

Effect of Menstrual Hygiene Management on Girl Child's Academic Performance in Secondary School Education in Kenya: A Study across Secondary Schools in Mbita Sub County

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Abstract

Health and education of the girls is key to achievement of gender equity and general development of a nation. Poor Menstrual Hygiene Management (MHM) is believed to lower participation of the girls in school activities as a result of anxiety and negative cultural beliefs associated with it. In India, about 40% of the girls would stay away from school during menstruation largely due to the nature of absorbent used. In Kenya, local media had reported death associated with anxiety due to menstrual hygiene management. Mbita Sub County has 33 public secondary schools of which five are girls' schools, three boys' schools and 25 are mixed schools. The population of form four girls of the 2022 cohort in these schools was 986 and majority were from within, the generally economically disadvantaged, Mbita sub county community. The objective of the study was to determine effect of Menstrual Hygiene Management on girl child's academic performance. The study established that Menstrual Hygiene Management highly influenced the girl child's confidence and significantly enhanced their academic performance. The study concluded that Menstrual Hygiene Management enhanced the girl child's academic performance in secondary school education. The study findings are useful to education stakeholders in making policies and enhancing quality education for the girl child. The findings are also useful to researchers as it provides baseline information.

Keywords: *Effect, Menstrual Hygiene Management, Girl Child's Academic Performance, Secondary School Education, Kenya: Secondary Schools, Mbita Sub County*

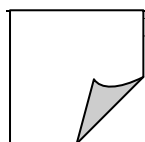
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I. Introduction

Globally, Menstrual Hygiene Management is an insufficiently acknowledged problem especially in rural low-income countries (Tjon, 2007). This is despite the fact that there are 1.2 billion adolescents, representing one in every five people in the world today (Shankaraiah, Haveri, Mallappa, & Saheb, 2013). "Menstruation is a natural part of girls' reproductive cycle. It is a key sign of reproductive health and without menstruation, life cannot be generated: (UNICEF, 2016). Knowing that menstruation is a normal, healthy occurrence and knowing how to manage it effectively can increase an adolescent girl's confidence level and self-esteem. It also encourages a more supportive environment between parents, teachers and fellow students (UNICEF, 2016).

Effective menstrual hygiene management is critical for the mental and physical wellbeing of the adolescent girls (Parker, Smith, Verdemato, Cooke, Webster & Carter, 2014). Kandpal, Semwal and Negi (2012) observed that "good menstrual hygiene management is crucial not only for the health and education of the adolescent girls but also for their dignity." Juyal, Kandpal, Semwal and Negi (2012) concluded that if the "adolescent girls are empowered and made aware of menstrual hygiene right from early adolescent period, they will be better prepared to accept the menarche when it starts and be better equipped and knowledgeable about how to manage their menses effectively." Kenya's local media reported a suicide case of a girl who was allegedly embarrassed by her teacher after having her menses for which she had not prepared for (Daily Nation 18th March, 2020).



Adolescent girls must have the necessary knowledge, structural facilities and an enabling environment to manage their menstruation hygienically and with dignity (Omidvar & Begum, 2010). A number of researchers have found that adolescent girls, especially from the low-income areas, usually lack adequate and correct knowledge regarding menstrual hygiene management (Sapkota, Sharma, & Khanal, 2013). Moreover, prior awareness of menstruation before its onset is poor among adolescent girls, particularly in low-income countries (Chebii, 2018). The lack of knowledge can be due to socio-cultural barriers in which the adolescent girls grow up in. The girls need accurate information, education and an enabling environment to cope with their menstruation needs.

According to Pol and Morales (1991), “the school environment comprises the school building with all its spaces and its indoor and outdoor facilities and services that are placed in a given social and environmental context. This could be either urban or rural. Examples of environmental factors include sound, light, color, temperature and noise. These factors must be considered in the design, planning and organization of school premises” (Comesana & Juste, 2007). Sommer (2013) states that “more than half the schools in low-income countries lack sufficient pit latrines for menstruating girls. The toilets often have no safe doors and adolescent girls feel harassed by boys as they attend to their menstrual needs. Adequate water, when available, is often at a distance far away from the pit latrines. This situation makes it very challenging for the girls to privately wash blood from their hands and school uniforms before going back to class. This amounts to ignoring their human dignity.”

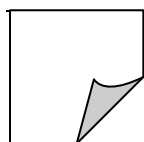
According to UNICEF (2005), one in ten school age African adolescent girls miss school during their menstruation or drop out at puberty because of lack of clean and private sanitation facilities in schools (Ngugi & Nyaura, 2014; Chebii, 2018). In South Africa, “the adolescent girls are unable to buy female hygiene products and often turn to rags, socks and even notebook paper. They often lack access to clean water and private toilet facilities” (Kirk & Sommer, 2006). “The topic of menstruation is a taboo in many cultures including the different cultures in South Africa.” (Steinig, 2017; Kirk & Sommer, 2006). Young girls can therefore experience shame and embarrassment when they are menstruating and do not have the resources to manage their menstruation hygienically (Steinig, 2017). There is anecdotal evidence which shows that the lack of resources might result in young girls, particularly of high school age, missing school while menstruating. A study found that adolescent girls in South Africa can miss up to five days of school per month due to menstruation (Khumalo, 2015). In India 40% of the girls were reported to be staying away from government schools during menstruation for reasons such as unavailability of private place to manage periods, lack of running water supply, absence of disposal system for pads/clothes and lack of bathroom for girls (The Times of India: September 19th, 2018).

