year (Hero, 2008).

While the above study focused on the causes of absenteeism of girls during menstruation, it did not assess acceptability of re- usable sanitary towels. The current study sought to assess acceptability of reusable sanitary towels by adolescent girls in primary schools.

In Kenya, coupling of sanitary facilities in schools, particularly functional toilets (with doors, roofs and a proximity to water source) with availability of re-usable sanitary towels has been strongly linked to not only girl's improved attendance to school but also their improved participation in learning activities as well as their consequent enhanced performance relative to boys. (Muchemi, 2007).

The study conducted by Muchemi (2007) stated that re- usable sanitary towels helped improve attendance and participation in school, while this study sought to assess the

extent re-usable sanitary towels are acceptable among adolescent girls in primary schools in Bar Sauri primary schools.

Girls were made aware of the social labels attached to menarche and these often made them feel like they are going through a private dirty process. This implies that, today they are children, if they get periods the next day, then they are women. A similar finding was reached at by (Bailey et.al 2009) where they mention that at the onset of menstruation, girls begin producing themselves as women in compliance with and sometimes in resistance to contemporary messages about gender. Rightly stated by (Bartky, 2002), the changes at menarche are constructed through language and practices loaded with signifiers of cultural meaning. The myths and taboos make the menstrual experience worse for girls and hence lose their self esteem as girls and others regret being born girls consequently limiting their full participation in educative activities at school. This is consistent with a finding by Kirk where a soiled uniform provoked ridicule from both boys and girls thereby placing the girls at higher stigma and discrimination experiences, (Kirk, 2006). Such restrictions present avenues for stigma and discrimination from both boys and girls. The same finding was mentioned by (Houppert, 2006) where she quoted some girls who menstruated early as being labeled promiscuous. Much as such a label is not very common, it exists and it usually lowers the self-esteem of girls which tampers with their acceptability of reusable sanitary towels. When girls go through such experiences they lose the courage to participate in public because they feel that life is being unfair to them.

In Bar Sauri Sub Location poor conditions of the toilets and lack of privacy and hygiene facilities resulted in girls' absenteeism from school. Even when in attendance, girls reportedly withdrew from school related activities both within and outside the class. It is estimated that girls living in Sauri could miss on average up to four days of school each month because they lack the basic necessity of sanitary protection as well as other resources needed to manage their periods. The need to provide girls and boys with information and skills would empower them with knowledge concerning menstruation and it would better prepare girls for this stage both physically and emotionally.

2.2 Socio-cultural factors that affect acceptability of reusable sanitary towels

History has shown menstruation being regarded as a taboo topic, (Costos, 2002) and this stems from the fact that it is not looked at as a natural occurrence but a socially constructed one. Many communities world over have gone through centuries of myths and taboos that have created an ideology of the female body which has continued to organize the lives of women and girls in modern society. Often taboos are expressions of prohibitions and restrictions that are manifested in the: Forbidden and excluded persons, acts, words, thoughts, and things that supposedly threaten a group's welfare and survival and are, therefore, used to that group's advantage, (Voigt, 1984). Taboos are perpetuated through folk tales that surround a young woman's period and traverse cross cultural, racial, ethnic and historical boundaries. The 'curse' is therefore a taboo that presents menstruating women as 'filthy, sick, unbalanced and ritually impure' thus excluding them from the supposedly 'clean' members of society (Daly, 1990)

The mythical belief that menstrual blood is dirty and toxic can be traced to the writings of the early Greeks and Romans, (Allen & Fortino, 1983); (Delaney, 1988); (Knight, 1991) as well as to many other cultures where such women were excluded. For example, in Persia, menstruating girls or women were thought to be possessed by a demon. In the Roman natural history books, myths abound about the potential of menstruating women turning wine sour, causing seeds to be sterile, withering grafts, causing garden plants to become parched and fruit to fall from a tree if she as much as sat under the plants, (Mahoney, 1988). The woman was believed to be capable of destroying entire crops and wilting plants if she walked by them.

The myths and taboos make the menstrual experience worse for girls and hence lose their self-esteem as girls and others regret being born girls consequently limiting their full participation in educative activities at school. This is consistent with a finding by Kirk where a soiled uniform provoked ridicule from both boys and girls thereby placing the girls at higher stigma and discrimination experiences, (Kirk, 2006). Such restrictions present avenues for stigma and discrimination from both boys and girls. The same finding was mentioned by (Houppert, 2006) where she quoted some girls who menstruated early

as being labelled promiscuous. Much as such a label is not very common, it exists and it usually lowers the self-esteem of girls which tampers with their active involvement in different engagements at school. When girls go through such experiences they lose the courage to go on with their studies because they feel that life is being unfair to them.

Just like in the findings by Marco Betti (Water-Aid Report, 2009), girls reported being prevented from cooking and serving food citing dirtiness and impurity. Such beliefs are very common to African cultures where the onset of menstruation is viewed as a taboo (bad omen). In Sauri Village the community had been exposed to certain cultural practices that have affected the communities' perception on menstrual cycles. This explains why Sauri has diverse cultural behaviors and practices since it is 90% inhabited by Luo's. It is very rich in dholuo culture that include births, deaths, menstruation rituals and any other practice within the society. Women attending the menstrual cycle are perceived to be unclean despite the fact that this is biological concern attached with consequences to each of these norms, (Mango, 2000).

The study conducted by Mango (2000) established that women attending menstruation were perceived to be unclean the current study sought to establish the socio cultural factors affecting the acceptability of re-usable sanitary towels among adolescent girls in Bar Sauri primary schools.

According to Kotoh (2008), perception that menstrual blood is considered dirty and harmful still lingers resulting to girls who are menstruating being restricted from participating in some activities for fear that they may 'contaminate' others and the things they may touch. For instance, in most African communities, menstruating girls are not allowed to be in the kitchen to cook or to do the dishes, and neither are they allowed to participate in games with other young people during their menstruation period. This in turn fosters stigma as the restrictions create the perception that menstruation is shameful and that menstrual blood is harmful. And yet menstrual blood is free of toxins and any harmful bacteria, (Bharadwaj and Patkar, 2004). There is also a culture of silence around menstruation leading to the menstrual process being viewed as a weakness of women. The subject is hardly ever discussed in families, resulting in it also not being an easy

topic of discussion and engagement even in schools. Different cultures attach diverse beliefs to menstruation. Such beliefs are very common to African cultures where the onset of menstruation is viewed as a taboo (bad omen).

