

# The effect of provision of modern sanitary products to pubescent girls' school attendance and performance



A Study by Conducted by Collaborative Centre  
for Gender and Development in collaboration  
with New York University-Abu Dhabi



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## **List of Acronyms and Abbreviations**

CCGD – Collaborative Centre for Gender and Development

CSOs - Civil Society Organizations

FAWE - Forum for African Women Educationalists

FBOs - Faith Based Organizations

FGM - Female Genital Mutilation

FHLC - Foundation of Hope Life Center

KBC - Kenya Broadcasting Corporation

NSTP - National Sanitary Towels Programme

NGOs – Non-Governmental Organizations

PMS - Premenstrual Syndrome

PEPFAR - President's Emergency Plan for AIDS Relief

STP - Sanitary Towels Program

UNESCO - United Nations Educational, Scientific and Cultural Organization

UNICEF - United Nations Children's Fund



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## **EXECUTIVE SUMMARY**

The onset of menstruation-with its accompanying physical development, its hygienic requirements and its increased social pressure to move into adulthood-has implications for young girls' school attendance, academic performance, and self- esteem. Lack of sanitary towels has been attributed to the major cause of absenteeism, poor performance and in some cases school drop outs.

**Objectives:** This project aims to provide evidence based investigation on the links between the provision of sanitary products and adolescent girls' school attendance and performance. More specifically, the study sought: to assess the perceived impacts i.e. provision of sanitary products to young girls; to assess whether the government allocations of public financial resources to the provision of sanitary product to young girls has led to young girl's school attendance; and to assess the link between provision of sanitary towels and pubescent girls school attendance and performance

**Research Methodology:** The research was structured to collect data from the teachers and the pubescent girls regarding the issues affecting the girls, their school attendance with and without their menses, and performance. The study was a one-year longitudinal research that employed a mixed method approach involving both qualitative and quantitative techniques. Qualitative techniques were captured through key informant interviews and monthly discussions with the students in the study. Quantitative data collection, via school registers, students' diaries and academic reports, captured the school attendance and performance of the students within the study period. A comparison of the variables was made between the treatment group (Raila Education Center) who received a constant supply of sanitary towels and the control group (Kawangware Primary School) who did not receive sanitary towels.

### **Summary of key findings:**

- The odds of attending school were 33.9%, 75.9%, and 28.5% significantly more in the treatment group compared to the control group in terms 1, 2 and 3 respectively.
- The odds ratio of absences from school days with periods was 0.95,  $p= 0.812$ ; 0.36,  $p < 0.001$  and 0.40,  $p=0.003$  in terms 1, 2 and 3 respectively. Attendance improved by in treatment school with the constant provision of sanitary towels
- While menstruation and severe cramps (16.7%, 28.6%) and financial challenges of buying pads/painkillers (16.7%, 14.3%) for the control and treatment groups respectively are the major deterrents of school attendance, other factors also play a key role in preventing students from attending school
- There seems to be no association between class performance and the provision of sanitary towels to girls in school  $X^2= 0.39$ ,  $p= 0.53$ . Thus, whereas provision of sanitary pads improved the school attendance for the girls it did not improve the academic performance
- Discussions with the subject girls showed their interest in knowledge around adolescence and menstruation, sex and boy-girl relationships

### **Recommendations:**

- Policy makers should come up with a policy position on the constant provision of sanitary ware for girls in schools. This policy should be allocated the necessary financial budget to ensure its implementation
- The National Sanitary Pads Programme (NSTP) target should ensure constant distribution of sanitary pads to all primary schools nationwide
- NSTP should evaluate the programme to further inform policy and facilitate addressing of the gaps within the programme

- Teachers should also be trained on menstrual health management and evaluated on the dissemination of the same to the students
- There is a growing need for introduction of reproductive health education within the curriculum to demystify issues of women's sexual and reproductive health
- There is need for further nationwide research on the effect of provision of sanitary pads to pubescent girls on their attendance and performance with the aim of capturing everyday geographies of menstruation to inform future programs and policies that aim to address gender parity within the education system

## **1.0 Introduction**

### **1.1 Introduction**

Adolescence is a crucial stage of life and one that is challenging for most girls because of the physical and psychological changes that come about during this stage. Menstruation is one of the physical changes that occur in girls at the start of puberty and the average age of the onset of puberty for many girls is between 7 and 13 years.<sup>1</sup> Today in Kenya menstruation is not only a health concern, but also an educational policy concern because it creates gender disparity in primary and secondary education. This is because school attendance is an important proxy for educational outcomes; by improving access to education, Kenya would make progress toward achieving both the Vision 2030 Plan and several Sustainable Development Goals (SDGs), including achieving universal primary education and promoting gender equality.<sup>2</sup> The reforms for free primary education have led to the expansion of enrolment, with the net primary school enrolment reaching 82.7 per cent by 2009<sup>3</sup>, and thus brought to school more girls but still there are disparities especially in girls' attendance, participation and performance. The girl child who lacks sanitary towel during menses is unable to attend, concentrate and participate actively in class. As such, the sexual maturation process for the girls has been identified to have a negative impact on the education of girls.<sup>4</sup> One of the strategies that would enhance and retain girls in school is the provision of sanitary towels to needy girls. The study aimed to provide evidence of how constant provision of sanitary towels affects school attendance and performance.

This report presents the findings of a baseline study conducted to assess the effects of provision of sanitary towels on pubescent girls' school attendance and performance in a bid to inform policy on the importance of gender budgeting.

## **Study Sites**

The study was conducted in two schools from the Kibera and Kawangware areas of Nairobi. It engaged 121 pubescent girls during the 2015 academic year. The report is divided into five main sections: The introduction that provides the study background and objectives, the literature review, the methodology, the findings and discussion and finally the conclusions and recommendations.

### **1.2 Research rationale**

The education of girls is a primary focus of development efforts because female school achievement is believed to have long-lasting and far-reaching economic effects.<sup>5</sup> Even now in the 21st century, all over the world, menstruation is seen as something private and secretive. Though the extent to which this is experienced differs in different countries, cultures and religious beliefs, menstruation is largely seen as something that should not be talked about in a polite society. In Kenya, the issue is compounded by high poverty levels that force millions of adolescent girls out of school, as a result of the fact that they cannot afford sanitary protection<sup>6</sup> According to Kenya's Ministry of Education, thousands of Kenyan school girls miss one and a half school months of class each year due to their menstrual cycles. School absence lowers girls' academic performance and self-esteem and widens gender disparities in educational achievements. Many girls who cannot afford sanitary napkins endanger their health by resorting to unhygienic solutions, such as leaves, old cloth, sponges, soil or feathers.<sup>7</sup> Consequently, existing programmes aimed at retaining girls in school tend to be labor-intensive community engagement efforts where the gains may be small, progress slow, and outcomes uncertain.<sup>8</sup> Such programmes include those by local NGOs, churches and well-wishers who occasionally distribute sanitary towels to schools. Another such programme is by the government which was

started in 2012 as part of the free education for all campaign. The Kenyan Ministry of Education launched the Sanitary Towels Program (STP) in public primary schools in 2012 with the aim of increasing opportunities for poor adolescent girls in order to reduce “absenteeism among girls, improving self-esteem and participation during instruction”. The government took into consideration “the national poverty index, the gender parity index, ASAL characteristics and needy areas based on Provincial Director of Education reports”.<sup>9</sup>

### **1.2.1 Research approach**

This was a longitudinal study spanning one year. The research was structured to collect data from the teachers and the pubescent girls regarding the issues affecting the girls, their attendance, with and without their menses, and performance. A comparison of the variables was made between the treatment group who received a constant supply of sanitary towels and the control group who received bathing soaps. A platform in both schools was created to discuss and address menstrual and reproductive health issues which is mostly not discussed within the school or home settings. Such platforms sort to empower the girls with the knowledge on menstruation and reproductive health.

The study aims to inform and provide evidence for policy-makers to come up with policies that will address gender disparities within the education system and also facilitate gender budgeting. While studies on girls' school attendance and menstruation have stated that drop-out rates among schoolgirls accelerate at the onset of puberty and menstruation, evidence-based research is lacking. Documented interventions addressing the issue of menstrual management in schools have found contradicting results.





Figure 1: Control school students holding their diaries and their month's supply of soaps



Figure 2: Treatment school students holding their diaries and their months' supply of sanitary towels

## 1.3 Objectives of the Study

### 1.3.1 Overall objective

The overall aim of the study was to provide evidence based investigation on the links between the provision of sanitary products and adolescent girls' school attendance and performance.

### 1.3.2 Specific Objectives

- i. To assess the perceived impacts i.e. provision of sanitary products to young girls
- ii. To assess whether the government allocations of public financial resources to the provision of sanitary product to young girls has led to young girl's school attendance

- iii. To assess the link between provision of sanitary towels and pubescent girls school attendance and performance

## **2.0 Literature review**

### **2.1 Introduction**

This chapter examines the literature related to the effect of sanitary towels provision on school going girl's attendance and performance. The review of literature for this study was drawn from books, journals, newspapers, government publications and documents, reports that may have had bearing wholly or partially on the field of pubescent girls school attendance and academic performance.

This section is divided into three parts. The first part reviews literature on menstruation and education in general and the perceived impacts of lack of sanitary towel provision, the second part discusses the government allocations of public financial resources to the provision of sanitary product to young girls while the third part discusses the theoretical framework used in the study.