The Kenya Environmental Sanitation and Hygiene Policy, 2016 – 2030, that was launched in May 18th, 2016 includes a section (5.4.6.) on Menstrual Hygiene, (GoK, 2016). The Kenya Environmental Sanitation and Strategic Framework, 2016-2020 also addresses Menstrual Hygiene Management (MHM) under strategic intervention area; Scaling up sustainable access to improved rural and urban sanitation. Strategy 5.4.5 also “discusses ways of improving menstrual health and hygiene practice” (Government of Kenya, 2016).

McMahon, Winch, Caruso, Obure, Ogutu, Ochari and Rheingans, (2011) found that in Kenya, context studies show that adolescent girls from Nyanza Province in western Kenya are not effectively taught how to manage their menstruation. This is despite the fact that menstruation is the first stage of the journey of the life of a baby before birth. Menarche, therefore, is a critical stage in an adolescent girl's life because it signifies a golden opportunity to teach them how to take care of their bodies. It also presents the opportunity to teach them that they have the potential to determine their future without feeling ashamed or embarrassed (McMahon et al, 2011). Such lessons are perennial and everlasting in an adolescent girl's life as advocated by Adler, (1952; 1961).

Today in Kenya, menstruation is not only a health concern but also an educational policy concern. It has become a key factor in the country's bid to achieve both the National Goal and Sustainable Development Goals (SDG) of eliminating gender disparity in primary and secondary school education (Chebii, 2018). Menstruation is a natural phenomenon among mature females who experience shedding of blood for a period ranging between one to seven days, monthly (Omidvar & Begum, 2010). Adolescence is a transition period from childhood to adult life for a girl. The girl undergoes pubertal development and sexual maturation (Sapkota, Sharma, & Khanal, 2013).

Tegage and Sisay (2014), carried out a study, Menstrual Hygiene Management and School Absenteeism among Female Adolescents in North East Ethiopia. “Mixed research method of quantitative and qualitative was used. Their study sample population comprised of 595 school going girls, five school dropout girls and four female teachers. The study found out that only a third of the girls used sanitary towels in their last menarche and more than half of the girls missed school during their periods. Of those who never used sanitary towels, 95% were more likely to miss school. Fifty eight percent of the girls reported decline in their academic performance after the onset of their menstrual periods.” This study was carried out in Ethiopia and involved



both primary and secondary school going girls and their female teachers as well as the school drop outs. The current study was conducted in Mbita sub county Kenya. The population included not just the female teachers but the administration of the school and the matron who interact with the girls and their needs in school.

Mbita Sub County had performed poorly in KCSE for a number of years. The girls performance being the worst compared with the boys performance. This can be observed in Table 1.

Table 1
Kenya Certificate of Secondary Education Examination results of Homa Bay County 2017 - 2019

Sub County	2017 Mean score	2018 Mean score	2019 Mean score	Overall Mean Score
Rangwe	3.4647	5.0251	5.2048	4.564
Rachuonyo East	3.4940	4.6372	4.9468	4.3593
Rachuonyo South	3.3311	4.6163	4.9756	4.30766
Homa Bay	4.2920	4.4860	4.7904	4.5228
Mbita	3.5983	4.4706	4.8857	4.3182
Suba	3.5722	4.4310	4.3036	4.10226
Rachuonyo North	3.1194	4.0695	4.3578	3.8489
Ndhiwa	3.0544	3.7082	3.9517	3.57143

Source: Homa Bay County Education Office, 2020

From Table 1 it can be observed that Mbita Sub County performed averagely among the eight sub counties in terms of academic performance. It was therefore important also to establish its ranking in County games. The observations were as shown in Table 2.

Table 2: Term One 2019 Homa Bay County Games Ranking for Girls

Sub county	Points	Rank
Rachuonyo North	118	01
Rachuonyo South	104	02
Rachuonyo East	74	03
Ndhiwa	53	04
Rangwe	33	05
Suba South	33	05
Homa Bay	29	07
Mbita	27	08

Source: Homa Bay County Education Office, 2020

Table 2 show that Mbita Sub County was the last in the ranking meaning that they performed very poorly. The academic performance coupled with performance in games were the justification for the choice of Mbita Sub County as the site for the study. Selecting others would not have been appropriate because they are either better or worse performers than Ndhiwa Sub County.

Synthesis of Literature on Effect of Menstrual Hygiene Management on Girl Child Academic Performance

Despite the introduction of Free and compulsory Education and other interventions by Kenyan government, concerns have been raised over students' performance in their education which has been persistently low and fluctuating, (Otieno, 2019). A survey conducted by Daraja Civic Initiatives Forum in Mbita Sub County found that up to forty eight percent of girls performed below average (Daraja, 2016). This study therefore sought to investigate the effect of Menstrual Hygiene Management on girl child's participation in secondary school education in Mbita sub-county in order to enhance performance and consequently raise academic standards.

A number of researchers and policy-makers have discussed the limits menstruation puts on school attendance and attainment, (Tjon, 2007). World Bank (2005) showed that girls could miss up to four consecutive days of school every month because of their periods, meaning that they missed ten to twenty percent of school time, which seriously impacted on their achievement Adams, Bartram, Chartier, & Sims, (2009). This is due to poor Menstrual Hygiene Management caused by both lack of information, privacy, washing facilities, and sanitary pads.

According to the World Health Organization, "the availability of adequate clean water and hygiene in schools is essential for nearly all the Millennium Development Goals, especially in the achievement of universal primary education, reduction of child mortality, and the promotion of gender equality," (WHO, 2009). Poor sanitation at school greatly affects girls, especially menstruating girls. It further creates an unfriendly school

environment for them (Agarwal & Agarwal, 2010). These challenges posed by poor hygiene management will continue to jeopardize the potential of girls and the realization of many United Nations Millennium Development Goals if they are not properly addressed.