The study conducted by Kotoh (2008) stated that menstrual blood was considered dirty and harmful while the current study focuses on socio cultural factors affecting the acceptability of re-usable sanitary towels considering the fact that re-usable sanitary towels have to be washed and aired in the sun to dry.

In the African aspect it is a taboo for men to see or touch women's re-usable sanitary towels. This poses as a challenge to women even when the reusable sanitary towels was cleaned since it was not dried adequately in the sun because the girls wished to be discreet in managing their menses and kept their menstrual cloth hidden and drying in the privacy of the house or even under the bed or mattress. This was based on the belief that men were not to see the girls under garments because if it happened then there would be the need for cleansing. (Kirk, 2006). The resultant drying of menstrual cloth in damp dark places increased the risk of genital infections from bacteria and fungi. This was bound to eventually create foul smell that would discourage girls from attending school even after the menstrual period was over. Because such infections are related to sexual organs, the girls are likely to keep the concerns to themselves thus increasing their physical and psychological problems that would keep from accepting reusable sanitary towels.

Religious teachings, cultural beliefs and traditional practices, have all played their role in the ideology of stigmatizing the menstruating woman (All Africa, 2011). For Western societies, the popular reference to menstruation as 'the curse' began with the biblical telling of it being inflicted on Eve because of her sin in tempting her husband to eat a supposedly forbidden fruit. The words of Leviticus (15:19-33) in the Christian Bible speak directly to influence the fear of women's blood as the root of evil, (Hoffman, 1995).

In traditional Islam, a menstruating woman was considered vulnerable and polluted; therefore she could not pray, fast, or have sexual intercourse. Menstrual blood was najis (polluted), haram (very dirty), just as is the case with all forms of blood, excrement, and

reproductive fluids. In some Islamic traditions the jinn (evil spirit) were believed to be strongly attracted to menstrual blood. For these believers, anyone who sees or touches menstrual blood is ritually impure and vulnerable to malevolent spirits, and dire consequences bound to occur. To restore her socially acceptable state, the woman was required to use running water and do a thorough scrub of herself at the end of her menstrual cycle or other reproductive blood flow. This physical purification allowed her to resume prayer, fasting and intercourse, and dispel the malevolent jinn. When she bathed, she also applied henna to her hands, feet and hair. Henna stained her skin and darkened hair making it visible for several weeks to show that she had a purified body, worthy in the eyes of God and her husband. The henna was also believed to serve as a repellent to malicious jinn. Despite the fact that many societies are doing away with negative attitudes of menstruation, such tendencies still exist especially in areas where they are perpetuated by religion and culture, (Costos, 2002). Aspects of this are echoed in Hindu socio-cultural practices whereby woman abstained from worship and cooking and stayed away from her family, as her touch was considered impure during this period

2.3 Socio-economic factors that affect acceptability of reusable sanitary towels

Notably, most families in (SSA) Sub Saharan Africa region live below the internationally defined poverty line of one USA Dollar per day. Logically then, most of the girls in the region belong to the poor families who may not afford to provide their adolescent daughters with intimate needs such as hygienic re-usable sanitary towels, cleaning materials, adequate underwear, among other things. According to FAWE Kenya (2003), a family's poverty level often determined which menstrual protective materials the girls used during menstruation. These ranged from the more conventional and sophisticated popular 'Always' pads to some old clothes or rugs and even to nothing at all. Girls who were fortunate to access cloth reportedly did not have enough of it thus resulting in sharing of the menstrual cloth with other girls. Where water was scarce, the cloth would not be cleaned properly thus increasing the risk of genital infections.

Poverty intersects with many variables related to acceptability of reusable sanitary towels and menstruation. Most girls from the poor urban setting live in rented houses in the

slums of the city. Commensurate with the findings by (Paul, 2007), it can be very difficult for menstruating girls to live in the same congested rooms as the rest of the family. More so poverty remains a cross cutting issue that hinders girl child education. Countries like Kenya adopted the Universal primary school program but it should be noted that other scholastic materials are equally challenging especially where a family is living below the poverty line, (Muchemi, 2007). In some instances parents have sold off their valuable items in order to keep their children in school and when these deplete children consequently drop out (Okumu, 2008).

Okumu (2008) highlights the plights that parents undergo to keep their children in school therefore this study sought to analyze the socio economic factors affecting the acceptability of re-usable sanitary towels among adolescent girls in primary schools in Sauri Sublocation.

The main source of income in the Sauri community is agriculture with 51% compared to other non-agricultural sources at 41% and remittances at 8% (Sauri Baseline Report, 2005). According to the livelihood data available at the Nyanza provincial data base, nearly half of all women (47.4%) and the majority of men (59.9%) are employed in the agriculture sector. However, agricultural production is mainly for subsistence and not much attention is given to production for income. Production for income has not been feasible considering the high cost of inputs and labour. Sales of small shop items and service provision in homes and business premises becomes the second source of livelihood (27%) while unskilled and casual labour to farms and homes takes the third position in the village.

In a study conducted by SNV in four high schools and 23 primary schools selected from SNNPR in 2009, 70 respondents out of 250 students who were involved in the study reported to have missed classes from 2 to 3 school days per month including exams due to menstruation. The informants said that they are unable to concentrate while attending their lessons. They also indicated to have used unhygienic cloth materials (rags) for menstrual management, which they noted to have made them lose their confidence and self esteem. The study indicated that education officers, school directors, and teachers did

not effectively play their roles in WASH and as a result menstrual hygiene management among adolescent girls in schools has remained a critical issue. The study also revealed that there are no clear policy direction and programs, and the school environment is not conducive as 90% of the schools surveyed do not have adequate and separate toilet and hygiene and sanitation facilities for girls. In addition, it was noted that the latrines do not have doors and that they were also found dirty with no water available in the school compounds.

The study conducted by SNV (2009) highlighted how menstrual hygiene management among adolescent girls remained a critical issue citing school stakeholders as the culprits for ignoring WASH, the current study however focused on the socio economic factors affecting the acceptability of re usable sanitary towels among adolescent girls in primary schools.

In the study conducted by TCECA (2012) at one high and two elementary schools at Nefas Mewcha, Checheho and Hagere Genet in South Gondor zone in Amhara regional state which included 180 selected students from grade 5 up to grade 10, about 67% of the respondents confirmed that it is expensive to buy disposable sanitary towels. The majority of the respondents in the study (78.3%) kept their reusable sanitary towels at hidden and unclean places. As a result, 38% reported to have missed classes between one and five days every month due to menstruation. When female students had an unexpected encounter of having their menstruation at schools, they remained behind until all students left the class to avoid embarrassment, and they also refused to come out to the front of the class to participate in class activity. The study recommended that alternative and affordable reusable sanitary towels should be locally produced and made available by involving women cooperatives and providing training in the production and distribution of low cost reusable sanitary towels. It also recommended incorporating the issue in reproductive health education and WASH interventions, instead of developing a separate program to deal with the problem.