### **2.2 Overview of menstruation and education in Kenya**

According to **FAWE**, in their study focusing on the dynamic in the school space, a girl's education is the most important investment for women because of its contribution towards better health for their families, alongside increasing the women's potentials as well as lowering fertility rates.<sup>10</sup> Menarche, or the onset of menstruation, marks a significant turning point in the life of a young girl. According to **O'Connor and Kovacs**, this turning point is something worth celebrating. However, for most girls in Kenya and other parts of the continent, this phase often brings challenges that push girls out of school and social activities, making the celebration short-lived.<sup>11</sup> The onset of menstruation-with its accompanying physical development, its hygienic requirements and its increased social pressure to move into adulthood-has implications for young girls' school attendance, academic performance, and self- esteem.<sup>12</sup>

Even now in the 21st century, all over the world, menstruation is seen as something private and secretive. Though the extent to which this is experienced differs in different countries, cultures and religious beliefs, menstruation is largely seen as something that should not be talked about in a polite society.<sup>13</sup> In sub-Saharan Africa, the issue is compounded by high poverty levels that force millions of adolescent girls out of school, as a result of the fact that they cannot afford sanitary protection. School absence lowers girls' academic performance and self-esteem and widens gender disparities in educational achievements.<sup>14</sup> **Obonyo** critically 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.<sup>15</sup> These challenges facing the adolescent girls have often been underplayed, even though research has shown that their effects are significant.<sup>16</sup>

### **2.3 Perceived impacts of lack sanitary towels provision**

Menstruation, a natural process for women and girls, is a big problem for girls in most parts of Kenya causing a huge risk to their health and disempowerment. Menstruation adds to the collection of reasons for gender disparity experienced by girls in Kenya. The adequacy of sanitary facilities is a critical issue in a girl's life. Studies have shown that most aspects of a girl's life are affected by lack of sanitary facilities thus lowering the girl's esteem and confidence.<sup>17</sup>

Several studies highlight the following negative effects of inadequacy of sanitary towels

### 2.3.1 Absenteeism

Lack of affordable sanitary products and facilities for girls keeps them at a disadvantage in terms of education when they are young and prevent their mobility and productivity. Menstruation is the most outwardly visible portion of a woman's menstrual cycle. Occurring once every four weeks, menstruation typically lasts 3 to 5 days. Using an average of four days per period, most girls have their periods 52 days of every year, totaling 13 cycles per year. Sexual maturation process has been identified to have a negative impact on the education of girls. One of the strategies to enhance and retain girls in school is the provision of sanitary towels to needy girls especially in public primary schools, towards ensuring girls retention and effective participation in education.<sup>18</sup> Menstruation is an important element in the restricting of school attendance and completion by girls and there are researchers and policy makers who have argued the same.<sup>19</sup> A girl who misses 4 days of school every 4 weeks due to her monthly period misses 10 to 20% of her school days.<sup>20</sup> Some studies that have been conducted in Kenya have shown that menstruation causes the adolescent girls to lose an average of 3.5 million learning days per month.<sup>21</sup>

According to **Muvea**, studies conducted in Kenya have shown that menstruation causes the adolescent school girls to lose an average of 3.5 million learning days per month.<sup>22</sup> According to Kenya's Ministry of Education, thousands of Kenyan school girls miss one and a half school months of class each year due to their menstrual cycles. Meanwhile, UNESCO estimates that one in 10 African adolescent girls miss school during menses and eventually drop out because of menstruation-related issues, such as the inaccessibility of affordable sanitary protection, the social taboos related to menstruation, and the culture of silence that surrounds it.<sup>23</sup> This clearly

has a negative effect on the girls' education as compared to the boys and is a real challenge that they face.

### **2.3.2 School drop out**

Girls have dropped out of school due to poverty and inability to buy proper sanitary facilities for their care in school. This agrees with **UNICEF** findings that estimated about 1 in 10 school-age African girls do not attend school during menstruation, or drop out at puberty because of the lack of sanitary facilities.<sup>24</sup> FAWE and UNICEF report that menstruation is among the highest rated factors for school dropout among girls in Africa with 1 in 10 girls miss school due to lack of sanitation products or facilities in schools. On average, a girl misses 5 school days in a month; this means 20 learning days in a term. A year has 3 terms, this means losing 60 learning days per year. This fact also increases the possibility of dropping out of school.<sup>25</sup> **Chebi** also points out that for many girls in school in Kenya and other parts of the continent, this period is characterized by challenges that not only negatively affect their education, but also cut into their school activities to such an extent that many temporarily or even permanently leave school thereby affecting their progression in school.

### **2.3.3 Poor school Performance.**

Constant discomfort in class cause lack of class work participation. In addition, teasing by boys and other pupils within the schools when the girls have leakages leads to poor self-esteem which is a prerequisite for good learning. In addition, regular absence from school negatively impact on a girl's participation. Furthermore, regular absence from school for several days a month can even in the short term - have a negative impact on a girl's learning and therefore on her academic performance in school. Interrupted attendance, insufficient learning and therefore poor results in

the long term can contribute to eventual drop out. This shows that when the girls are affected this way due to inadequate sanitary facilities, they cannot participate well in education.<sup>26</sup>

#### **2.3.4 Embarrassments and psychological trauma**

This happens when the girls lack sanitary towels resulting to leakages and exposure hence great embarrassments. A review of several studies done by NGOs on the matter indicates that the inaccessibility of menstrual products resulted in embarrassment, anxiety and shame when girls stained their clothes, which is stigmatizing. The schoolgirls interviewed for the various studies generally described menstruation as a time of anxiety and discomfort especially at school, leading to low concentration in class.<sup>27</sup>

In his study **Oche et al.** highlights the inability of girls to remain comfortably in class during their menstrual cycle and lack of menstrual knowledge as being traumatizing to the young girl.<sup>28</sup> According to him, a troubled mind cannot accommodate new instructions. Furthermore, since menstruation is unfortunately treated as a taboo subject in many countries thus enabling a lot of myths and misconceptions from both the male and female populations. Girls are prone to feel a sense of shame and fear on the onset of menstruation and the chances of boys teasing the girls because of a lack of understanding about the issue may cause even more challenges to the adolescent girls.

The stigma surrounding menstruation may have significant physiological damage where the girls who are not properly educated about menstruation, have had no chance to completely understand what they are going through.<sup>29</sup> Besides facing problems at school, girls are also susceptible to intense physiological and symptomatic challenges during their menstrual cycle, another factor that hinders their access to education. Many of the girls may go through days of physical, psychological and behavioral changes; all symptoms of Premenstrual Syndrome

(PMS), which has a wide variety of symptoms, including mood swings, tender breasts, food cravings, fatigue, irritability and depression. **Sharma et al.** also point out that dysmenorrhea is one of the most common problems among girls between the ages of 15 and 25 and it necessitates periods of bed rest which may affect the girls' access to education and other social activities.<sup>30</sup>

Beyond health issues, there are considerable cultural issues related to menstruation. In some communities in Kenya, particularly among the Somali and in the Rift Valley among the Kalenjin, female circumcision is practiced although it is illegal. Girls who have undergone circumcision, mostly those who have been "infibulated", will have additional health and hygiene problems whereby there may be blockages and build-up of blood clots created behind the infibulated area and can be a cause of long drawn-out painful periods (dysmenorrhoea), odour, discomfort and the potential for additional infections.<sup>31</sup>

Poor girls in rural or marginalized communities who receive minimal instruction on menstruation are bound to have experiences that are upsetting, bewildering and shame-inducing especially in patriarchal cultures where the men are the ones that define what is "good" or "bad".<sup>32</sup> Women are thus, in such communities, seen as inferior, menstruation is the subject of derogation and what is normal for most women may be used as a tool for harassment. A review by **Chebii et al.**, on research focused on the Kibera, Korogocho, Mukuru and Kiandutu informal settlements, show that many adolescent girls and women in Kenya have limited knowledge about their bodies, especially in relation to menstruation and sexual and reproductive health.<sup>33</sup>

### **2.3.5 Diseases/ Bad health**

The sanitary towel has been in use from the 19th century. For many women, they would like to use products with which they feel both confident and comfortable. Sanitary towels were introduced as a menstrual device for women to wear in order to improve their health.<sup>34</sup> The cost



of sanitary ware and towels is beyond the reach of most young women and girls, who in Africa are the majority of the unemployed and those living in poverty.<sup>35</sup> Many girls who cannot afford sanitary towels mainly because of poverty endanger their health by resorting to unhygienic solutions such as dirty rags, straw, sand or newspaper.<sup>36</sup> Some turn to anything like rags, tissue papers, even pages from their exercise books, pieces of old clothes, mattresses or blankets, tree leaves, newspapers, cotton wool, corn husks to manage their menstrual flow. Elsewhere, in an ethnographic study conducted in a primary school in Bungoma District, in some rural areas girls use cow dung or even dig a hole on the ground to sit on for the whole period as a means to manage their menstrual flow.<sup>37</sup>

Doctors have observed that normal menstrual blood is not infected and it is not dirty. But when it gets contaminated by these dirty clothes, organisms start growing and there is the risk of infection. Lack of proper sanitary care on girls lead to a myriad of diseases and fungal infections like Vaginitis and Urinary-Tract Infections. These can and do lead to external and internal infections and disability.<sup>38</sup>

Generally, limited access to safe affordable, convenient and culturally appropriate methods for dealing with menstruation has far reaching implications for rights and physical, social and mental well-being of many adolescent girls in Kenya. It undermines sexual and reproductive health and well-being and has been shown to restrict access to education.<sup>39</sup>