“Menstruation and its related problems have contributed to high rates of school absenteeism, repetition of the same class, and school dropout of adolescent girls. In their study, Agarwal and Agarwal, (2010), eleven point nine percent (11.9%) girls reported that they missed class tests or examinations during their periods.” In a study by Ahmed and Piro, (2012), a higher percentage of students (sixty-two) revealed that menstruation affected either their grades or they missed the examinations. In fifty seven percent, it affected their participation in class activities and presentations.

Critically, Obonyo (2003) observed the difficulty faced by adolescent girls in accessing sanitary protection resulting from their struggle to meet their daily needs. These economic conditions, Obonyo observed, “are caused by many factors ranging from lack of empowerment to single parent-headed families. The living conditions are deplorable with overly congested houses constructed of cardboard boxes, old iron sheets and mud walls, which do not offer privacy to girls.” Obonyo further highlights the fact that “accessing sanitary protection is also tied to a lack of facilities for the girls to dispose of their used sanitary towels as well as a lack of private spaces where the girls can comfortably change.”

In conclusion, accepting menstruation as a natural phenomenon of life will help the adolescent girls' schools create a positive and enabling environment for them to manage their menstruation adequately without shame, fear or embarrassment but with dignity and female pride because these are natural to the persons of the adolescent girls (Hennegan & Montgomery, 2016). This is their nature as human beings and there is nothing that they can do to remove or change this fact of life.

Research Objective

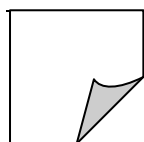
The research objective was to determine the effect of Menstrual Hygiene Management on girl child's academic performance in secondary schools.

II. Conceptual Framework

This research study adopted the Cultural Feminism Theory (Alcoff, 1988). The theory attempts to revalidate undervalued female attributes and commends differences between male and female genders. It affirms that women and men are different and must be treated so. Men and women are biologically different and must be appreciated and accorded what they deserve psychologically, socially and materially. Women in menstrual hygiene management cycles should be accorded psycho-social support and not be despised. The theory commends the positive aspects of female character or feminine personality. Cultural feminism theory advocates for a safe space for women to cater for their unique needs such as nursing rooms and gendered washrooms, facilities and materials that give women locations dedicated solely to their needs. Cultural feminism theory was justified for this study as it “strives to create and maintain a healthy environment –free of masculinity values and behaviours, such as stigmatization of menstruation and the control of women's mobility during menstruation” (Ngomane & Sebola, 2023:301).

The conceptual frame work (Figure 1) asserts that Menstrual Hygiene Management has influence on girl child's participation in secondary education. For the girl child to participate in educational activities, she must be in school. Attendance can only be possible when the school girl is in good health and comfortable. Crofts and Fisher (2012), states that most female students cannot afford to purchase sanitary pads. They resort to using cotton and scraps of fabric, rags and mattress stuffing. These cause infections and painful sores more often. They are also left uncomfortable and often unhealthy during their menstrual cycle. This leads to many of them missing school for a few days each month as they are too uncomfortable and/or embarrassed to attend. Even if they attend school, they remain distracted and fail to pay attention to their lessons. As a society, we can greatly appreciate that this is a huge need. Females should be healthy and comfortable during their menstrual cycle, and not forced to miss school or be preoccupied while attending, (Winkler & Roaf, 2013).

Participation is enhanced when there is confidence. According to McMahon et al (2011), many families and especially mothers, try to educate their daughters on menstruation and its management in a manner that ensures that their privacy, intimacy and their dignity is protected and respected. However, some findings assert that policy makers and key stakeholders must acknowledge that menstruation is a natural fact of life, that must be integrated at all levels of life and only then will there be an enabling environment for adolescent girls and women to manage their menstruation adequately without shame, embarrassment, secrecy, fear, humiliation, silence, taboo and stigma, (McMahon et al, 2011).