The study conducted by TCECA (2012) recommended that alternative and affordable reusable sanitary towels be locally produced and made available by involving women cooperatives and providing training in the production and distribution of low cost reusable sanitary towels while this study focused on socio economic factors affecting the acceptability of re-usable sanitary towels among adolescent girls in Bar Sauri primary schools.

According to the Ministry of Education 2008 report, dropout rate of girls has increased as they progress to higher grade levels despite an increasing number of girls enrollment at all levels of education. According to the report, girl's rate of completion at grade 5 was 56% while it dropped down to 33% when they reach at grade 8. A Study conducted in 2004 by UNICEF estimates that 1 in 10 menstruating African girls skip school from 4-5 days per month or drop out completely. Most girls in the rural areas of developing countries do not attend school during their menstrual cycle because of the high cost of disposable sanitary towels and the fear of accidental leaks. The main reasons for the neglected conditions of Menstrual Hygiene Management (MHM) in Ethiopia were noted that this aspect of personal hygiene management is considered to be only the issue of women and rather shameful among the society and that the decision making process is highly dominated by men who do not seem to have good understanding of the gravity of the problem.

Economic constraints lead to girls and women having limited access to hygienic materials for managing menses. Even girls who have access to reusable sanitary pads may only change them once or twice a day. Limited resources also hinder access to private and hygienic sanitation facilities, both at home and in school. Although schools were found to generally have at least one toilet facility, and about 60 per cent have separate facilities for girls, these facilities are often poorly maintained or non-functional.

2.4 Summary of Literature Review

Over decades girls including those in African settings and elsewhere have been taught that having periods is shameful. Many of them have indirectly, if not directly, absorbed the messages that menstrual blood is dirty, unhygienic and unclean. Such messages have

been perpetuated through advertisements for menstrual products or 'feminine hygiene' products in the mass media, which underscore the need for freshness. Even the term 'feminine hygiene' implies that help is needed with regard to cleanliness during the menses. With all these negative messages that target the event of menstruation, it is not surprising for women and girls to want to hide their menstrual blood and secretly/discretely throw it away. To do otherwise would go against the grain of what they have been taught as the essence of clean womanhood according to the creed of their communities, religion, or families either in written or oral form.

History has shown menstruation being regarded as a taboo topic (Costos 2002) and this stems from the fact that it is not looked at as a natural occurrence but a socially constructed one. The myths and taboos make the menstrual experience worse for girls and hence lose their self esteem as girls and others regret being born girls consequently limiting their full participation in educative activities at school. Girls were made aware of the cultural labels attached to menarche and these often make them feel like they are going through a private dirty process. This implies that, today they are children, if they get periods the next day, then they are women. Girls from the rural setting were more aware of the cultural constructions than those from the urban settings. It is indeed true that much as the instance of looking at menstruation as a taboo is fading in most western countries, many countries in Africa still have this perception, (Kirk, 2006).

This is consistent with a finding by Kirk where a soiled uniform provoked ridicule from both boys and girls thereby placing the girls at higher stigma and discrimination experiences (Kirk, 2006). Such restrictions present avenues for stigma and discrimination from both boys and girls. The same finding was mentioned by (Houppert, 2006) where she quoted some girls who menstruated early as being labelled promiscuous. Much as such a label is not very common, it exists and it usually lowers the self-esteem of girls which tampers with their active involvement in different engagements at school. When girls go through such experiences they lose the courage to go on with their studies because they feel that life is being unfair to them. Kirk and Houppert findings do not state whether the discrimination experienced by girls leads to dropping out from school.

According to FAWE Kenya (2003), a family's poverty level often determined which menstrual protective materials the girls used during menstruation. These ranged from the more conventional and sophisticated popular 'Always' pads to some old clothes or rugs – and even to nothing at all. Girls who were fortunate to access cloth, reportedly did not have enough of it, thus resulting in sharing of the menstrual cloth with other girls. Where water was scarce, the cloth would not be cleaned properly, thus, increasing the risk of genital infections. Commensurate with the findings by (Paul, 2007), it can be very difficult for menstruating girls to live in the same congested rooms as the rest of the family. However income which is often been used as a proxy or measure of either poverty or rural well-being is often been understated or overstated. The role of education in addressing issues of puberty and not in the least the accompanying feminine concerns cannot be overemphasized. Arguably because menstruation is a biological inevitability in human nature, preparing women and girls on how to respond to menstruation issues without demeaning their dignity as menstruating beings is an educational imperative. Similar to the findings by (Moore, 1995), most girls had pre-menarche knowledge but their understanding of the occurrence is so limited. This is consistent with Dioro and Munro's findings that menstrual education was advocated for as a pathway to enlighten pupils about reproductive health issues, (Chang et al. 2011). But schools embrace puberty studies only to the tune of studying the different body parts without explaining the different puberty signs and its consequent management however often times menstruation is left out entirely.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter presented a detailed description of the selected methodology used to carry the study. It included the research design, target population, sampling procedure and sample size, data collection instruments, validity and reliability, procedure for data collection and data analysis.

3.2 Research Design

This study adopted a cross sectional descriptive research design. Cross sectional descriptive research design focused on the formulation of objectives, design of data collection instruments, collection of data, processing and analyzing data and reporting findings as they are, without manipulations during the time of conducting the study (Mugenda and Mugenda, 2008). Cross sectional descriptive research design is a method of collecting information by interviewing or administering questionnaires to a sample of individuals hence suitable for extensive research and triangulation of data. At the same time the cost of surveys is reasonable considering the amount of information gathered (Orodho, 2003). Descriptive statistics was used to analyze the data. The sampling unit was 6 schools which formed the unit of analysis.