## **2.4 Current responses and interventions**

For a typical poor African family, when there is little money to barely cater for food, fuel and other basic needs, sanitary products are not a priority. Therefore, providing sanitary materials for girls would be a life-changer for numerous reasons including hygiene, health, education and empowerment.<sup>40</sup> As such, many campaigns in both poor rural and poor informal urban

settlements have been launched in a bid to provide adolescent girls with sanitary protection and help bridge disparities between adolescent girls and boys both in primary and secondary education in Kenya. Such interventions have mostly been by Civil Society Organizations (CSOs), corporate organizations, Faith Based Organizations (FBOs) and the media. Notable among these include those run by the Foundation of Hope Life Center (FHLC), which rolled out a programme in 2007 who raise funds from donors and volunteers for example by encouraging shops and supermarkets to donate sanitary towels and also stepped up publicity by word of mouth, media and religious institutions to contribute towards this cause<sup>41</sup>; 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<sup>42</sup>; the “Huru” project funded by Johnson & Johnson, PEPFAR, the Elton John Foundation, and America Share/Micato Safaris, which began in 2008 with the aim of providing reusable sanitary pads to school-going adolescent girls in Mukuru slum area in Nairobi<sup>43</sup>; 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 organisation’s support, which constituted a drawstring bag, 24 packets of sanitary towels and three pairs of underwear.<sup>44</sup> Some county governments have also addressed this pressing need for the pubescent girls and allocated funds to support the provision of sanitary pads to the girls. One such initiative is by the Kajiado County Government which allocated KSh10 Million to purchase 25,000 pieces of sanitary towels that will be distributed to schools within the county.<sup>45</sup> Although such interventions are good short term measures, there was still a need for interventions that could potentially change the situation of more girls in the long term.<sup>46</sup> One such initiative came about as result of persistent pressure from female Kenyan parliamentarians about the plight of the girls

during menstruation and especially the issue of girls' absenteeism from school due to lack of sanitary pads led to a response by the government. In 2011, the Ministry of Education, Science, and Technology launched the National Sanitary Towels Programme (NSTP) to provide free disposable pads to school girls with the goal of reducing school absenteeism.<sup>47</sup>

#### **2.4.1 The National Sanitary Towels Programme**

The Kenyan Ministry of Education via National Sanitary Towel Programme is tasked to provide sanitary towels to school girls, trains teachers on hygienic usage and disposal of sanitary towels and monitors and evaluates of impact of work. In 2011, the governmental policy allocated 240 million Kenyan shillings annually towards the provision of free sanitary pads to girls in public government schools through the National Sanitary Towel Programme. This sum had increased to 400M shillings in 2015.<sup>48</sup>

The program was targeted to benefit 443,858 girls in public primary schools across 47 counties. While the program is achieving greater scale than many NGO or donor funded programs, it is still insufficient to meet the needs of the estimated 2.6 million girls in primary and secondary school.<sup>49</sup> In addition, the programme has met several criticisms. Sanitary pad suppliers suggest that governmental tender price for pads is extremely low, and there are anecdotal reports of suppliers lowering the quality of pads to obtain governmental contracts. There are reports of corruption and collusion along the supply chain. (e.g., security issues on the road in northern regions, suppliers providing a fraction of agreed upon product quantity).<sup>50</sup> For users, girls report frustration with the low quality of the pads and have inconsistent access due to stock outages in school and only receiving support during the academic year.<sup>51</sup> Even with such criticisms there has been no formal evaluation of the program to assess impact of the programme yet. To date few programs have conducted rigorous evaluations, thus limiting options for scale and

replicability. Evaluation will facilitate better understanding of the impact and attribution of various interventions on girls and their education.<sup>52</sup>

## **2.5 Theoretical framework**

The baseline research is founded on two related theories discussed below.

### **2.5.1 Liberal feminism**

The basic idea behind this theory is that humans are rational beings who, with enough knowledge and opportunity, will realize their potential as individuals to reason and act. This will not only benefit of them but also the society as a whole. Things go wrong primarily through ignorance, bad socialization and limited access to opportunities. This theory advocates for equality in all sexes. Equality of opportunity and freedom of choice are seen as the bedrock of individual well-being, which in turn makes possible an enlightened society and progressive social change.

According to this theory, all forms of prejudices, discriminatory behavior should be done away with, and people should be considered equal for the community to be successful. In terms of education, all needs of both boys and girls should be regarded equally since if their interests are not taken care of then their education will be interfered with. The liberal feminist solution is to remove the barriers to women and girls' freedom of choice and equal participation. In this case, girls should be provided with sanitary towels to enable them go to school as required. Without sanitary towels the experiences of the primary school girls would be different from the ones with. Therefore, the needs of the girl child should be given attention just like other basic requirement. The liberal method is to persuade people to change by challenging sexist stereotypes and demanding equal access and treatment. Liberal feminism main assumption is that oppression results from ignorance whose removal through enlightened education will clear the road to equality and a better life for all.<sup>53</sup>

### **3.0 Methodology**

#### **3.1 The Research Design**

The study applied correlation and ex post facto experimental research methodologies involving pubescent girls from treatment and control schools from Kibera and Kawangware respectively. The study was a longitudinal research that employed a mixed method approach involving both qualitative and quantitative techniques. Qualitative techniques were captured through key informant interviews and monthly discussions with the students in the study. Quantitative data collection on the other hand captured the school attendance and performance of the students within the study period. The study aimed to compare the attendance and performance of the students with and without the constant distribution of sanitary towels.

#### **3.2 Description of Study Schools**

Raila Education Centre (treatment group) and Kawangware Primary School (Control group) are schools located within the informal settlements of Kibera and Kawangware in Nairobi respectively. They are both government schools which serve the students of the ages 6-16 drawn from these areas. The students come from poor families who face daily challenges like poor sanitation and diseases like HIV/AIDS. As such, the schools with the assistance of the government and well-wishers have several programs that aim to support the students. Such programs include the school feeding program, the orphan program and the sanitary towels program.

The sanitary towel project is a government initiative that distributes sanitary towels to pubescent girls within these schools to address the issues of school absenteeism of girls during menstruation. However, during the period of study the control school had not received its supply

of sanitary towels. Data was therefore collected from students from the two schools to establish whether constant supply of sanitary towels has an effect on their attendance and performance.

### **3.3 Sample size and Sampling Procedure**

#### **3.3.1 Students selection**

Purposive sampling was used with the discretion of the guidance and counseling teachers from the schools, who helped identify pubescent girls who had already received their menses. The students who were from class six (17), seven (68) and eight (36) were then given letters to invite their parent to an introductory meeting where they gave their consent for the students' participation in the study. Consent was also received from the respective District Education Officer. 63 girls from the control school and 58 girls from the treatment school participated in the study during the 2015 academic year.

#### **3.3.2 Key Informant Interviews**

Three teachers were interviewed from each school. They included the guidance and counseling teacher, the class teacher and deputy head teacher all of whom were involved in different capacities as advisors to the girls or the in charge of the sanitary towel program in the schools.

#### **3.3.3 Focused Group Discussions (FGDs)**

FGD forums were held with the subject girls once every month to demystify menstruation and related issues. These FGDs were modified to accommodate all the subject students since the discussions touched on similar topics and there was limited time allocated by the schools for the forums. A school talking box was set up in the school compound and the girls dropped their questions in the box. This was done to encourage them to ask questions regarding menstruation anonymously especially for those who were shy about the matter. Collected questions were then

discussed with the students lead by CCGDs counseling psychologist. Observational techniques were used to collect data from these forums.

### **3.4 Data collection tools**

#### **3.4.1 Registers**

The normal school register filled by the class teachers was used to collect data on the school attendance of the students. Data was collected at the end of each term. Baseline data on the school attendance of the students was obtained from the 2014 academic year.

#### **3.4.2 Diaries**

School diaries were filled by the students during the study period. The diaries provide information on the school attendance of the individual students, complementing the registers. In addition, a provision was given for the students to indicate days they had their menses.

#### **3.4.3 Needs Assessment Tools**

The tools were generated and self-administered to the students before the rolling out of the study. This was done as a primary assessment to determine their thoughts and activities they are comfortable doing when they have their menses. This formed a guide for the initiation of the monthly discussions.

#### **3.4.4 Key Informant Guide**

One-on-one interview with five teachers was done with the aim of gaining insight into the issues that affect pubescent girls which in turn influence their school attendance and performance. Interviews lasted 30 minutes. The responses from the interviews were noted down.

### **3.4.5 FGDs**

In addition to the posted questions via the school talking boxes, observational techniques were used to collect data during the discussions. The discussions were done with all the subject girls from each school and were mainly focused on menstruation and reproductive health education.

## **3.5 Data Management and analysis**

### **3.5.1 Quantitative data**

Quantitative data was entered in Excel sheets by the research assistant. They were then cleaned and, checked for completeness. The data sets were sent to the data analyst who counter checked the data in the Excel sheets and transferred them into STATA/IC 13 the software which was used to analyze the data. Analysis was done in form of frequencies, means, range, chi squares and regression analysis.

### **3.5.2: Qualitative data**

Qualitative analysis was used for data obtained through key informant interviews and FGDs. For this analysis, the researcher began by familiarizing with the data and also making sense of the responses and discussions. The open-ended questions were then coded. Coding was done based on the themes that emerged. Data was then sorted using MS word tables.

## **3.6 Quality assurance**

For quality assurance

- The research team was taken through training before data collection.
- The data collection team were regularly monitored and supervised by the research coordinator and the principal investigator.
- Regular meetings were conducted with the research team to address any arising issues and the challenges they faced.



### **3.7 Ethical considerations**

- National Council for Science and Technology issued a research permit authorizing the research
- Approval was received from the Ministry of Education via the Dagoretti and Lan'gata Education District Officers
- Signed consent for the study participants was obtained from their parents before the study began

## **4.0 Findings and Discussion**

### **4.1 Introduction**

The findings that follow entail analysis of school attendance and performance information obtained from 63 girls in the control group and 58 girls in the treatment group followed over one year beginning term 1 through to term 3 in 2015. Baseline data on both groups was also collected in 2014.