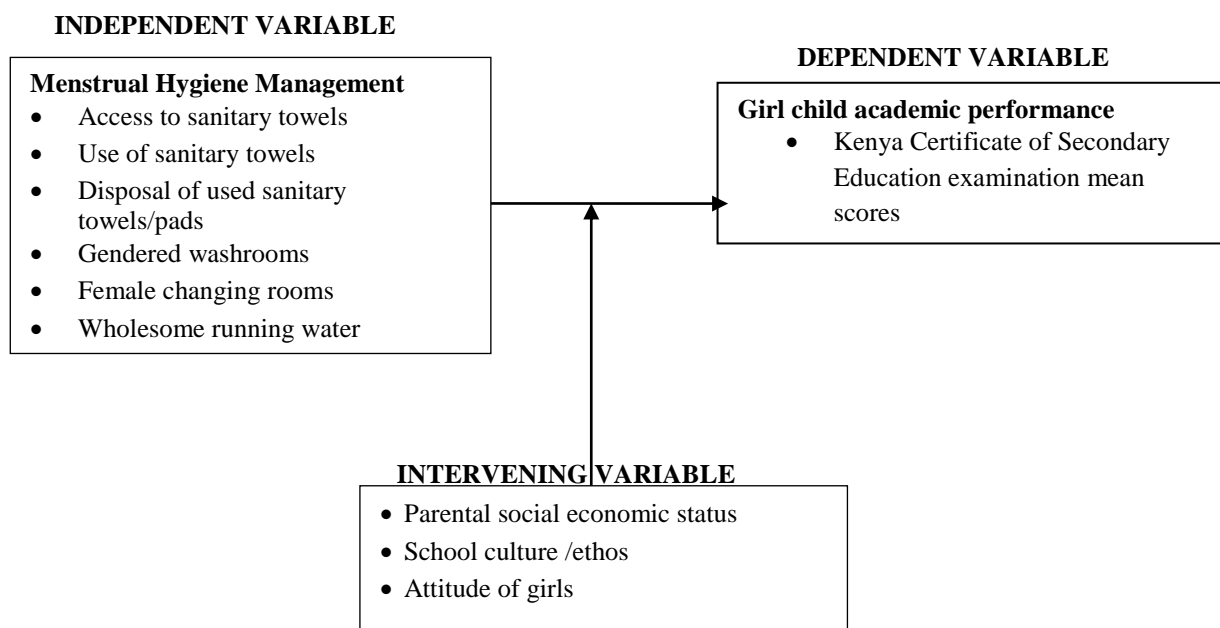


Figure 1: Conceptual framework showing the effect of Menstrual Hygiene Management on Girl Child Academic Performance in Secondary School Education

The conceptual framework indicate the independent variable as Menstrual Hygiene Management and the dependent variable as girl child academic performance in secondary school education while the intervening variables included parental social economic status, attitude of girls and school culture. In this respect the relationship between these variables is hypothetical aimed at guiding the actualization of this study.

III. Research Methodology

Descriptive survey and Quasi experimental research designs were adopted for the study. The target population was 1047 respondents which consisted of 30 school principals, 30 class teachers, 986 form four girls of 2022 cohort and 1 Sub County Director of Education. Sample sizes of 25 principals, 25 class teachers and 1 Sub County Director of Education were selected by saturated sampling technique. Two hundred and seventy six form four 2022 cohort girls were selected using simple random sampling. Questionnaires and interview schedules were used to collect data. Validity of research instruments was determined by research experts in the area of Educational administration whose input was included in the final drafts. Reliability of the instruments was established by piloting in five schools (16.66%). Test re-test technique and Cronbach's alpha were used to establish the reliability. Reliability coefficient for the teachers' questionnaire was 0.72 and for the girl 0.73 implying that they were reliable at the p value of 0.05. The reliability coefficient for the Mathematics Achievement Test was 0.713 at p-value of 0.05 and therefore reliable. Quantitative data was analyzed by use of frequency counts, percentages, means and t –test analysis. Qualitative data was transcribed and analyzed for content and reported in emergent themes and sub themes.

IV. Results

Demographic Characteristics of Respondents

Classification of Actual and menstrual Age

Table 3 presents the ages of the respondents and the ages that the respondents began their menses.

Table 3: Classification of Actual / Current Age and Menstrual (Menses) Age

Current age of Girls			Menses Age of Girls		
Age in years	Frequency	Percent	Age in years	Frequency	Percent
17	86	38.1	11 & below	3	1.3
18	86	38.1	12	10	4.4
19	39	17.2	13	26	11.4
20	13	5.7	14	83	36.5
21 & above	2	0.9	15	75	33.4
			16	28	12.3
			17 & above	2	0.8
Total	226	100	Total	226	100

Table 3 shows that majority of the girl students (76.2%) were aged 17 and 18 years by the time they were in form 4. It can also be seen from Table 3 that majority of girl students (36.5% & 33.4%) started experiencing their menstrual flow at ages 14 and 15 years. Cumulatively 99.2 percent of the respondents had started their menstrual flow by the time they were 16 years of age. This implies that the girl students had adequate experience in menstrual hygiene management and therefore possessed adequate information that properly informed this study.

Education Responsibility

Different stakeholders were responsible for the education of the respondents. The major responsibility taken for this study was fee payment and lunch scheme money. The details of is shown in Table 4.

Table 4: Education Responsibility

Category of responsible person	Principal	Fees	Lunch	Scheme
	Frequency	Percentage	Frequency	Percentage
Father	102	45.1	32	14.3
Mother	76	33.6	140	62.8
Guardian	30	13.3	19	8.5
Sponsor	15	6.6	-	-
Self	3	1.3	-	-
School	-	-	14	6.3
Others	-	-	18	8.1
Total	226	100	223	100

From Table 4, majority of the respondents (45.1%) have their school fees paid by their fathers and yet 33.6 percent of the respondents have their fees paid by their mothers. A slightly higher percentage of respondent (62.8%) have their lunch scheme catered for by their mothers compared to 14.3 percent of the respondents' having the lunch scheme catered for by their fathers. Though there is some proportion of the respondents having their education responsibility taken care of by their guardians or sponsors, it did not come out clearly who these actually are to the respondents.

Level of Education of Parents

Data was sought on the highest level of education the two parents of the respondents had. The findings were displayed in Table 5.

Table 5: Levels of Education of parents

Level of Education	Mother		Father	
	Frequency	Percentage	Frequency	Percentage
Class 8 & below	107	48.0	66	30.1
Form 4	74	33.2	83	37.9
Certificate	23	10.3	33	15.1
Diploma	15	6.7	20	29.1
Degree & above	4	1.8	17	7.8
Total	223	100.0	219	100.0

Table 5 shows that majority of the respondents (48.0%) had their mothers having the highest academic qualification of Class 8 and below. Only 33.2 percent of the respondents had their mothers having highest academic qualification of form 4. Majority of the respondents (30.1%) had their fathers having the highest academic qualification of class 8 and below, 37.9 percent and 15.1 had their fathers' having the highest academic qualification of form 4 and certificate respectively.

