

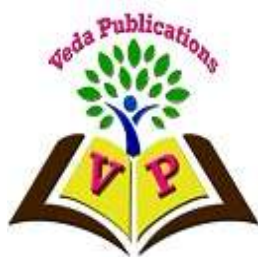
EFFECT OF MALARIA ON ACADEMIC PERFORMANCE IN SECONDARY SCHOOLS IN SOUTH WEST NYAKACH WARD, KISUMU

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ABSTRACT



This study discusses the effect of malaria on academic performance among secondary school form four students in South West Nyakach ward. Malaria is a very serious disease caused by the protozoan parasite plasmodium. It is the most common and dangerous type of parasite that can kill a child within one day (UNICEF 2014). Malaria parasite is transmitted by a female Anopheles mosquito which bites a person mainly between dusk and dawn. Malaria is an acute febrile illness with an incubation period of 7 days or longer. Malaria slows down the economic development in Kenya and Africa at large. The most severe form is caused by P falciparum. The symptoms include fever, chills, headache, muscle arching and convulsions weakness, vomiting cough, diarrhoea and abdominal pain. Other symptoms related to organ failure, such as acute renal failure, pulmonary oedema, generalized convulsions, circulatory collapse, followed by coma and death. (WHO2017). The purpose of this study was to establish the impact of malaria on academic achievement in secondary school in South West Nyakach location. The main objective of the study was to investigate the effect of malaria on students' performance on class attendance, private studies, class attendance, class assignments, examinations and extra curriculum activities. The study employed descriptive survey design .It was used because it is the most suitable design for such a qualitative and quantitative study. The study population consisted of (5) five secondary schools, 1441 students and 92 teachers. Simple random sampling technique was used to select a sample of 180 students from the study population, while saturated sampling was used to select the teachers. Data was collected by use of questionnaire, interviews and documents analysis was used to get health records where students go to seek medical attention. Data collected from the field was analysed using descriptive statistics that involved use of percentages, bar chart and pie chart. The overall research findings indicated that the rate of information was so high that about 18 students suffered from malaria seek attention and malaria symptoms included stomachs.headaches and high fever which interferes with students academic performance and concentration in class.

Keywords: *Malaria, Secondary School, Students, Achievement.*

INTRODUCTION AND REVIEW OF LITERATURE

There are several factors that affect academic achievement. These include availability of teachers, books, and other forms of stationery, classrooms, tribal clashes, politics and diseases. This study specifically looked at the impact of malaria on academic achievement. In many countries malaria is becoming common and over two billion people in over one hundred countries live in areas where malaria is present. (Lankester, 2002)

In many countries malaria is becoming more common and attempts at control appeared to work during the 1970's but are failing now for various reasons such as phasing out of DDT and parasite resistance to chloroquine. Malaria is by far the most serious vectored disease in the world. This is also due to war, famine and resistance to control in Brazil (Lankester, 2002)

It is endemic and therefore slows economic development in Africa by more than one percent, people demand for medical care flows underlying demand for health (Phelps, 1992). It kills 1-2 million (over 900,000 in tropical Africa), totally incapacitates tens of millions and cause hundreds of million to struggle in exhausting with chronically severe anaemia (Melinda et al, 2000)

According to Connor (2003), devastating malaria cases from Botswana, Mozambique, South Africa Swaziland and Zimbabwe have been attributed mainly to heavy rainfall following drought.

In Ethiopia highland and Namibia plains 8-10 million people were exposed to malaria in 1958 with 3 million reported cases, at least 15,000 died and this was due to high rainfall and temperature later between December 1997 and February 1998, 45 million people were exposed to malaria and 3,271 were officially reported dead this was also due to high rainfall and temperature. Between 1987-1988 Madagascar had a population of 2.5 million exposed to malaria, over 200,000 reported episodes and 15,000-30,000 dying each year and this was attributed to abandonment of indoor residual spraying and storage of antimalarial.

The severe epidemic due to malaria in this East Africa countries is due to anomalies of rainfall and/or temperature (WHO, 2000). Kenya experience serious cases of malaria particularly in the lowlands which also experience moderate to high rainfall namely Western Kenya, Nyanza and Coast. Reports from the ministry of health showed that 50 people died of malaria in pokot county between the month of June and July in the year 2006. Kisumu county also experiences high rate of malaria to an extent that the community has been encouraged to use treated nets to guard against malaria besides using anti-malarial drugs that are effective. The most affected age groups range from 0-20 years.