### **4.2 The Impacts of Provision of Sanitary towels on School Attendance**

#### **4.2.1 School attendance**

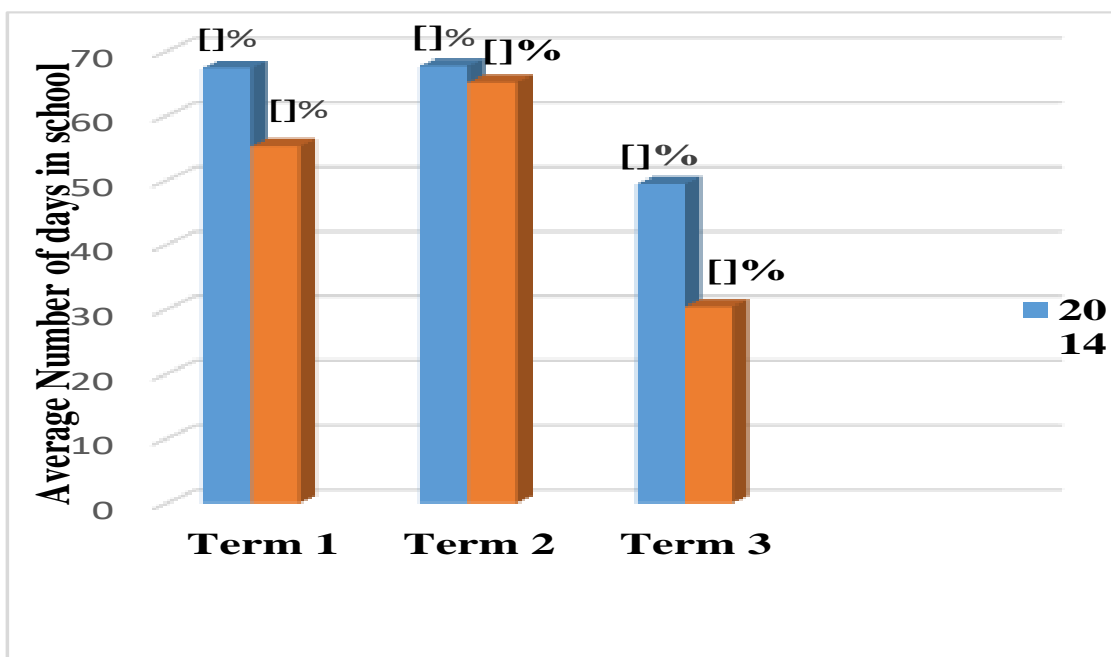
According to the Kenyan government school calendar, the total number of school days for the three school terms is seventy (70), seventy (70), and fifty (50) days for terms 1, 2 and 3 respectively a total of one hundred and eighty (180) days in a year.<sup>54</sup> In term one 2014 and 2015, the average number days that the girls from the treatment group attended school was 67 and 55 respectively. In term two in the same periods, the average days the girls attended school was 67 and 65 and in term three, 49 and 30 respectively. The data obtained from the treatment group showed that the number of days spent in school was significantly reduced across all the terms in the year 2015 compared with the previous year 2014. In term one it reduced by twelve days, in second term it reduced by two and a half days and third term registered the largest decrease which was 19 days (CI 16.1 – 21.6). See Table 1.

**Table 5: Average number of days in school in 2014 and 2015 for treatment group**

	<b>2014 Mean (SD)</b>	<b>2015 Mean (SD)</b>	<b>p-value</b>
<b>Term 1</b>	67.4(sd 2.7) Range 56 – 70	55.3(sd 4.3) Range 27 – 58	<0.001
<b>Term 2</b>	67.7(sd 2.3) Range 59 – 69	65.2(sd 6.6) Range 35 – 69	0.007
<b>Term 3</b>	49.4(sd 3.4) Range 41 – 69	30.4(sd 9.9) Range 0 – 35	<0.001

Source: Field data 2014/2015

**Chart 1: Average number of days in school in 2014 and 2015 for treatment group**



Source: Field data 2014/2015

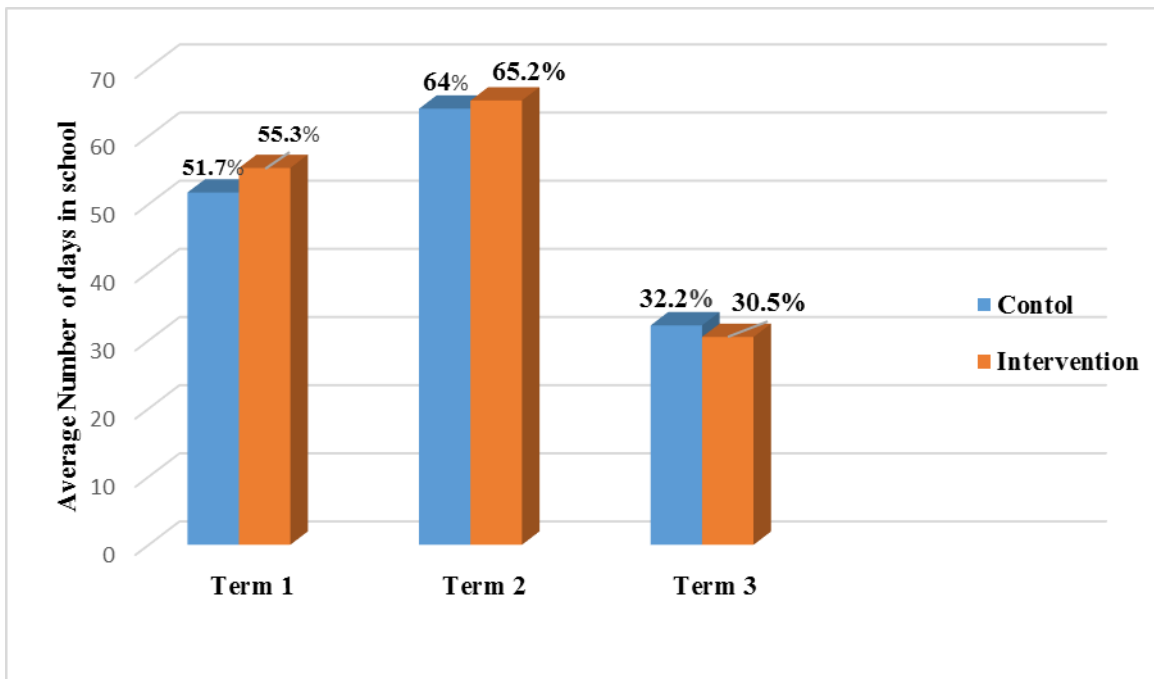
The significant reduction in the number of school days attended in first term and third terms could be explained by the teacher’s strike which paralyzed school operations more in first and third terms of 2015 than in the 2014 academic year.<sup>55</sup> It was also noted that schools did not adhere strictly to the government calendar. Comparing school attendance between treatment and control group, a t-test analysis in 2015 showed that treatment group significantly attended more school days in terms one and two than control group. There was a change in third term as the girls attended more school days in the control than in the intervention group. See Table 2

**Table 6: Average number days in school for control and treatment group in 2015**

Terms	Control Mean (SD)	Treatment Mean (SD)	p-value
Term 1	51.7, sd 9.0	55.3, sd 4.3	0.0075
Term 2	64.0, sd 3.9	65.2, sd 6.6	0.2100
Term 3	32.2, sd 2.6	30.5, sd 8.0	0.1295

Source: Field data 2014/2015

**Chart 3: Average number days in school for control and treatment groups in 2015**



Source: Field data 2014/2015

#### 4.2.2 School absenteeism

Baseline data for treatment group shows that significantly more days were spent away from school in terms 2 and 3 in 2015 compared to 2014 in see table 3.

**Table 7: Average number of days absent in 2014 and 2015 for treatment group**

<b>Terms</b>	<b>2014 Mean (SD)</b>	<b>2015Mean (SD)</b>	<b>P-value</b>
<b>Term 1</b>	2.6(sd 2.7)	1.7(sd 4.3)	0.229
<b>Term 2</b>	1.4(sd 2.4)	3.1(sd 5.0)	0.020
<b>Term 3</b>	0.9(sd 1.9)	2.4(sd2.7)	<0.001

**Source: Field data 2014/2015**

Comparing absenteeism between treatment and control group in 2015, the median number of days out of school was significantly low in the treatment group during terms 1, 2, but there was no significant difference in the median between the two groups in term 3. See table 4.

**Table 4: Average number of days absent for treatment and control group in 2015**

<b>Terms</b>	<b>Control</b>	<b>Treatment</b>	<b>P-value</b>
<b>First Term</b>	Median = 2 Range (0-30)	Median = 0 Range (0-30)	0.0007
<b>Second Term</b>	Median = 4 Range (0-15)	Median = 2 Range (0-31)	0.0013
<b>Third Term</b>	Median = 2 Range (0-10)	Median = 2 Range (0-7)	0.3836

**Source: Field data 2014/2015**

#### **4.2.3 School days' attendance with period**

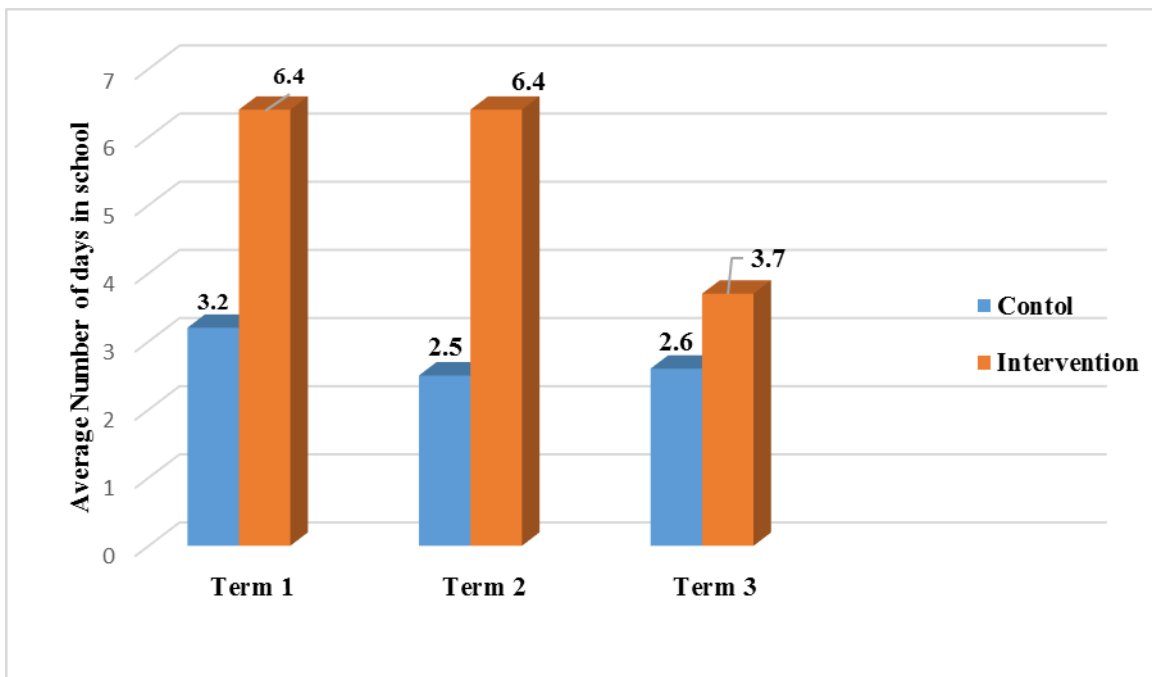
Two sample t-test showed that significantly more school days were attended with period in treatment group compared to the control group. See table 5