Type of Students

It was observed that the respondents were either boarders or day-scholars. The precise classification of this is given in Table 6.

Table 6: Category of Student

Category of Student	Frequency	Percent
Border	169	74.8
Day scholar	57	25.2
Total	226	100

Table 6 shows that 25.1% of the respondents were day-scholars, while 74.9% of the respondents were boarders. Since majority of the key respondents were boarders, issues of menstrual hygiene management must have affected their class attendance or participation in other activities

School Fees and Lunch Scheme Money Payment

Investigations were done on the status of school fees payment and lunch scheme payment. The findings were as presented in Table 7.

Table 7: Availability of School Fees

Aspect of availability of fees	Frequency	Percent
Not available on time	66	29.7
Sometimes available on time	112	50.5
Readily available on time	44	19.8
Total	222	100

Table 7 shows that 29.7 percent of the respondents had their school fees not available and 50.5 percent of the respondents had their school fees sometimes available on time. The data implies that the school fees of the respondents are not always paid on time and hence the provision of resources (like sanitary towels) for prompt management of menstrual hygiene could be hindered due to lack of finance.

Provision of Sanitary Materials

Investigations were done on to the actual providers of sanitary material to the respondents. The findings were as shown in Table 8.

Table 8: Sanitary Material Provider

Category of provider	Frequency	Percent
Father	32	14.3
Mother	140	62.8
Guardian	19	8.5
School	14	6.3
Others	18	8.1
Total	223	100.0

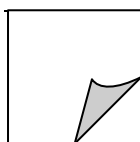
Table 8 shows that 62.8 percent of the respondents are provided with sanitary materials by their mothers. A good percentage (8.1%) of the respondents get their sanitary materials from others, which could include boyfriends and well-wishers.

Gender of Class Teachers

An investigation was done to establish the gender types of the class teachers of the respondents. The findings were as shown in Table 9.

Table 9: Gender of Class Teachers

Gender of Class Teacher	Frequency	Percent
Male	8	44.4



Female	10	55.6
Total	22	100

Table 9 shows that 44.4 percent of the class teachers were males and 55.6 percent of class teacher were females. There was good gender balancing and therefore adequate information about menstrual hygiene management from the feminine perspective was obtained and this helped to inform the research properly.

Work Experience of Class Teachers

Work experience of class teachers of the main respondents (Form 4 girls) was investigated. The findings were as presented in Table 10.

Table 10: Work Experience of Form 4 Class Teachers

Duration experience	Frequency	Percent
Below 5 Years	5	27.8
5-9 Years	9	50.0
10-14 Years	4	22.2
15 – 19 Years	0	0.0
20 & above Years	0	0.0
Total	18	100

Table 10 shows that majority of the class teachers (50.0%) had work experience of between 10-14 years, while 27.8 percent of the class teachers had work experience of below 5 years.

Provision of Guidance and Counseling Services

Provision of Guidance and Counseling Services on Menstrual Hygiene Management were as shown in Table .

Table 11: Provision of Guidance and Counseling Services on Menstrual Hygiene Management to Girl Student

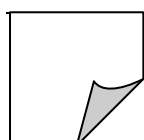
Provision of Guidance & Counseling Services Rating	Frequency	Percent
Never	62	28.2
Rarely	50	22.7
Not Sure	5	2.0
Sometimes	57	25.9
Total	220	100

Table 11 shows that only 20.9 percent of the respondents always received guidance and counseling services on Menstrual Hygiene Management. 28.2% of the respondents had never received guidance and counseling services on Menstrual Hygiene Management. The statistics show that there was no consistency in the provision of this service in secondary schools.

Research Objective

The research objective was to determine the effect of Menstrual Hygiene Management on girl child's academic performance in secondary schools.

To respond to this objective 45 out of 986 girl students were purposefully reckoned to participate in Mathematics Achievement Test (MAT) based on menstrual cycle synergy as had been observed and confirmed by teacher counselors. The Mathematics Achievement Test was administered to all the 45 girl students before menstruation in keeping with the Menstrual Hygiene Management practice that was in place. During menstruation periods 40 out of the 45 girls were considered as they were the ones who actually experienced the menstruation inside the time of taking the Mathematics Achievement Test. It is important to note that caution was taken not to violate the rights of the girl child with respect to the universal declaration of Human Rights Article 01 which states that “All human beings are born free and equal in dignity and rights. They are endowed with reason and conscience and should act towards another in a spirit of brotherhood; and Article 05 which states that “no one shall be subjected to torture or cruel, inhuman or degrading treatment or punishment.” (Universal Declaration of Human Rights, 1948).



The results of the Mathematic Achievement Test were computed and the outcome was as shown in Table 12.

Table 12
T-test Result on the Effect of Menstrual Hygiene Management of Girls Academic Performance

Mathematics Achievement Test	N	Mean score	SD	DF	T-Cal.	T-Tab t-st
Before menstruation	45	44.356	9.65			1.980*
During menstruation	40	40.670	9.465	83	4.076	2.598**

Key: N – Sample **SD-** Standard Deviation **DF:** Degree of Freedom
T-Cal: Calculated value (t-calculated) **T-Tab of t-st:** Table value of t statistics

From Table 12, it can be noted that the mean score obtained by the respondents before and during menstruation were 44 marks and 40 marks respectively. At p-value of 0.01 and 0.05 levels of significance with degree of freedom of 83, the table values of t-statistics were 2.598 and 1.980 respectively while the calculated value of 4.076 (t-calculated) was obtained. Since the critical values were less than the calculated value, the study established that there was a significant relationship between the academic performance of girls students in Mathematics and Menstrual Hygiene Management. This implies that indeed menstruation affects the girls academic performance. In this respect Menstrual Hygiene Management as an intervention measure to enhance girl child academic performance is effective. In the absence of this intervention the girl child is bound to perform very poorly that is worse. The MAT was not administered to the girl students who were not employing Menstrual Hygiene Management intervention because it would have been unethical and inhuman treatment which is against the fundamental rights of human beings as declared by the Universal Declaration of Human Rights and the Constitution of Kenya 2020 which prohibits inhuman treatment.