3.3 Study Area

The study was carried out in Bar Sauri Sub Location where the primary school project interventions by Millennium Village Project were undertaken. Sauri is a sub- Location in Siaya County. It is located in the Western Kenyan highlands at 1400-1500 meters above sea level, west of the Rift Valley and 30 km North West of Kisumu town. It covers an area of 8 km², part of which is in Yala town. The equator lies just to the south of Sauri (0° 06N). The sub-location is a conglomerate of 11 administrative villages i.e. Yala A, Yala B, Kosoro, Madiri, Luero, Sauri A, Sauri B, Nyamninia A, Nyamninia B, Nyamboga and Silula with boundaries extending to Western Province of Kenya. Mean income in Sauri is at \$3s36 per person per year, with median income at \$161. 79% of the

Sauri population (4516 people) lives below \$1 (1993 PPP) per day. 89.5% of the Sauri population (5178 people) lives below \$2 (1993 PPP) per day. In Sauri, the mean percentage distance below \$1 (PPP) per day is 54.5% at the poverty line of \$1 a day. The literacy rates estimated for different groups in Sauri can be useful when compared relative to each other. The data show that illiteracy among adult females (21.1%) is almost 5 times that of males (4.6%). The difference is almost entirely due to the gender gap at older ages; for younger respondents the gap in literacy rates is significantly smaller (Sauri Baseline Report, 2005).

3.4 Study population and Sample size

The study population sampled primary schools in Bar Sauri Sub- Location where the Millennium Villages Project carried out a re-usable sanitary towel intervention programme. The sample was derived from the six primary schools namely Barturo, Nyamninia, Bar Sauri, Township, Muhanda and St Teresa. These were respondents of whom a series of interventions by MVP had been carried out. The entire population that participated in the MVP intervention was 222 girls who had only used the reusable sanitary towels for a period of one to three years and were available in school. This sample size was derived from MVP bio data on the number of girls who had started menstruating and were being supported with reusable sanitary towels. The schools reproductive health teachers also had the same list of girls with reusable sanitary towels and was also compared with the MVP bio data. This study therefore conducted a Census of all the girls who were involved.

3.5 Sampling Approach

The study adopted purposive sampling which was done in order to select primary school girls who benefited on the re-usable sanitary towels. Purposive sampling as a technique allowed the researcher to use cases that had the required information with respect to the objectives of the study (Gay, 2006).

3.6 Data Collection Methods

3.6.1 Selection of Research Assistants

Field/Research Assistants were identified and interviewed for the exercise. The criterion for selection was that they must have completed secondary school, conversant with the study area and able to communicate in the local language (Luo). Their knowledge of the area contributed to the creation of confidence for the respondents and a more serious response. Five field assistants and two supervisors were selected for the exercise.

3.6.2 Training and Pre-testing

The selected field assistants and supervisors were trained for two days and sent out in the field to do a pre-test in case of sections of the questionnaire that could pose challenges in answering. This highlighted areas of correction and restructuring of the data collection tool (pupil questionnaire).

3.6.3 Quantitative data Collection

In the quantitative data structured questionnaires were used. All the 222 adolescent girls were expected to fill in the questionnaires. For effective answering of the questions the 222 respondents were sensitized on the questionnaires in 3 consecutive meetings comprising of 74 respondents in each meeting. This method was preferred because of its ability to solicit information from respondents within a short time as supported by Gupta, (2009). This tool also enhanced wide coverage of the respondents and drew specific information that would guide study objectives. Moreover, respondents were given time to consult so that sensitive questions could be truthfully answered as supported by Floyd, (2003). The trained field assistants together with the researcher administered the questions among the 222 respondents. The questionnaires were checked on a daily basis for errors by the trained field supervisors and some cases referred back to pupils to fill in the areas that had been left blank. Data was then cleaned, coded and presented for entry.

3.6.4 Qualitative data collection

Consent was given by the school head teacher who allowed the adolescent girls to participate in the FGD. Focus Group discussion comprised of [6 – 12] people and was led by a trained moderator for about 90 minutes to 2 hours to discuss topical subjects that touched on the research objectives of the study. The facilitator used group dynamics principles to focus or guide the group in exchanging ideas, feelings and experiences on specific topics. Focus group discussion meetings were conducted for 5 days in selected locations to aid in appreciating the weight of some of the items under study. 18 groups of adolescent girls participated in the group discussions.

Focus group discussion was used to reveal a wealth of detailed information and deep insight that created an accepting environment that put participants at ease allowing them to thoughtfully answer questions in their own words and add meaning to their answers and also whose opinions and experiences are solicited simultaneously. This was efficient in that it generated a lot of dialogue. The compositions of the groups were limited to those with similar characteristics such as previous participation in the MVP re-usable sanitary towel programme, so that the members could feel free in contributing to the issues at hand. This allowed members to share their views, experiences and opinions thus creating interpersonal interactions creating a free and enjoyable environment according to (Krueger, 2006).

3.6.5 Secondary Data

Secondary Data from surveys and reports (District Education reports, Surveys from Millennium Villages Project and the Sauri baseline survey reports) were used in the study to verify/qualify some of the findings.

3.7 Data Analysis and Presentation

Statistical Package for Social Scientists (SPSS) version 18 was used to perform descriptive and inferential statistics for quantitative data while Qualitative data from FGD was analyzed according to the emerging themes and sub themes this was through selection of similar statements hence qualitative findings were synchronized with

quantitative findings. Quantitative data was coded to be entered into database and analyzed through descriptive statistics (frequency, percentages, mean, range) were used to describe the population. The results were presented in textual and table's form.

3.8 Ethical Consideration

The researcher was not only concerned with the benefits of the research findings but also looked at the rights of subjects or participants in the research process. The philosophy of informed consent was that the participants in research must make their decision to participate based on adequate knowledge. The researcher kept from the public certain information by safeguarding the privacy and confidentiality of the participants. The Researcher endeavored to seek consent from the various school heads to give pupils enough time for FGDs that were conducted in Schools. Consent was also sought from MVP project because they pioneered the implementation of the re-usable sanitary pads for the last five years in Bar Sauri Sub Location. The researcher obtained all the relevant permits from the University, National Council of Science and Technology, Ministry of Education and Security organs and ensured that the study was sanctioned as required.

CHAPTER FOUR: DATA ANALYSIS, PRESENTATION AND DISCUSSIONS

4.1 Introduction

This chapter of the study systematically presents the results obtained from the research that was conducted. The results are quantitatively and qualitatively presented. The analysis and interpretation follows tabular presentation at some stages and focused group discussion results from the respondents are also presented to supplement the quantitative presentation derived from the questionnaires.

The presentation of the study is in line with the study's specific objectives. The bio data of the respondents was also presented. The primary data of this study was calculated using covariate adjusted t-test. Sensitivity analysis was used to confirm the validity of the data. Poisson regression analysis (student t-distribution) was equally applied to estimate the degree to which two measures were related to each other. Items that correlated highly were all significant at 0.01 levels (2-tailed).