**Table 5: Average days attended with period in control and treatment groups in 2015**

Terms	Control Mean (SD)	Treatment Mean (SD)	P-value
Term 1	3.2 (2.9)	6.4 (3.3)	P<0.001
Term 2	2.5 (2.2)	6.4 (3.2)	P<0.001
Term 3	2.6 (2.1)	3.7 (2.4)	P = 0.007

Source: Field data 2014/2015

**Chart 4: Average days attended with period in control and treatment groups**



Source: Field data 2014/2015

#### 4.2.4 School Days Absent with period

Wilcoxon rank-sum test indicated that absenteeism in treatment group was not significantly different with the control group  $z=0.671$ ,  $p = 0.5021$  in term 1, but was significantly different for term 2  $z = 4.22$ ,  $p < 0.001$  and term 3  $z = 3.79$ ,  $p < 0.001$ . See table 6.

**Table 6: Average days absent with period in controls and treatment group in 2015**

<b>Terms</b>	<b>Control median (range)</b>	<b>Treatment median (range)</b>	<b>z</b>	<b>P-value</b>
<b>Term 1</b>	0 (0 – 9)	0 (0 - 4)	0.671	P<5021
<b>Term 2</b>	1 (0 - 4)	0 (1 - 2)	4.22	P<0.001
<b>Term 3</b>	0 (0 – 3)	0 (0 - 3)	3.79	P <0.001

**Source: Field data 2014/2015**

#### **4.2.5 Regression analysis**

Logistic regression was used to predict the odds ratio of attending school days or absenting from school days with period. The model controlled for the effect of general attendance of school days or general absenteeism from school. The assumption in the model is that girls who generally attend most school days will also attend school while having periods and those who absent themselves from school days for other reasons would stay absent when having periods. The odds of attending school was 33.9%, 75.9%, and 28.5% significantly more in the treatment group compared to the control group in terms 1, 2 and 3 respectively. The odds ratio of absences from school days with periods was 0.95,  $p = 0.812$ ; 0.36,  $p < 0.001$  and 0.40,  $p = 0.003$  in terms 1, 2 and 3 respectively.

**Table 7: Logistic regression analysis displaying Odds ratio of attendance and absenteeism in treatment schools**

<b>Terms</b>	<b>OR of presence of school days OR (95% CI)</b>	<b>p-value</b>	<b>OR of absence of school days OR (95% CI)</b>	<b>p-value</b>
<b>Term 1</b>	1.34 (1.16, 1.54)	>0.001	0.95 (0.64, 1.42)	0.812
<b>Term 2</b>	1.76 (1.42, 2.18)	>0.001	0.36 (0.21, 0.61)	<0.001
<b>Term 3</b>	1.29 (1.07, 1.54)	0.006	0.40 (0.22, 0.73)	0.003

**Source: Field data 2014/2015**

While academic studies on the impacts of sanitary towel access on girls' school attendance have produced contradictory results<sup>56</sup> the study results provide evidence that not only is the general attendance improved in treatment school but also attendance with the constant provision of sanitary towels. This implies that sanitary pads provision could have an impact on their school attendance. These findings agree with similar study by Scott et al.'s (2009) study, titled '*Impact of Providing Sanitary Pads To Poor Girls in Africa*'<sup>57</sup> and an pilot intervention Kenya which found that after six months of free sanitary pad provision, girls missed significantly less school.<sup>58</sup>

#### 4.3 Barriers to girl's class attendance

According to the teachers, many girls missed school because of several reasons including menstruation and server cramps. For the treatment school menstruation and server cramps, and financial challenges (payment of tuition or books) both at 28.6% were the main barriers to school attendance. These were followed by general sickness (14.3%), financial challenges (buying pads/painkillers) (14.3%) and peer pressure (14.3%). For the control group on the other hand, taking care of siblings was the major barrier (33%) followed by menstruation and server cramps (16.7%), financial challenges (payment of tuition or books) (16.7%), financial challenges (buying pads/painkillers) (16.7%), and family wrangles (16.7%).

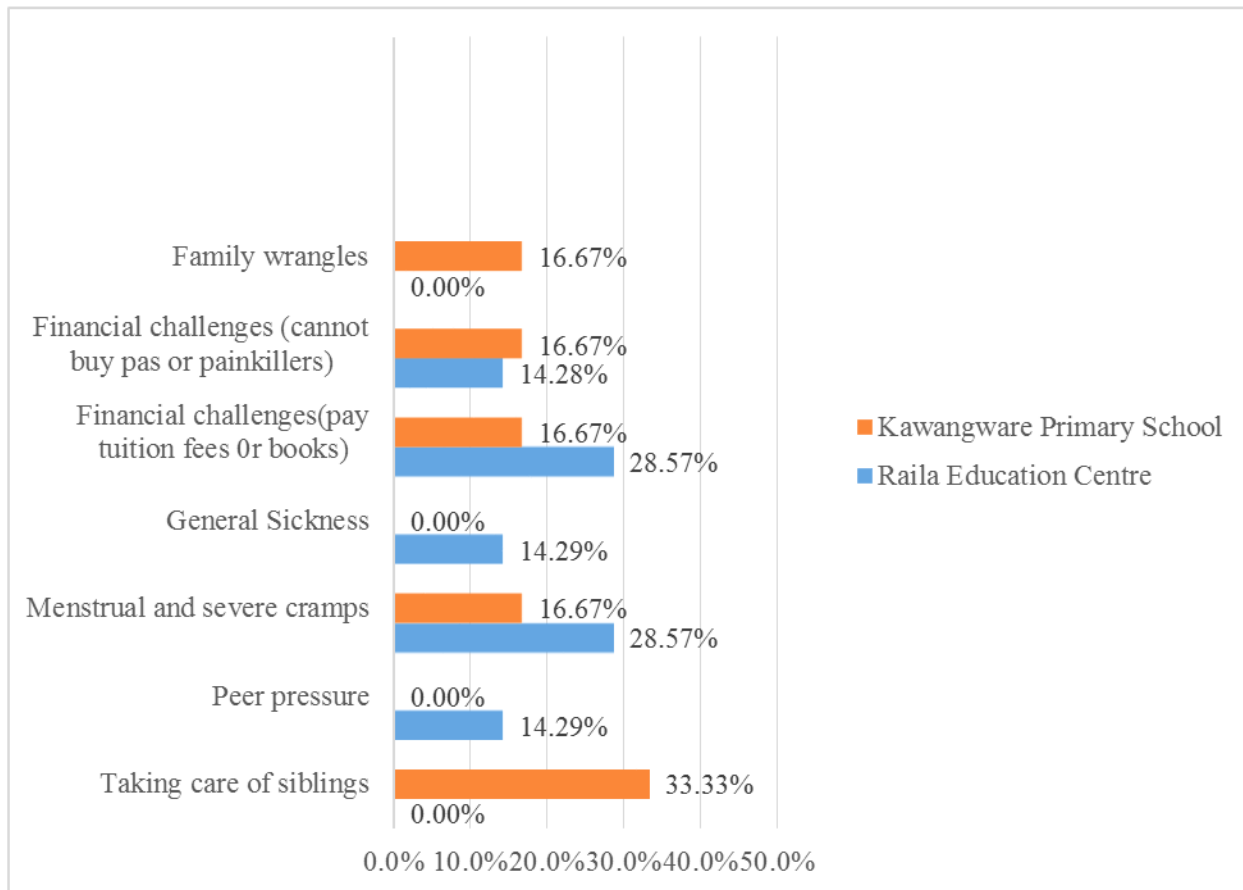
**Table 8: Barriers to girls class attendance**

<b>Barriers to class attendance</b>	<b>Control</b>	<b>Treatment</b>
Taking care of siblings	33.3%	0.0%
Peer pressure	0.0%	14.3%
Menstruation and server cramps	16.7%	28.6%
General sickness	0.0%	14.3%
Financial challenges (payment of tuition or books)	16.7%	28.6%
Financial challenges (buying pads/painkillers)	16.7%	14.3%
Family wrangles	16.7%	0.0%
<b>Total</b>	<b>100%</b>	<b>100%</b>

**Source: Field data 2014/2015**



**Chart 4: Barriers to girl's class attendance**



**Source: Field data 2014/2015**

These findings highlight the causal factors that deter students from attending school. While menstruation and severe cramps is the major deterrent of school attendance, other factors also play a key role in preventing students from attending school. As highlighted by **Jewitt and Ryley** in their study, poverty is a key factor especially in the informal settings that hinders students from attending school especially where the cost of schooling is overwhelming to the parents.<sup>59</sup> In their study, **King et al.** found out that household chores are a contributor to absenteeism. This corroborates the study findings which showed that girls from the control group were told to look after their siblings as their parents went for temporary works.<sup>60</sup>

From the discussions between the teachers and students, the teachers from both schools highlighted that the girls lack knowledge on menstruation. As such, most discussions with the students were in the line of menstruation, with the treatment school having additional interest on reproductive health. However, 13% of the control group teachers felt that menstruation was a “non-issue” compared to the 9% in the intervention school who thought that it was a key issue. Several studies have highlighted the importance of menstrual management education and also reproductive health education in making menstruation manageable to the girls and thus facilitating their day to day activities with confidence.<sup>61</sup>