V. Discussion

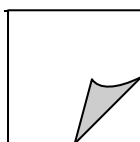
The study established that there was a significant relationship between the academic performance of girls students in Mathematics and Menstrual Hygiene Management. This means that menstrual hygiene management has a direct effect on girl child academic performance. This is evidenced in the fact that before their menstrual periods their performance was higher than the one they had during their menstrual periods. The difference would have been even higher with much lower performance had they not been using sanitary pads, availability of wholesome water, rooms for changing and counseling by female teachers. In the absence of menstrual hygiene management, the girls feel the misery and stigma, that accompany menstruation that is, feeling ashamed of the self, depression, inequality with boys, feeling unclean, non-participation in co-curricular activities, negative self-concept and self-pity and low self-esteem.

Menstruation is linked to the girl child's honour, dignity, confidence and hence impacts on their access to education and performance in school. In this respect one of the girl students asserted: "Menstruation is not a joke, it is distressful. I am happy that the parents, teachers and other stakeholders in education have listened to girls and are supplying them with sanitary towels. Provisions of sanitary towels have saved many of the girls not only dropping out from schools but also reduced the agency that hinders the girl child's progress in curricular and co-curricular activities. Menstruation is one of the factors that make girls lag behind boys in academic performance. This is because during menstruation the girl child suffers from behavioural symptoms such as low concentration in their tasks, nervousness, anxiety, forgetfulness, hostility, rejection and despondency. It is for this reason that most of us perform poorly when we sit examinations when we are menstruating. In essence, therefore, the antidote in quality Menstrual Hygiene Management. This is because we are motivated to freely associate with schoolmates, participate in physical tasks, consult teachers in our academic and excel in areas where we are talented."

Another girl student added "When menstruation is not well managed the symptoms include lack of interest on the part of the girl student under menstrual period to class, lack of concentration during study hours, lack of concentration during co-curricular activities, nervousness when interacting with teachers, preferring to sleep day time, and difficulty in remembering contents studied leading to low performance in academic work."

Another girl student recounted "Menstruation pains, that is, menstrual cramps, when severe van makes one faint. This indeed inhibits girls' performance. This is where menstrual hygiene management is handy. Worse off when menstrual pain is coupled with nausea, vomiting and back pain, academic performance become secondary. Infact my academic achievement oscillate with menstrual. Achievement for me is higher in the absence of menstruation. It is therefore important to remember that menstrual hygiene management is key to schooling for the girl child."

It is important to note that Menstrual Hygiene Management is non-recognized worldwide as an essential service that should be supported by all stakeholders in education. It really enhances access, transition,



completion and performance of girl student particularly at secondary school level. It is against this backdrop that most countries of the world are supporting the menstrual hygiene management initiative. In Kenya, The State department for gender affirmative Action in 2017/2018 Financial year, noted the following facts and figures" Data from the Ministry of Education indicates that many girls continue to miss out on education due to absenteeism that is related to reproductive health issues as they are forced to stay away from school when they are not facilitated to manage their menstruation.

Studies have shown that girls from poor families miss 20% of school days in a year due to lack of sanitary towels. Data from the Ministry of Education indicates that a girl that is absent from school for four days in 28 days (month) lose 13 learning days, equivalent to two weeks of learning in every school term in academic year (nine months) a girl loses 39 learning days equivalent to six weeks of learning time."(<https://gender.go.ke/sanitary-towels-program/>). It is definitely clear that in these circumstances the girl child's academic performance is adversely affected by menstruation and therefore menstrual hygiene management has a positive effect.

Notwithstanding the priorities of each country in Africa, Kenya inclusive, many countries have reduced or exempted taxes and/or duties for sanitary products in their priorities for the girl child participation in education (Welham, 2020). These countries include Ethiopia, in which customs authority has reduced tax on sanitary pads; Rwanda, in 2019, VAT (18%) on sanitary pads was removed; in Kenya VAT on sanitary pads was removed in 2004; in Tanzania in 2018 VAT was removed on sanitary products, but reintroduced tax on sanitary products in 2019; in South Africa in 2018 14% VAT on sanitary pads was removed and in Nigeria locally manufactured sanitary towels, pads and tampons were made VAT exempt. What is clear is that removing of taxes from Menstrual Hygiene Management products is increasingly becoming common." (Welham, 2020).

Worldwide countries and places around the world where governments provide free period sanitary products include Scotland, New Zealand, New South wales, Victoria (Australia), Illinois, Washington, New York, New Hampshire, Virginia, (United States), Ille -de-France, France, Kenya, South Africa, Botswana, Seoul, South Korea, Uganda, Zambia, British Columbia, Ontario, Nova scotia and Prince Edward island (Canada) (globalization.org/en/content/free-period-products-countries-cities-worldwide/). All these initiatives are meant to enhance girl child education and demystify menstruation stigma.