Table (4.1) below presents the response rate of respondents that were sampled during the study period. Quantitative primary data was obtained through issuance of copies of the questionnaire to the respondents while this data was gathered by the research assistants and the researcher.

4.1 Questionnaire Return Rate

Table 4.1: Response Rate Analysis

		Respondents	Percentage
Questionnaires distributed	222		100
Questionnaires returned answered	222		100
Questionnaires returned not fully answered	0		0

Field survey (2014)

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The researcher established that questionnaires were fully answered and all included in the study. The assumption for the full participation by the respondents was that at the end of the study, free reusable sanitary towels would be distributed. This percentage was enough to continue the study since according to Necamaya (1996) response return rate of more than 75% is enough for the study to continue.

4.2 Demographic characteristics of the respondents.

The current section presents the bio data of the respondents. The study included this information because the respondents, age and number of years the respondents used the reusable sanitary towels directly or indirectly determined the ability of the respondents to possess the required information with regard to acceptability of the reusable towels and subsequently determined the necessity of the study to probe for any detail and establish sufficient rapport.

4.2.1 Distribution of Respondents by Gender

On gender distribution the researcher established the situation as presented in Table 4.2. As can be observed, the gender distribution of the respondents was 100% females.

Table 4.2: Gender Distribution of the respondents

Gender	Frequency	Percentage
Female	222	100
Total	222	100

Field Survey (2014)

The findings indicated that the respondents had participated under the MVP reusable sanitary towels program and were also participating in this current study.

4.3 Distribution of the Respondents by experience of using reusable sanitary towels

The researcher endeavored to explore the distribution of the respondents experience in using reusable sanitary towels. This variable was deemed worth examining by the study because the respondents experience determined their ability to possess adequate information concerning the acceptability of reusable towels.

Table 4.3 below depicts that the reusable respondents experience with sanitary towels ranged between 1-2 years. That is 59% had used re-usable sanitary towels for two years while 41% had experience with reusable sanitary towels for one year. The findings indicated that the responses with regard to reusable sanitary towel experience were the pupils engaged in this study.

Table 4.3: Respondents experience with sanitary towels

Years of experience	Respondents	Percentage
0-1years	90	41
1-2 years	132	59
Total	222	100

Field Survey (2014)

The mean age of the school girls across the entire sample (n = 222) was 13 years (sd =1.59). The Lived Poverty Index was 1.73, this was calculated through examining the prevalence of basic necessities that were absent from the school girls lives.

These results generally indicated that the respondents were able to provide adequate information with regard to acceptability of reusable sanitary towels. The study concluded that this sample could generate reliable dialogue and establish findings on the acceptability of re-usable sanitary towels by adolescent girls. The study sought to establish menstrual management support amongst the respondents the results are presented on table 4.4 below:

According to table 4.4 below shows categories of responses that supported the respondents logistically during menstruation. 15% of the respondents stated fathers supported, 39% of the respondents stated that mothers supported, 16% of the respondents stated that either parents supported while 30% felt that guardians supported.

Table 4.4: Menstrual Management Support

Category	Respondents	Percentage
Father	32	15
Mother	87	39
Either Parents	36	16
Guardian	67	30
Total	222	100

Field Survey (2014)

These findings indicated that the girls opened more to their mothers and guardians. This is because most of the girls were orphaned and were living with guardians. The study conforms to the study of Crofts and Fisher (2012) who established providing additional resources for women would result in equitable opportunities hence acceptability of reusable sanitary towels.

4.4 Acceptability of re-usable sanitary towels among adolescent girls in primary schools

The first research question of this study was derived from the first research objective. The question sought to assess the extent to which re-usable sanitary towels are acceptable among adolescent girls in primary schools in Bar Sauri Sub location. In order to get answers to ascertain this research question, the study sought to find the type of sanitary

protection used during menstruation. The type of sanitary protection used during menstruation. 45% of the respondents stated that the type of sanitary protection used during menstruation were disposable sanitary towels, 26% of the respondents stated that re-usable sanitary towels were in use, 12% of the respondent however state that tissues were used during menstruation hence this left a distribution of 17% of the respondents who stated that old rags were in use during menstruation, the results are presented on table 4.5.

Table 4.5: The type of sanitary protection used during menstruation

Type of Sanitary protection	Respondents	Percentage
Disposable sanitary towels	102	45
Reusable Sanitary towels	54	26
Tissues	26	12
Old clothes	37	17
Total	222	100

Field Survey (2014)

The findings indicated that majority of respondents used disposable sanitary towels. This was because the disposable sanitary towels did not require washing and drying based on its high quality. They proved very absorbent thus limiting embarrassment.

The researcher sought to explore this issue further through the focus group discussion where the respondents stated that:

“We have come across several types sanitary protection used during menstruation, including clothes and tissues”.

Respondents unanimously agreed that as a way of coping with menstruation, *'we strap sweaters around our waists and avoid wearing clothes with light colours that could easily reveal soiled uniforms'*.

Some girls unanimously mentioned that *"we play and interact less with our peers because we believe that if you don't move around a lot, the flow of blood will be light and so cannot cause any unnecessary soiling their uniforms"*.

One respondent further emphasized that *'i will never forget the day when all boys were not talking to me in class for a whole term saying that i was dirty just because i had got a menstrual accident once'*.

According to a report by UNICEF on average, 1 in 10 schoolgirls did not attend school during menstruation. According to teachers, poor conditions of the toilets and lack of privacy and hygiene facilities resulted in girls' absenteeism from school. And even when in attendance, girls reportedly withdrew from school related activities both within and outside the class (UNICEF, 2004). Crofts and Fisher (2012) state that the use of disposable sanitary towels boosts the self-esteem of girls thus making them feel more feminine and more empowered based on their adolescence stage.

The researcher sought to establish whether girls prefer using re-usable sanitary towels. On whether girls prefer using re-usable sanitary towels, 26% of the respondents agreed with this statement, 58% of the respondents felt that girls did not prefer using reusable sanitary towels, while 11% of the respondents stated that they sometimes preferred using re-usable sanitary towels, however 5% of the respondents were of the opinion that they never preferred using reusable sanitary towels, the results are presented on table 4.6.

Table 4.6: Girls prefer using reusable sanitary towels

Respondents	Frequency	Percentage
Yes	57	26
No	129	58

Sometimes	24	11
Never	12	5
Total	222	100

Field Survey (2014)

The findings indicate that majority of respondents did not prefer to use reusable sanitary towels; this could be attributed to the high hygiene standards associated with the product.