To address the challenges of menstruation in the classroom the teachers proposed that there is need to regularly supply the girls with sanitary pads, offer medical care for those with severe cramps, engage boys in discussions since they are the ones who stigmatize the girls, counsel and support the girls and normalize menstruation. Involvement of boys in discussions has also been emphasized by **Mason** on her study titled ‘We Keep It Secret So No One Should Know’– A Qualitative Study to Explore Young Schoolgirls Attitudes and Experiences with Menstruation in Rural Western Kenya’. She observed that, their understanding could be key in ensuring they do not stigmatize the girls and thus reducing the psychological pressure on the girls facilitating better management of their menses.<sup>62</sup>

#### **4.4 Class performance**

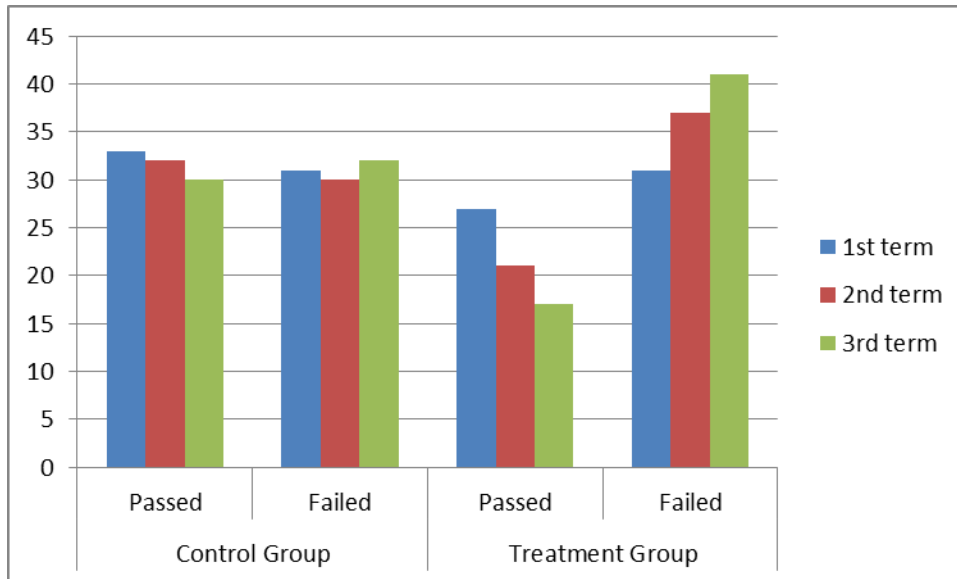
From the exams done by the students, a pass mark of 50 was set across all terms. In the treatment group 33, 32, and 30 students passed in the first, second and third term respectively while 31, 30 and 32 students failed in first second and third term respectively. In the control school, 27, 21 and 17 students passed in first, second and third term respectively while 31,37 and 40 students failed in first second and third term respectively. See table 9

**Table 9: Students performance in treatment and control group in 2015**

	Treatment Group		Control Group	
	Passed (>50)	Failed (<50)	Passed (>50)	Failed (<50)
<b>1<sup>st</sup> Term</b>	33	31	27	31
<b>2<sup>nd</sup> Term</b>	32	30	21	37
<b>3<sup>rd</sup> Term</b>	30	32	17	41

Source: Field data 2014/2015

**Chart 5: Student performance in control and treatment schools**



Source: Field data 2014/2015

Two sample t-tests were used to compare the average performance between intervention and control group. The test results showed that there was a trend of lower class performance in the

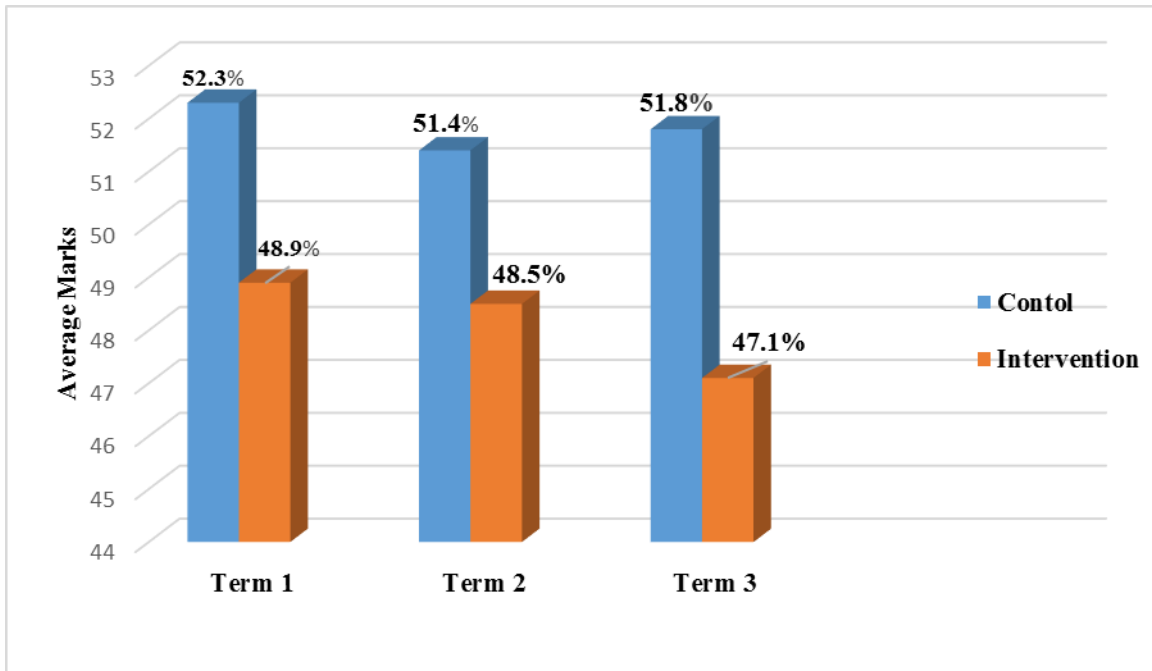
treatment group compared to the control group all throughout the terms. Considering performance per term,  $M = 48.9\%$ ,  $SD = 10.5$  and  $M = 52.3\%$ ,  $SD = 12.2$ ,  $p = 0.27$ ;  $M = 48.5\%$ ,  $SD = 9.7$  and  $M = 51.4\%$ ,  $SD = 11.1$ ,  $p = 0.15$ ;  $M = 47.1\%$ ,  $SD = 9.6$  and  $M = 51.8\%$ ,  $SD = 9.7$ ,  $p = 0.014$  for term 1, term 2 and term 3 in treatment and control respectively. See table 10

**Table 10: Average performance in control and intervention schools**

Terms	Control Mean (SD)	Treatment Mean (SD)	p-value
Term 1	52.3 (12.2)	48.9 (10.5)	$P < 0.273$
Term 2	51.4 (11.1)	48.5 (9.7)	$P < 0.150$
Term 3	51.8 (9.8)	47.1 (9.5)	$P = 0.014$

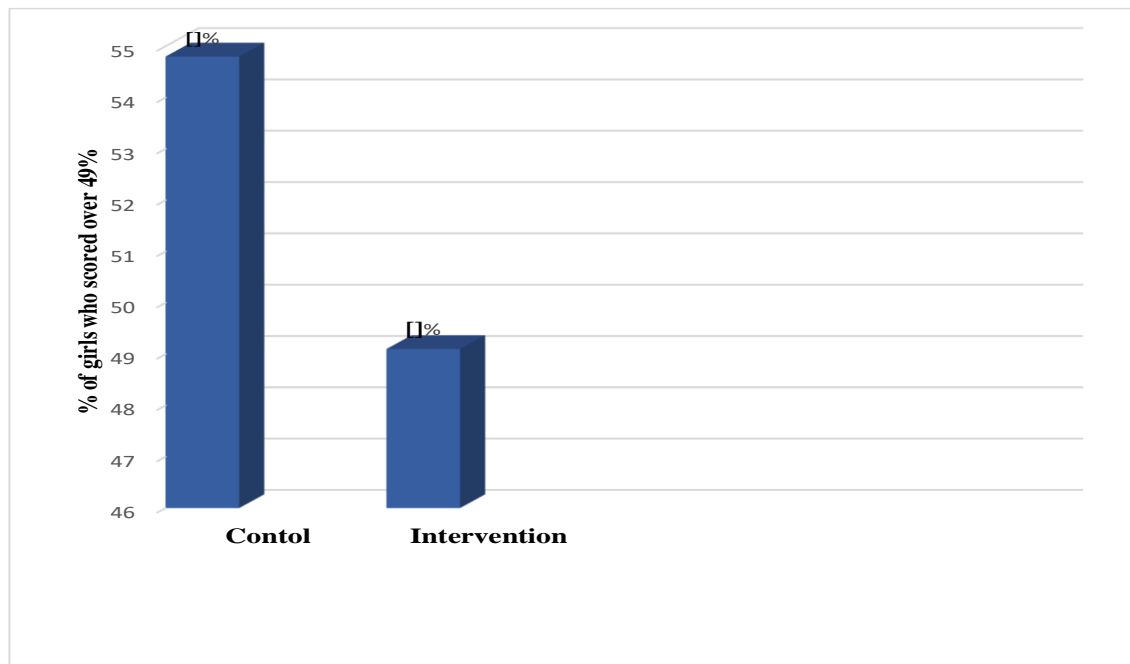
Source: Field data 2014/2015

**Chart 6: Average performance in control and intervention groups**



Source: Field data 2014/2015

**Chart 7: Proportion of girls who passed 50% marks in control and treatment group**



**Source: Field data 2014/2015**

On average, out of the 63 girls in the control group those who passed (achieved the pass mark and above) were 54.84 percent while in the treatment group, those who passed were 49.12 percent. This results show that there seems to be no association between class performance and the provision of sanitary towels to girls in school  $X^2 = 0.39$ ,  $p = 0.53$ . Thus, whereas provision of sanitary pads improved the school attendance for the girls it did not improve the academic performance. These findings are similar to those by **Korir et al.** that showed that improved attendance does not translate to improved performance.<sup>63</sup> While researchers speculate that provision of sanitary pads has a positive effect on school performance<sup>64</sup>, this study shows that there are several other factors that affect a girls performance. Some of the factors could include financial challenges preventing them from accessing reading materials or family wrangles that affect them psychologically.