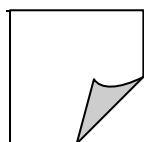
VI. Conclusion

The cardinal factors that were observed to be influencing Menstrual Hygiene Management were :availability of G%C services , girls ae and level of education, mothers education, sanitation facilities , availability of running water supply, availability and affordability for sanitary products. On average the normal use of sanitary pads was t2 to 4 per day depending on the heaviness of a period Menstrual Hygiene Management boosts in girl students a healthy sense of confidence essential for their development of social skills, become more resilient and espouse their full potentialities inside and outside the classroom. Thus Menstrual Hygiene Management made girls to develop a feeling of trust in their abilities, qualities and perceptions, which culminated in their motto "let us shine" as some asserted during interviews. Menstrual Hygiene Management impacted positively on class attendance, participation in co-curricular activities and highly enhanced academic performance of the girl child.

VII. Recommendations

In view of the importance of Menstrual Hygiene Management to the girl child's academic performance, the study made the following recommendations

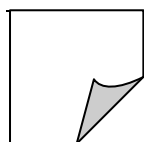
1. School Parents Association should encourage parents to provide sanitary products to their girls.
2. The school community should be sensitized by teachers on the need to demystify menstruation as a phenomena that is threatening.
3. Guidance and Counseling teachers should promote best practices in Menstrual Hygiene Management scheme.
4. School management should endeavor to increase access to and use of high quality sanitary towels to adolescent girls.
5. School management should strive to ensure safe disposal of sanitary pads in an environmentally friendly manner.
6. School management should improve access to Water Sanitation and Hygiene (WASH) facilities.
7. The government should facilitate provision of adequate, affordable and appropriate menstrual hygiene management product to adolescent girls.
8. School management should provide information readily on good practices and supportive environment in which adolescent girls can manage menstrual without stigma or embarrassment.



9. Guidance and Counseling teachers should discourage negative traditional beliefs about menstruation. For instance some cultures prohibit menstruating girls and women from washing their genitals during menstruation and in some other cultures cases they require menstruating girls and women to keep away from the public eye until the menstruation period is over.