The focused group discussion established an interesting fact that was associated with peer pressure,

“We prefer to use disposable sanitary towels as compared to reusable sanitary towels, because apart from hygiene issues, most of our friends use disposable sanitary towels, uta onekana mshamba na masikini uki tumia ile ingine”.

Translated as *you will look poor and out of place if you use the other one (reusable sanitary towels)*

This observation raised the aspect of affordability of disposable sanitary towels to which the respondents stated that

“Although disposable sanitary towels are expensive we usually get money from our boyfriends to purchase the sanitary towels”

This was because girls share their first menstrual encounter with their boyfriends and fear discussing with their parents because they would not support them. Plitteri (2011) also established that lack of education on menstrual hygiene products was attributed to lack of education and traditional beliefs surrounding menstruation.

The researcher sought to establish the challenges experienced from using re-usable sanitary towels. The challenges experienced from using re-usable sanitary towels. 21% of the respondents stated that they developed rough skin around there genitalia after using reusable sanitary towels. 13% of the respondents stated that reusable sanitary towels did

not dry quickly, 18% of the respondents felt that reusable sanitary towels were difficult to maintain while 11% of the respondents state that reusable sanitary towels could not effectively hold the discharge, while 36% of the respondents stated that they felt very uncomfortable when they used reusable sanitary towels, the results are presented on table 4.7.

Table 4.7: Challenges experienced from using re-usable sanitary towels

Respondents	Frequency	Percentage
Rough on the skin	48	21
They do not dry quickly	28	13
Difficult to maintain	41	18
They do not hold the discharge	24	11
Very Uncomfortable	81	36
Total	222	100

Field Survey (2014)

The findings indicated that majority of respondents felt that the re-usable sanitary towels were uncomfortable as compared to the disposable sanitary towels.

The focused group discussion established that;

“When you wash and dry reusable sanitary towels they tend to be rough on the skin, they equally do not dry quickly since they are dried under the bed and often wearing they damp resulting into itching thus difficult to maintain the required hygiene. Lack of a private area for washing and drying menstrual clothes as also cited as a challenge since it prevented them from drying. The findings are supported by UNICEF, (2008) that lack of adequate sanitation facilities affects menstrual hygiene issues posing disadvantage to re-usable sanitary towels.

However the discussants biggest concern was that,

“Re- usable sanitary towels cannot hold heavy menstrual flow, we usually experience leakages”.

The findings of Averbach (2009) conforms to the findings of this study having established that most significant problems identified with re-usable sanitary towels were leakages and the pads falling off from the underwear based on the material they were using.

On Adoption of Re-usable sanitary towels for girls in schools, showed that 22% of the respondents stated that it was high, 58% of the respondents felt that it was low, 13% of the respondents felt that it was medium while 7% of the respondents had no idea, the results are presented on table 4.8.

Table 4.8: Adoption of Re-usable sanitary towels for girls in schools

Adoptions	Frequency	Percentage
High	49	22
Low	127	58
Medium	31	13
No Idea	15	7
Total	222	100

Field Survey (2014)

The findings indicated that majority of respondents felt that the reusable sanitary towels were not ideal for girls in school if only they could addresses the challenges that come with them.

The focused group discussion established that *“re-usable sanitary towels were ideal for girls in schools and therefore there was need to make them available and cheap as well”.*

In the African context, it is a taboo for men to see or touch women's sanitary towels, this poses as a challenge to women, even when the reusable sanitary towels was cleaned, it was not dried adequately in the sun because the girls wished to be discreet in managing their menses, and hence kept their menstrual cloth hidden and drying in the privacy of the house or even under the bed or mattress (Kirk, 2006).

On whether girls complained of their experience with reusable sanitary towel, 51% of the respondents complained a lot, 35% of the respondents stated that they did not complain while 14% respondents of the respondents had No idea, the results are presented on table 4.9.

Table 4.9: Girls experience with reusable sanitary towels

Experience	Frequency	Percentage
Complained	113	51
No complaint	78	35
No idea	31	14
Total	222	100

Field Survey (2014)

The findings indicated that majority of respondents complained a lot about the reusable sanitary towels. This was in tandem with the question posed on the challenges experienced while using re-usable sanitary towels.

The Focused group discussion established that the respondents were not comfortable with re-usable sanitary towels; one respondent started that, *“one time, I accidentally dropped my sanitary towel in class, boys started asking if I was in my periods hence this was very embarrassing”*.

The above findings were consistent with a finding by Kirk where a soiled uniform provoked ridicule from both boys and girls thereby placing the girls at higher stigma and discrimination experiences, (Kirk, 2006).

4.5 Socio cultural factors affecting the acceptability of reusable sanitary towels among adolescent girls in primary schools

The second question sought to assess the socio cultural factors affecting the acceptability of reusable sanitary towels among adolescent girls in primary schools. In order to get answers to ascertain this research question, the researcher inquired from the respondent their perceptions on socio cultural factors influencing acceptability of reusable sanitary towels, 37% of the respondents stated that the myths and taboos had an effect on menstruation issues, 15% of the respondents believed that religious views were of concern with regard to menstruation, 23% of the respondents stated that there was stigma associated with menstruation, this left a majority 24% of respondents who had no idea. the results are presented on table 4.10.

Table 4.10: Socio cultural factors influencing acceptability of reusable sanitary towels

Factors	Respondents	Percentage
Myths and Taboos	82	37
Religious Views	34	15
Non-involvement of community	52	23
Stigma Associated with menstruation	54	24
Total	222	100

Field Survey (2014)

The findings indicated that majority of respondents still viewed menstruation as a taboo. The Poisson regression analysis (student t-distribution) done to test the significance of

socio cultural factors and acceptability of reusable sanitary towels confirmed that there was a strong relationship and the value was $p = 0.002$. The above findings are in tandem with observations by other scholars Kirk (2006) states that Beliefs and myths have it that blood is dirty hence the females were dirty and unclean.

During the focused group discussion the respondents stated that;

“Traditionally females are not allowed to stand before people especially men and address them. It was further established that culturally “the presence of women is not acceptable because of the beliefs surrounding blood. At this time females are considered unclean, weak and not expected to touch certain plants like vegetables. While religiously a woman is expected to remain silent and inactive in church during this time, not expected to receive sacrament, preach or address the congregation while standing at the church altar.