#### 4.5 Challenges facing female student

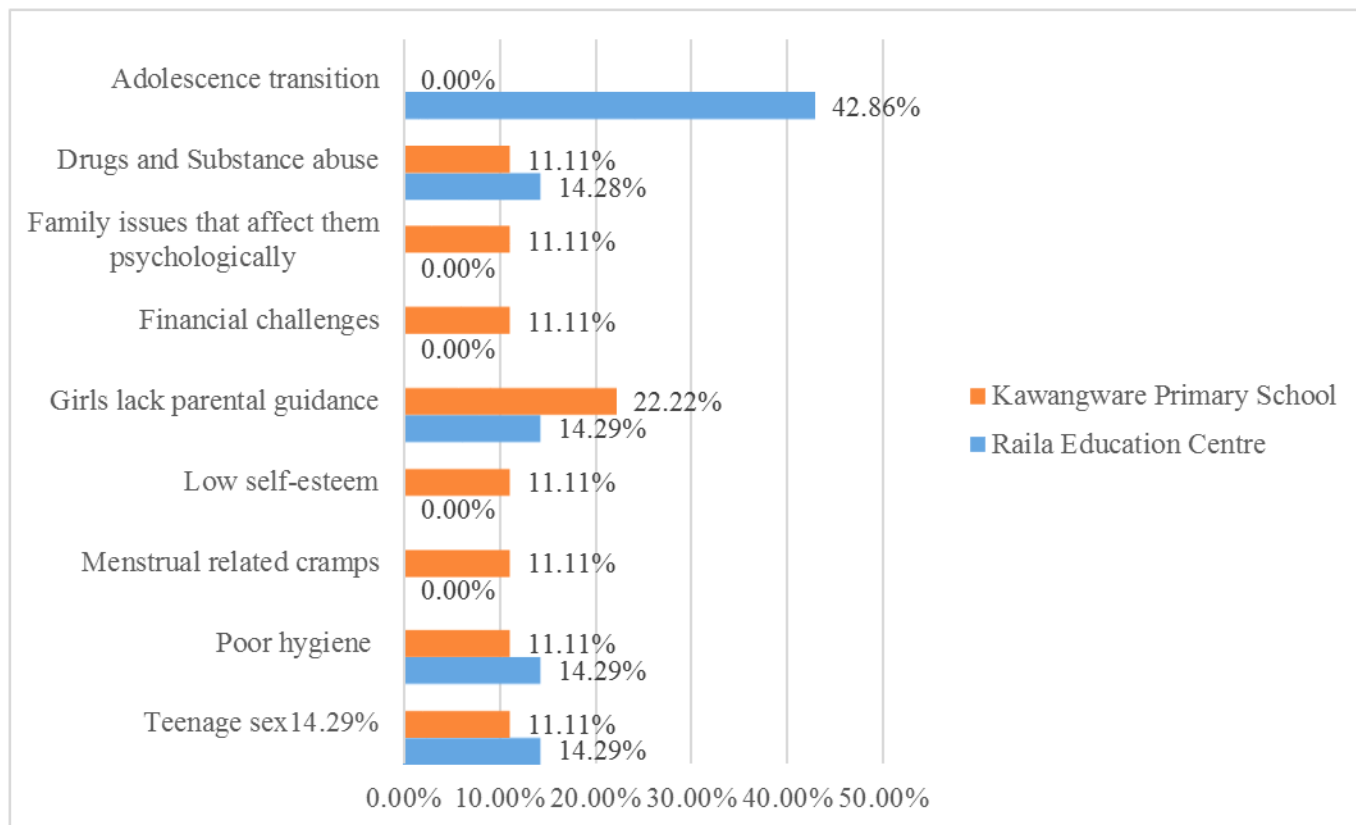
There are many challenges that the girls face in school. Those reported by the teachers were: adolescent transition, lack of parental guidance, drugs and substance abuse, teenage sex, poor hygiene, menstrual related cramps, low self-esteem, financial challenges and family issues affecting them psychologically as shown in Table 10. The biggest challenges facing the girls in the treatment school was “Adolescent transition” at 42.9 percent. For the control school “Lack of parental guidance for girls” at 22 percent was most challenging to the girls.

**Table 10: Challenges facing female students**

<b>Challenges</b>	<b>Control</b>	<b>Treatment</b>
Adolescent transition	0.0%	42.9%
Lack of parental guidance	22.2%	14.3%
Drugs and substance abuse	11.1%	14.3%
Teenage Sex	11.1%	14.3%
Poor hygiene	11.1%	14.3%
Menstrual related crumps	11.1%	0.0%
Low self Esteem	11.1%	0.0%
Financial challenges	11.1%	0.0%
Family issues affecting them psychologically	11.1%	0.0%
<b>Total</b>	<b>100%</b>	<b>100%</b>

**Source: Field data 2014/2015**

**Chart 8: Challenges faced by female students as identified by teachers**



**Source: Field data 2014/2015**

#### **4.6 Confidence during menstruation**

Confidence to participate in the activities during menses was measured by asking related questions as shown in Table 11. All the girls from the control felt confident to stand and answer questions on class while 98% they can concentrate on their studies while having their menses. This is contrary to the treatment school girls of whom 80% felt confident to stand and answer questions while only 84.6% could concentrate on their studies. For both groups the girls were reserved when it came to engaging in physical activities during their menses. Only 56.9% and 51% of the girls from the treatment and control groups were confident enough to engage in games. See table 11

Using two proportions test for significance, the average confidence in treatment group was 70.8% compared to 82.5% in the control group  $p < 0.001$ . The chi-square test for difference in the distribution of answer to each question is presented in table 11 below. Questions that showed significant difference in the way they were answered include “I can freely stand and answer questions”, “I can volunteer to be sent” and “I feel confident” where more affirmative answers were seen in the control group than the treatment group

**Table 11: Confidence of girls during menstruation in control and intervention groups**

Questions		Treatment Group %	Control Group%	p-value
<b>Q1 I can freely stand and answer questions</b>	No	20.0%	.0%	0.005
	Yes	80.0%	100.0%	
<b>Q2 I can volunteer to dust the black board</b>	No	32.3%	22.4%	0.343
	Yes	67.7%	77.6%	
<b>Q3 I can volunteer to dance</b>	No	50.8%	42.9%	0.403
	Yes	49.2%	57.1%	
<b>Q4 I can volunteer to be sent</b>	No	15.4%	2.0%	0.039
	Yes	84.6%	98.0%	
<b>Q5 I can discuss freely with classmates</b>	No	23.1%	12.2%	0.218
	Yes	76.9%	87.8%	
<b>Q6 I can move freely even among the boys</b>	No	49.2%	36.7%	0.254
	Yes	50.8%	63.3%	
<b>Q7 I feel confident</b>	No	24.6%	6.1%	0.009
	Yes	75.4%	93.9%	
<b>Q8 I can concentrate on my study activities</b>	No	15.4%	2.0%	0.039
	Yes	84.6%	98.0%	
<b>Q9 I can participate freely in games</b>	No	43.1%	49.0%	0.663
	Yes	56.9%	51.0%	
<b>Q10 I feel clean and fresh</b>	No	24.6%	14.3%	0.260
	Yes	75.4%	85.7%	
<b>Q11 I mingle free with my classmates both girls and boys</b>	No	38.5%	20.4%	0.063
	Yes	61.5%	79.6%	
<b>Q12 Others do not notice I have my periods</b>	No	13.8%	2.0%	0.061
	Yes	86.2%	98.0%	

**Source: Field data 2014/2015**



The administration of the questionnaires was done prior to roll out of the project in both schools. Despite the provision of sanitary pads to the treatment school in the study period and the previous academic year unlike the control school, the study shows that the control school pupils were more confident. This could be attributed to the observation that the girls in the control school were free to approach and engage the teachers in discussions concerning menstrual management. This was mainly done at the personal level or through the discussion platforms created during club's sessions. In addition, corporates like the Procter & Gamble Company which produces the Always brand of pads used to visit the girls and have talks on menstrual management unlike in the treatment school. These findings are supported by a study done by **Montgomery et al** titled "Sanitary Pad Interventions for Girls' Education in Ghana: A Pilot Study" whose results suggest that while provision of Pads may be beneficial, menstrual education only also appears efficacious in improving the girl's confidence.<sup>65</sup>

#### **4.7 FGDs**

Focus group discussions became opportunities for girls to share thoughts on menstruation and menstrual related issues. From the monthly discussions between the girls and the counseling psychologist, it was noted that the girls had similar concerns. 22.39% and 20.45% of questions from the treatment and control groups respectively were concerning sex. Issues surrounding menstruation were rated second with 17.91% and 20.45% of the treatment and control groups asking about menstruation respectively. The girls were also curious about relationships with the opposite sex with 14.93% and 15.91% of the questions from the treatment and control groups respectively focusing on relationships. Other issues addressed include harassment by boys in and out of school (14.93% and 13.64%), STI's (8.96% and 10.23%), peer pressure (8.96% and

6.82%), and contraceptives (4.48% and 2.27%) for the treatment and control groups respectively.