References

- [1] Adams, J., Bartram, J., Chartier, Y., & Sims, J. (Eds.). [2009]. Water, Sanitation And Hygiene Standards For Schools In Low-Cost Settings. World Health Organization.
- [2] Agarwal, A. K., & Agarwal, A. [2010]. A Study Of Dysmenorrhea During Menstruation In Adolescent Girls. *Indian Journal Of Community Medicine: Official Publication Of Indian Association Of Preventive & Social Medicine*, 35(1), 159.
- [3] Alcoff, L. [1988]. Cultural Feminism Versus Post-Structuralism. *The Identificis In Feminism Theory. Signs* 13(3): 405-436.
- [4] Ashley, R., Blackwood, D., Souter, N., Hendry, S., Moir, J., Dunkerley, J., & Squibbs, M. [2005]. Sustainable Disposal Of Domestic Sanitary Waste. *Journal Of Environmental Engineering*, 131(2), 206-215.
- [5] Bharadwaj, S., & Patkar, A. [2004]. Menstrual Hygiene And Management In Developing Countries: Taking Stock. *Junction Social*, 3(6).
- [6] Borg, R. W., & Gall, J. P. [2009]. *Educational And Social Sciences Research: An Introduction*.
- [7] Castensson, A. [2018]. The Capability Of Cups: A Comparative Field Study In Uganda Investigating The Impact Of Menstrual Cups On Women And Girls' Achieved Capabilities.
- [8] Chebii, S. J. [2018]. Menstrual Issues: How Adolescent Schoolgirls In The Kibera Slums Of Kenya Negotiate Their Experiences With Menstruation. *Women's Reproductive Health*, 5(3), 204-215.
- [9] Chigome, J.C. [2019]. Investigating Menstrual Hygiene Facilities And Education Opportunities For Female Learners In The Western Cape (Doctoral Dissertation, Faculty Of Humanities).
- [10] Crofts, T., & Fisher, J. [2012]. Menstrual Hygiene In Ugandan Schools: An Investigation Of Low-Cost Sanitary Pads. *Journal Of Water, Sanitation And Hygiene For Development*, 2(1), 50-58.
- [11] Dasgupta, A., & Sarkar, M. [2008]. Menstrual Hygiene: How Hygienic Is The Adolescent Girl? *Indian J Community Med* 33: 77-80.
- [12] Donovan, J. [2012]. *Feminist Theory: The Intellectual Traditions*. A&C Black.
- [13] Elledge, M. F., Muralidharan, A., Parker, A., Ravndal, K. T., Siddiqui, M., Toolaram, A. P., & Woodward, K. P. [2018]. Menstrual Hygiene Management And Waste Disposal In Low And Middle Income Countries-A Review Of The Literature. *International Journal Of Environmental Research And Public Health*, 15(11), 2562.
- [14] El-Gilany Ah, Badawi K, El-Fedawy, S. [2005]. Menstrual Hygiene Among Adolescent School Girls In Mansoura, Egypt. *Reprod Health Matters* 13: 147-152.
- [15] Hennegan, J., & Montgomery, P. [2016]. Do Menstrual Hygiene Management Interventions Improve Education And Psychosocial Outcomes For Women And Girls In Low And Middle Income Countries? A Systematic Review. *Plos One*, 11(2).
- [16] Huynh, J. C. [2019]. Exploring The Effect Of Menstrual Hygiene Management Spaces On Academic Achievement: Evidence From Young Lives' School Survey In Ethiopia (Master's Thesis, The University Of Bergen).
- [17] Jain, R., Anand, P., Dhyani, A., & Bansal, D. [2017]. Knowledge And Awareness Regarding Menstruation And Hiv/Aids Among School Going Adolescent Girls. *Journal Of Family Medicine And Primary Care*, 6(1), 4.
- [18] Jewitt, S., & Ryley, H. [2014]. It's A Girl Thing: Menstruation, School Attendance, Spatial Mobility And Wider Gender Inequalities In Kenya. *Geoforum*, 56, 137-147.
- [19] Kaur, R., Kaur, K., & Kaur, R. [2018]. Menstrual Hygiene, Management, And Waste Disposal: Practices And Challenges Faced By Girls/Women Of Developing Countries. *Journal Of Environmental And Public Health*, 2018.
- [20] Khanna, A., Goyal, R. S., & Bhawsar, R. [2005]. Menstrual Practices And Reproductive Problems: A Study Of Adolescent Girls In Rajasthan. *Journal Of Health Management*, 7(1), 91-107.
- [21] Kirk, J., & Sommer, M. [2006]. Menstruation And Body Awareness: Linking Girls' Health With Girls' Education. *Royal Tropical Institute, Special On Gender And Health*, 1-22.
- [22] Kotoh, A. M. [2008]. Traditional Menstrual Practices: Sexual And Reproductive Health And Gender Implications For Adolescent Girls. *Institute Of African Studies Research Review*, 24(1), 37-51.
- [23] Mahon, T., & Fernandes, M. [2010]. Menstrual Hygiene In South Asia: A Neglected Issue For Water, Sanitation And Hygiene Programmes. *Gender & Development*, 18(1), 99-113.
- [24] Mcmahon, S. A., Winch, P. J., Caruso, B. A., Obure, A. F., Ogutu, E. A., Ochari, I. A., & Rheingans, R. D. [2011]. 'The Girl With Her Period Is The One To Hang Her Head' Reflections On Menstrual Management Among Schoolgirls In Rural Kenya. *Bmc International Health And Human Rights*, 11(1), 7.
- [25] Ministry Of Health, [2016]. *Kenya Environmental Sanitation And Hygiene Policy 2016-2030*.
- [26] Mugenda, O. M., & Mugenda, G. A. (2003). *Research Methods*.
- [27] Murye, A. F., & Revelation Mamba, S. [2017]. Practices Of Managing Menstrual Hygiene By Girls In Public Boarding Secondary Schools--The Case Of The Hhohho Region Of Swaziland. *Health Science Journal*, 11(6).
- [28] Ngugi, M. N., & Nyaura, J. E. [2014]. Demystifying The Menstruation Process Among The Kenyan Girl-Child "A Period Of Shame": A Socio-Cultural Perspective. *International Journal Of Science And Research*, 3(10), 1077-1083.
- [29] Oster, E., & Thornton, R. [2011]. Menstruation, Sanitary Products, And School Attendance: Evidence From A Randomized Evaluation. *American Economic Journal: Applied Economics*, 3(1), 91-100.
- [30] Piro, S. S., & Ahmed, H. M. [2012.] Impact Of Menstruation On School Performance In Sarwaran And Shahid Khajabawa High School In Erbil City. *Kufa Journal For Nursing Sciences*, 2(3), 166-171.
- [31] Pokharel, K. [2018]. Availability Of Wash Facilities For Effective Menstrual Hygiene Management At Home For Kenyan School Girls.
- [32] Sahin, M. [2015]. Guest Editorial: Tackling The Stigma And Gender Marginalization Related To Menstruation Via Wash In Schools Programs
- [33] Sapkota, D., Sharma, D., Pokharel, H. P., Budhathoki, S. S., & Khanal, V. K. [2013]. Knowledge And Practices Regarding Menstruation Among School Going Adolescents Of Rural Nepal. *Journal Of Kathmandu Medical College*, 2(3), 122-128.
- [34] Sebastian, A., Hoffmann, V., & Adelman, S. [2013]. Menstrual Management In Low-Income Countries: Needs And Trends. *Waterlines*, 32(2), 135-153.
- [35] Sommer, M. [2011]. *Global Review Of Menstrual Beliefs And Behaviours In Low-Income Countries: Implications For Menstrual Hygiene Management*. University Of Maryland, Usa.



- [36] Sommer, M., Schmitt, M. L., Clatworthy, D., Bramucci, G., Wheeler, E., & Ratnayake, R. [2016]. What Is The Scope For Addressing Menstrual Hygiene Management In Complex Humanitarian Emergencies? A Global Review. *Waterlines*, 35(3), 245-264.
- [37] Ngomane, T., & Mokoko P. Sabelo [2023]. The Impact Of Menstruation On School Attendance In South Africa. A Developmental Issue For Women *Journal Of Social Sciences And Education Research Review*, Vol. 10, Issue 300-306 <https://doi.org/10.5281/zenodo#>
- [38] Tjon, V. Menstrual Hygiene A Neglected Condition For The Achievement Of Several Millennium Development Goals. [2007] [Cited 2012 15/11].
- [39] Unicef Staff. [2011]. *The State Of The World's Children 2011-Executive Summary: Adolescence An Age Of Opportunity*. Unicef.
- [40] Unicef. [2005]. *The State Of The World's Children 2006: Excluded And Invisible*. Unicef.
- [41] Wander, K., Brindle, E., & O'connor, K. A. (2008). Creative Protein Across The Menstrual Cycle. *American Journal Of Physical Anthropology: The Official Publication Of The American Association Of Physical Anthropologists*, 136(2), 138-146.
- [42] Welham, B. (2020). *Work And Opportunities For Women Ukaid*.
- [43] World Health Organization. [2003]. *Towards Adulthood: Exploring The Sexual And E Productive Health Of Adolescents In South Asia*.