On what were the attitudes of male relatives and friends during menstrual period, the results are presented on table 4.11 that, 38% of the respondents viewed menstruation as dirty, while 15% of the respondents were helped to purchase the towels, 19% of the respondents were allowed to do their chores, while 28% of the respondents felt avoided because of menstruation. The Poisson regression analysis (student t-distribution) done to test the degree to which the community none involvement and menstruation issues, $p = 0.002$. The findings indicated that majority of respondents viewed menstruation as dirty.

Table 4.11: Attitudes of male relatives and friends on menstruation

Attitude	Respondents	Percentage
They viewed menstruation as dirty	83	38
Were helped to purchase the towels	33	15
Were allowed to do their chores	43	19
felt avoided because of menstruation	63	28
Total	222	100

Field Survey (2014)

The above findings can be supported by (Kirks, 2006) and (Houppert, 2006) assertion. They state that myths and taboos make the menstrual experience worse for girls and hence lose their self-esteem as girls and others regret being born girls consequently limiting their full participation in educative activities at school. This is consistent with a finding by Kirk where a soiled uniform provoked ridicule from both boys and girls thereby placing the girls at higher stigma and discrimination experiences. (Kirk, 2006). Such restrictions present avenues for stigma and discrimination from both boys and girls. The same finding was mentioned by (Houppert, 2006) where she quoted some girls who menstruated early as being labeled promiscuous. Much as such a label is not very common, it exists and it usually lowers the self-esteem of girls which tampers with their acceptability of reusable sanitary towels. When girls go through such experiences they lose the courage to participate in public because they feel that life is being unfair to them.

The study sought to establish where they store their reusable sanitary towels after it has been used during schooling period. 37% of the respondents stated that they carried Polythene bags to school for storing their reusable sanitary towels, 15% of the respondents stated that they washed and dried them. majority of the respondents stated that 31% they preferred to go home and 17% of the respondents had No idea, the results are presented on table 4.12

Table 4.12: Storage of reusable sanitary towels after use during schooling period

Storage means	Frequency	Percentage
Polythene bags	82	37
Wash and dry them	34	15
Go home	68	31
No Idea	38	17
Total	222	100

Field Survey (2014)

The findings indicated that majority of respondents preferred to go home and wash the sanitary towels. This finding could be attributed to lack of proper functional toilets with running water in most schools. The findings also revealed that girls expend considerable energy trying to keep their menses secret, given that menstruation remains taboo in everyday conversation. This posed challenges in schools where the infrastructure does not provide privacy. Most schools are not equipped with doors that lock from the inside. Some schools had a separate bathing room, but girls must request a key from a teacher to access it. Such requests may signal to other students that a particular girl has her menses, thus exposing her to embarrassment and potential ridicule.

Poor conditions of the toilets and lack of privacy and hygiene facilities resulted in girls' absenteeism from school. And even when in attendance, girls reportedly withdrew from school related activities both within and outside the class (UNICEF, 2004). Where a soiled uniform provoked ridicule from both boys and girls thereby placing the girls at higher stigma and discrimination experiences, (Kirk, 2006).

The study further sought to establish whether they washed their reusable sanitary towels at school. 27% of the respondent stated that they often times washed their reusable sanitary towels in school, however a majority of the respondents 58% of the respondents

stated that they never washed their reusable sanitary towels in school, 14% of the respondents had no idea, the results are presented on table 4.13.

Table 4.13: Washing reusable sanitary towels at school

Responses	Frequency	Percentage
Often times	61	27
Never	129	58
No idea	32	14
Total	222	100

Field Survey (2014)

The findings indicated that majority of respondents did not wash their reusable sanitary towels in school but at home. This finding could be associated with the stigmatization that comes with being seen menstruating.

This is consistent with a finding by (Kirk, 2006) he asserts that it is believed that men were not to see the girls under garments because if it happened then there would be the need for cleansing.

According to the focused group discussion guide the respondents stated that *“We feel embarrassed while washing the re-usable sanitary towels because traditionally and religiously touching blood is not allowed”*.

The study further sought to establish whether apart from reusable sanitary towels there were any other protective materials they used; the results are presented on table 4.14. 59% of the respondents stated that they used disposable sanitary towels. 30% of the respondents stated that they used tissue paper, while 11% of the respondents stated that they used old clothes.

Table 4.14: Available menstrual protective materials

Responses	Frequency	Percentage
Disposable sanitary towels	132	59
Tissues	67	30
Old clothes	23	11
Total	222	100

Field Survey (2014)

The findings indicated that majority of respondents felt that disposable sanitary towels were available, however tissues and old cloths did crop up as alternatives to menstrual management.

The focused group discussion established that *“We can not afford sanitary towels therefore we use old clothes. This was reported by close to seventeen girls”*

This finding is commensurate with what other scholars have said with regard to poverty and menstrual management. Poverty intersects with many variables related to acceptability of reusable sanitary towels and menstruation. Most girls from the poor urban setting live in rented houses in the slums of the city. Commensurate with the findings by (Paul, 2007), it can be very difficult for menstruating girls to live in the same congested rooms as the rest of the family. More so poverty remains a cross cutting issue that hinders girl child education (Muchemi, 2007).

4.6 Socio economic factors affecting the acceptability of re-usable sanitary towels among adolescent girls in primary schools?

The Third research question of this study was derived from the third research objective. The question sought to examine the socio economic factors affecting the acceptability of re-usable sanitary towels among adolescent girls in primary schools. In order to get answers to ascertain this research question, the study analyzed the respondents perceptions on socio economic factors influencing acceptability of reusable sanitary towels, the results are presented on table 4.15, 13% of the respondents felt that sanitary towels were not available, 26% of the respondents felt that sanitary towels were expensive, 16% of the respondents felt that the donations of reusable sanitary towels were not adequate, 45% of the respondents stated that they lacked money.

Table 4.15: Socio economic factors influencing acceptability of reusable sanitary towels

Responses	Frequency	Percentage
Sanitary towels were not available	28	13
Sanitary towels were expensive	57	26
Adequacy of reusable sanitary towels donations	38	16
We lacked money	99	45
Total	222	100

Field Survey (2014)

The results were based on Poisson regression (student t-distribution) analysis carried out on socio economic factors and acceptability of reusable sanitary towels ($p=0.001$). The findings indicated that majority of respondents felt that the level of poverty was very high.

This study conforms to UNICEF (2009) findings that economic constraints led to girls and having limited access to hygienic materials for managing menses. Even girls and women who have access to reusable sanitary towels may only change them once or twice a day. Limited resources also hinder access to private and hygienic sanitation facilities, both at home and in school. Almost 63 million adolescent girls live in homes without toilet facilities. Although schools were found to generally have at least one toilet facility, and about 60 per cent have separate facilities for girls, these facilities are often poorly maintained or non-functional. Moreover, an estimated 14 per cent of children have no access to toilet facilities in schools.