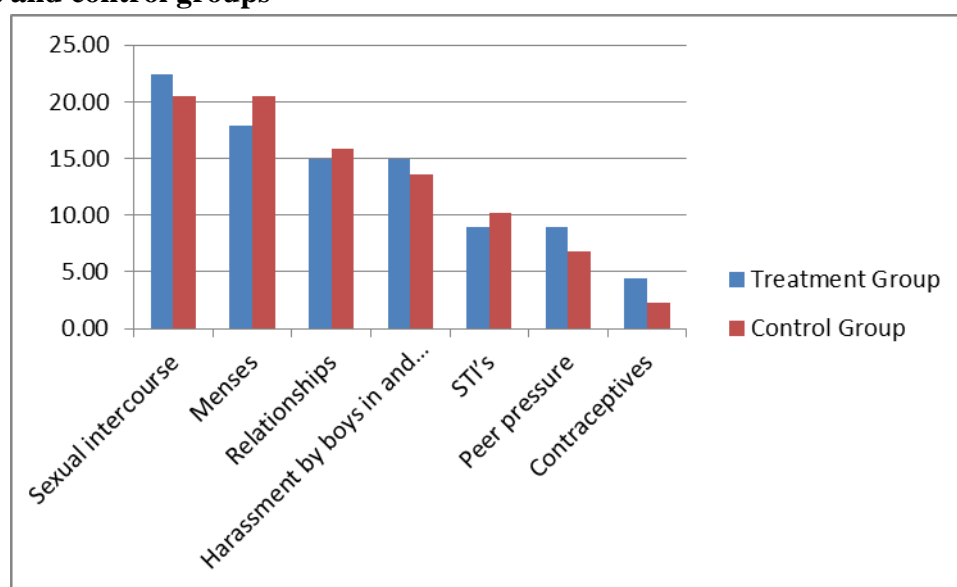
See table 12 below.

**Table 12: Questions addressed during the monthly discussions with the treatment and control groups**

Questions	Treatment Group %	Control Group %
Sexual intercourse	22.39	20.45
Menses	17.91	20.45
Relationships	14.93	15.91
Harassment by boys in and outside school	14.93	13.64
STI's	8.96	10.23
Peer pressure	8.96	6.82
Contraceptives	4.48	2.27
<b>Total</b>	<b>100.00</b>	<b>100.00</b>

Source: Field data 2014/2015

**Chart 9: Percentage of questions addressed during the monthly discussions with the treatment and control groups**



Source: Field data 2014/2015

From the FGDs the questions which the pupils raised fall into three major categories discussed below.

#### **4.7.1 Sex**

Sexual intercourse was brought up in the discussions with the pupils from both schools. It was the most frequently asked question with 22.39% and 20.45% of the questions from the treatment and control schools focusing on it. It was noted that the girls are exposed to sex and a good number of them have heard about it and know what the practice is about.

The girls were curious and asked a lot of questions about this topic, ranging from pregnancy and contraceptives (4.48% and 2.27% for treatment and control group respectively) to sexually transmitted diseases (8.96% and 10.23% for treatment and control group respectively) and also the myths associated with sex and menstruation. The girls were also curious to know what might happen if they have sex while on their periods; it's a common belief (myth) that if one has sex while on your periods they will not get pregnant and the experience is more pleasurable for the girl. This is not true however most of the girls from both schools had heard about it and some practiced it. Others asked about oral sex and if one could get pregnant from having oral sex and from rubbing of the private parts without penetration.

Such discussions with parents or teachers might be dimmed to be immoral and lead to punishment even though the pupils seem to be exposed to such practices at an early age. This shows the need of proper guidance to the girls from all quarters.

#### **4.7.2 Adolescence**

For the pupils, parents and teachers this period is very confusing and how to handle it is a challenge to all involved. The pupils from both schools raised a lot of questions related to this period of their lives and the teachers also had some concerns. One of the teachers told us about a

case in which the pupil had developed breasts and the parent beat her up accusing her of being fondled by boys so that her breasts had matured the way they did. This reaction was occasioned by a myth in most informal communities that if you want your breasts to develop you should have them fondled by boys.

Most parents in informal settlements are illiterate and vulnerable to such myths hence the girls also fear talking to them about issues affecting them as adolescents. One of the girls reported being punished for receiving her menses and telling her mum about it, her mother subscribed to the myth that her girl had been engaging in sexual practices which enhanced her periods. It was difficult for the girl to explain herself. Sometimes the girls get depressed by such behavior as they feel that their parents are their primary source of understanding and encouragement and they feel that they are not understood and turn to friends.

The girls also lack information about their menses, from the cycle and how to handle painful cramps. This had them asking 17.91% and 20.45% of their questions on issues concerning menstruation for the treatment and the control group respectively. They are also afraid of requesting their fathers to buy them sanitary towels since culture has created a barrier for men to discuss such issues with their daughters. With their mothers working as house help's and come home late or only during weekends, asking the fathers to buy them sanitary pads has been a big challenge for the girls.

Living in informal settlements again is a challenge for the girls they use latrines that are not clean which makes them prone to infections such as urinary tract infection and as one of them reported once they get infected they fear talking to their parents and teachers sometimes as they would be accused of having sexually transmitted diseases. The parents are not also well informed of the type panties to buy for their children and this exposes them to infections.

### **4.7.3 Boy–girl relationship**

Given that the girls are in the adolescent period and are experiencing various bodily and hormonal changes it's fairly accepted that they should be a little more curious about the other sex and how to relate with them. 14.93% and 15.91% of the questions from the treatment and control groups respectively, were focused on boy-girl relationships. Some of the girls asked if it's wrong to have a boyfriend, others were being coerced/ harassed by boys to be their girlfriends and others felt that they were not ready to engage in relationships at all with boys.

Harassment issues were also raised with 14.93% and 13.64% of treatment and control group of the questions touching on the issues respectively. The girls reported a few cases in both schools of boys and men harassing them on their way home from school, one girl said that where she lives there are many pubs in the area and when she is going home men tease her and harass her to join them and have a drink with them. Other girls complain that boys from other schools harass them and force them to be their girlfriends and get jealous if they see them walking with other boys from their schools and this has resulted to street fights a couple of times. One girl reported that she was being harassed by boys to her parent who did not believe her or take action to assist her.

The girls also feel that they want to be in relationships on just a friendly basis however teachers and parents castigate them leaving them totally confused since they are in mixed schools and at one point or the other they will interact with boys. One of the teachers was investigating coupling among class 8 students which happens a lot when final exams are nearing and the teacher said that she had noticed that sitting arrangements change during certain classes. She also suspected that the couples were fondling each other in class in the evening before heading home. The girls accepted that there were couples however they were not engaging in sexual practices.

#### **4.7.4 Education as a menstrual health enabler**

Awareness on menstrual health should provide girls and boys with accurate, timely information on the biological and psycho-social aspects of puberty, menstruation, and menstrual health management. Although the Kenyan government mandates puberty education in schools, the curriculum focuses primarily on the biological rather than psycho-social changes including the hygienic use and disposal of sanitary pads.<sup>66</sup> Additionally, while some curricula take a gender equity lens and discusses power dynamics in intimate relationships, the current 8.4.4 curriculum broadly used in public schools does not address these issues.<sup>67</sup> The quality of instruction by teachers varies significantly across the country. While teachers are meant to receive training on how to provide puberty education, studies have shown that teachers find the topic of menstruation embarrassing to discuss in a classroom setting and will often provide their specific point of view rather than the official curriculum.<sup>68</sup> Another qualitative study found that teachers often skip puberty modules because they have too many other mandatory subjects to cover, and are expected to teach and train students on a variety of different topics (e.g., how to use toilets). Experts suggest that teachers may opt to skip puberty education because, unlike most other mandatory subjects, it is not tested and there is thus less accountability.<sup>69</sup>

## **5.0 Conclusion and Recommendations**

From the above discussion of the study findings, we may conclude that:

- Constant provision of sanitary towels is a major determinant in achieving gender parity in education in Kenya and there is a need to consider this as a significant factor in education policy planning and development.
- Constant provision of sanitary pads increases general school attendance as well as attendance of girls with periods and reduces general absenteeism and absenteeism with periods
- Though a contributing factor, the impact of constant sanitary towels provision of sanitary pads has minimal effect on the academic performance of girls
- Menstrual management education including the psychosocial aspects related to menstruation key in ensuring the girls have confidence and self-esteem to manage their menses and actively participate in school activities and studies
- There is need for a holistic approach to addressing factors that impede school attendance and performance by the pubescent girls

### **Recommendations**

- There is need for further nationwide research on the effect of provision of sanitary pads to pubescent girls on their attendance and performance with the aim of capturing everyday geographies of menstruation to inform future programs and policies that aim to address gender parity within the education system
- Policy makers should come up with a policy position on the constant provision of sanitary ware for girls in schools. This policy should be allocated the necessary financial budget to ensure its implementation

- The National Sanitary Pads Programme (NSTP) target should ensure constant distribution of sanitary pads to all primary schools nationwide
- NSTP should evaluate the programme to further inform policy and facilitate addressing of the gaps within the programme
- Teachers should also be trained on menstrual health management and evaluated on the dissemination of the same to the students
- There is a growing need for introduction of reproductive health education within the curriculum to demystify issues of women's sexual and reproductive health



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## Catalogue of Events



Figure 1: Parents of the Treatment group students listening keenly during the project inception meeting at the Treatment School



Figure 2: CCGD legal officer explaining to the Parents of the Treatment group students the contents of the consent forms before signing



Figure 3: Parents of the Control group students listening keenly during the project inception meeting at the Control School



Figure 5: Project Research Assistant Introducing the project to the control group students at the Control School



Figure 6: Control group students actively participating during the monthly FGDs



Figure 7: Control group students familiarizing themselves with their student diaries



Figure 8: Control group students filling in the self-administered questionnaire for the primary needs assessment



Figure 9: CCGD staff distributing soaps to the Control group students



Figure 10: Project Research Assistant distributing Sanitary Towels to Treatment Group students in the presence of the school guidance and counselling teacher



Figure 11: Project Research Assistant distributing pads to treatment group students



Figure 12: Project Counseling Psychologists posing for a photo with young boys from the Treatment School



Figure 13: Control group students show casing their soaps



Figure 14: Control group students showing off their diaries and soaps