MALARIA PREVALENCE

Malaria is by far the most serious vectored disease in the world, in the 1950; it was possible to dream about eradicating malaria because there was no preventive measures. In the 1960, eradication and control over large areas of Asia and South America was achieved. In the 1990, it again infected more than half a billion (Melinda et al 2000). The situation has

become serious that a new world wide initiative known as roll back malaria ,has been set up and is run by four agencies working together,WHO,UNICEF,the world bank and the united nation development programme, Roll back malaria consist of regional and national strategies which can help to reduce malaria through governments, health workers and communities working together in partnership .it will be a major programme in the twenty first century and aims to halve the burden of malaria by 2010.It is a common disease in many parts of the tropics and sub-topics .In the Indian sub-continent and central America. The terrible pressure it has exerted on the human population over the ages is demonstrated by pence of high mortality gen etic disease such as anaemia. It remains one of the major health problems in many tropical countries ,including Sudan .It affects many organs systems including the nervous system .In North Eastern Burundi between October 2000 and May 2001,2 million people got exposed to malaria and 1287 were reported dead this was attributed to abandonment of control in relation to complex emergencies,Chloroquine resistance and expanded rice cultivation(WHO,2000)East African countries such as Kenya, Uganda and the United Republic of Tanzania are often subject to frequent and recurrent malaria epidemics that 72 children die every day from malaria in Kenya. The government of Kenya through the ministry of health is committed to the fight against malaria as reflected in the health policy (GK/MOH, 2001) and in the formulation and initiation of malaria control programme in 1992 and 1994 under the division of vector Borne Disease.

IMPACT OF MALARIA ON ACADEMIC ACHIEVEMENT

Education is a key element in promoting economic and national development. An educated labour force will have a higher productivity than an uneducated one hence if a county is to achieve rapid economic development its education must be related to productivity malaria incapacitates tens of millions people and this has an impact on productivity and on economic development. Malaria affects an individual from childhood and it causes a number of life threatening complications such as swelling of blood vessels of the brain, or cerebral malaria, accumulation of fluid in the lungs that causes breathing problems orot pulmonary edemia, organ failure of the kidney, liver or spleen, anemia due to the destruction of red blood cells and low blood sugar (WHO 2017). The picture drawn of the educational relation between the child and adult society from conception to the end of the third month is a selective one, from which many of the darker shadow have been omitted the ministrations of the physician with his unregulated prescriptions ,the round of visitors who bring their presents and insist on picking up the sleeping child low sanity condition compared to those being involved from the closer culture contact and malaria are a few of the hindrance to the development of physical health and a sense of security(Brown et al,1998).In Paraguay 10 percent of parents stated their children had dropped out of school because of ill health. To equalize educational opportunity in impoverished region it is essential to improve the health of children living in such areas (Hynemen, 1980)

Learners in areas with high malaria prevalence rate will be disadvantaged due to regular malaria infection hence they will lack good health ,health and nutrition are vital

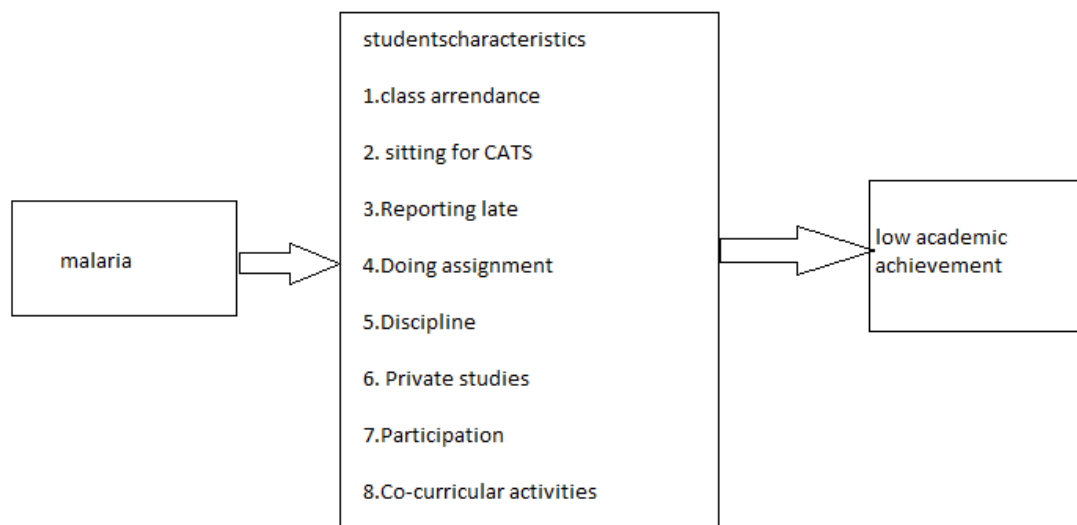
factors in development. Lack of proteins and vitamins can seriously retard intellectual growth (Bishop, 1985). It is also important for the prevention of malaria to be intensified by educating people to cover their skin or using bug spray containing medication may also help to prevent infection. Use of treated mosquito nets may also help in prevention of mosquito bites. Destruction of standing waters around homes which is the breeding places for mosquitoes cutting of all long grass around the homes may also help to eradicate malaria breeding places

Despite measure of investments and expenditure on their education systems by all developed countries, the results have not always matched the high expectations such as poverty, hunger, ill-health, illiteracy still remain. Malaria studies shows that the higher performing groups are those most isolated from urban. Children from impoverished areas and are often suffering from hunger and ill-health do not have some opportunity in education as those who are well nourished and healthy (Bishop, 1994)

The levels of class rooms energy in poor areas are a fraction of what one observes in healthy children in poor districts the children are often suffering from fever, recurring headaches, stomachpains, Grade (vii) children in Uganda were asked if they ever suffered from specific health problem. 78 percent claimed to have had malaria ,12percent had seen blood in their stools,10 percent had been treated for malnutrition when babies (Hyneman,1980) According to a research conducted by KEMRI it was shown that in kilifi district ,malaria prevalence is about 80% and busia district KEMRI conducted a research on malaria prevalence among children less than 5 years was 77%. Due to high prevalence rates of malaria in busia and other neighbouring districts in Nyanza province a non –governmental organization known as population service international (PSI) through the ministry of health distributes free mosquito nets to help control the spread and infection of malaria .Although malaria is prevalent in South West Nyakach location, so far no study has been done in relation to academic achievement, hence the need for a study to fill the gap.