According to an FGD conducted some respondent's stated that sanitary towels were expensive for their parents to purchase,

Sometimes they failed to even get money to buy paraffin for the 'Nyangile' (Local lantern) and salt for fish preservation, how could they get money for sanitary towels. One towel could buy 15 Sackets of salt. The respondents said that since they cannot afford the sanitary towels they felt embarrassed to handle such situation and so they just avoided.

According to FAWE Kenya (2003), a family's poverty level often determined which menstrual protective materials the girls used during menstruation. These ranged from the more conventional and sophisticated popular 'Always' pads to some old clothes or rugs – and even to nothing at all. Girls, who were fortunate to access clothing, reportedly did not have enough of it, thus resulting in sharing of the menstrual cloth with other girls. Where water was scarce, the cloth would not be cleaned properly, thus, increasing the risk of genital infections. On whether there have been instances where girls sought sanitary towels from their teachers, the results are presented on table 4.16, 36% of the respondents stated that a number of times girls sought sanitary towels from their teachers, 31% of the respondents stated that sometimes the girls sought sanitary towels from them, 19% of the respondents stated that they never sought sanitary towels from them while 14% of the respondents had no idea.

Table 4.6: Instances where girls sought sanitary towels from their teachers

Responses	Frequency	Percentage
A number of times	79	36
Some times	68	31
Never	43	19
No idea	32	14
Total	222	100

Field Survey (2014)

These findings indicated that since the female teachers taught the respondents on topics covering reproductive health, the respondents felt free to discuss issues surrounding menstruation and its management while also benefiting from guidance and counseling done by their teachers.

According to the focus group discussion guide, the respondents stated that, *“they usually sought assistance mostly in emergency situations where the menstrual flow is heavy and at school”*. However other respondents stated that they felt ashamed to ask teachers for help in this situation”.

On what could be done to improve acceptability of reusable sanitary towels, the results are presented on table 4.17, 35% of the respondents felt that the texture of reusable towels should be improved, 23% of the respondents however felt that design of reusable sanitary towels should be improved, 21% of the respondents felt that the material used for reusable towels should improve while 21% of the respondents felt that the size of reusable sanitary towels should be improved.

Table 4.17: Improving acceptability of reusable sanitary towels

Respondents	Frequency	Percentage
Improve on the Texture	79	35
Improve on the Design	50	23
Improve on the material	47	21
Improve on the size	46	21
Total	222	100

Field Survey (2014)

The findings indicated that majority of respondents had issue with the texture of the reusable sanitary towels.

The above findings can be supported by Kirk, (2006) when he state that the resultant drying of menstrual cloth in damp dark places increased the risk of genital infections from bacteria and fungi. This was bound to eventually create foul smell that would discourage girls from attending school even after the menstrual period was over. Because such infections are related to sexual organs, the girls are likely to keep the concerns to themselves thus increasing their physical and psychological problems that would keep from accepting reusable sanitary towels.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The current chapter of this study presents the discussion of the results derived from the data presented in Chapter four, the discussion leads into varying conclusions and a number of recommendations are subsequently derived.

5.2 Summary of Findings

The following are the summaries on the findings based on the three objectives that guided the study. The first objective sought to assess the extent re-usable sanitary towels are acceptable among adolescent girls in primary schools. 53% of the respondents felt that girls did not prefer using reusable sanitary towels, while 12% of the respondents stated that they sometimes preferred using re-usable sanitary towels, however 6% of the respondents were of the opinion that they never preferred using re-usable sanitary towels. The findings indicate that majority of respondents did not prefer to use reusable sanitary towels; this could be attributed to the high hygiene standards associated with the product. This was further confirmed by the Poisson regression analysis (student t-distribution) done to test the significance of preference of reusable sanitary towels, the value was $p = 0.002$.

The second objective sought to establish the socio cultural factors affecting the acceptability of re-usable sanitary towels among adolescent girls in primary schools. 29% of the respondents stated that the community viewed menstruation as a taboo, 18% of the respondents believed that a woman menstruating should not mix with people, 26% of the respondents stated that women were financially incapable of purchasing reusable sanitary towels, this left a majority 27% of respondents who felt that the community preferred not to involve itself with menstruation issues. The Poisson regression analysis (student t-distribution) done to test the significance of socio cultural factors and acceptability of re-usable sanitary towels confirmed that there was a strong relationship and the value was

$p = 0.002$. The findings indicated that majority of respondents of the respondents still viewed menstruation as a taboo and were reluctant to participate in the study.

The third objective sought to analyze the socio economic factors affecting the acceptability of re-usable sanitary towels among adolescent girls in primary schools. 14% of the respondents felt that sanitary towels were not available, 29% of the respondents stated that women were not financially empowered, 19% of the respondents felt that the donations of reusable sanitary towels were not adequate, 38% of the respondents were of the view that the level of poverty was high. The result of Poisson regression (student t-distribution) analysis carried out on socio economic factors and acceptability of reusable sanitary towels was ($p=0.001$). The findings indicated that majority of respondents felt that the level of poverty was very high.

5.3 Conclusion

The first objective sought to assess the extent re-usable sanitary towels are acceptable among adolescent girls in primary schools. The study concluded that, reusable sanitary towels though a noble idea there was need to improve on the product capabilities.

The second objective sought to assess the socio cultural factors affecting the acceptability of re-usable sanitary towels among adolescent girls in primary schools. The study concluded that, there was need to create much awareness and education to the community with regard to attitudes change on menstruation.

The third objective sought to analyze the socio economic factors affecting the acceptability of re-usable sanitary towels among adolescent girls in primary schools. The study concluded that, the government intervention was not enough despite their efforts to support menstrual management.

5.4 Recommendations

In line with the first objective the study recommended that, there was need for adequacy of water for washing the reusable sanitary towels and bathing, availability of hygienic materials and solid waste management of the towels.

The study recommended on the second objective that, there was need for policy formulation on menstrual management and sensitization to the rural and urban folk both male and female on menstruation issues. This would de mystify and de stigmatize menstruation issues.

The study recommended on the Third objective that, there was need for more effort on production and social marketing of low-cost bio-degradable reusable sanitary towels.

5.5 Suggestions for Further Research

The researcher's point of departure was that there was need for further research on sanitary towels disposal in the rural setting as this was necessitated by the scale of the environmental problem they posed.

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