STATEMENT OF THE PROBLEM

Malaria has led to high mortality genetics such as anaemia, it has incapacitated several individuals it also affects many organ systems like the nervous system. Malaria is thought to be significantly affecting academic achievement in South West Nyakach location. A visit to the health centre revealed that 60% of the students who visit the centre to seek medical attention are found to suffer from malaria .It was therefore necessary to conduct a study on the impact of malaria on academic achievement in secondary schools in the location



Conceptual framework showing the impact of malaria on academic performance

RESEARCH METHODOLOGY

The study was based on descriptive survey design because it was the most suitable design for such a qualitative and quantitative methods.

LOCATION OF THE STUDY

This research was conducted in public secondary schools in South west Nyakach location .It borders the following sub-countries: Rachuonyo East, Nyando and muhoroni.The sub-county is highly hardship area with very little reliable rain. Most of the people are peasant farmers, smallscale, business, geographical, Nyakach is hosting the odino water falls which generates electricity, so provide minimal employment to the locals.

POPULATION

The study focused on a student population of 1441 and a teaching force of 92 teachers.

SAMPLE AND SAMPLING TECHNIQUES

Simple random technique was used to select a sample of 180 students from the study population. Simple random sampling .All the names of form four students were put in basket and picked randomly if a name is picked that had picked earlier, it was returned to the basket and mixing done thoroughly so that picking can be done again until eventually the appropriate sample was picked.

RESEARCH METHODOLOGY

This section comprises the following, research design, area of study, study population, sample and sampling procedure, instrumentation, procedure of data collection and methods of data analysis.

RESEARCH DESIGN

The descriptive survey design was used because it was the most suitable design for such a qualitative study.

AREA OF STUDY

South West Nyakach location formed the area of study; it has a total area of 613km² (CBS-Busia district office. It borders on the west, Teso district on the North, Nambale division on south East and Matayos division on the South West. The municipality is highly populated since it is a cosmopolitan area .Most of the people are peasant farmers, and traders, teachers, and civil servants

STUDY POPULATION

South West Nyakach has five secondary schools with a student population of 1441 and a teaching force of 92 teachers.

SAMPLE AND SAMPLING PROCEDURE

Representation portion of the study population simple random technique used to select a sample of about 180 students from the study population .All the names of form four students were put in the basket, and picked randomly if a name is picked that had been picked earlier it was returned to the basket and mixing done thoroughly so that picking can be done again until eventually the appropriate sample was picked.

3.5 Instrumentation

3.5.1 Check list for teachers

The researcher used a checklist as a guide when interviewing teachers. The checklist contained a list of questions. The questions aimed at eliciting certain information from the respondent.

3.5.2 Questionnaire to students

A Questionnaire was issued to both male and female students' .About 163 students participated in the study by completing the questionnaire. The students answered the questionnaire in the form of the likert scale

3.5.3 Documents analysis

More information was collected from the health centre records where students go to seek medical attention .The records provided vital information .It showed the names of students who seek medical attention, the names of their respective schools, the diseases they were suffering from and the treatment they were given.

3.6 Validity and reliability

The questionnaire and checklist were both presented to an expert to peruse through and help in reconstruction for validity. It was important to select 9% of the study population to participate in the pilot study for reliability who did not take part in the full scale study.

DATA COLLECTION PROCEDURE

The researcher obtained an introduction letter from the university which was used while in the field .Permission was also sought from the principal of the selected schools through letters written to them three weeks before the study was undertaken .The researcher visited the schools where the questionnaire were administered and collected the same day this was done so as to ensure allthe questionnaires are responded to and duly returned. The researcher also booked appointments with teachers and health personnel for interview and collected information from them respectively

DATA ANALYSIS AND PRESENTATION

Data collection from the field was analysed using descriptive statistics; this involved the use of percentage, bar charts and pie chart. Data was coded and tabulated in form of frequencies and percentages to facilitate interpretation .The questionnaires were answered inform of the likert scale and data gathered was analysed to form the basis for the impact of malaria on academic achievement. Teachers were also interviewed using a check list. More data was obtained from the schools health facility.

INTERPRETATION AND DISCUSSION OF THE FINDINGS

Data was collected from form four students and teachers within the municipality on the impact of malaria on academic achievement .They noted that malaria affected the learning of students in several ways. When students fall sick due to malaria the kind of symptoms they experience such as high fever, headaches make them not to attend classes. Some also fail to sit for continuous assessment since they have to go out to seek medical attention .According to information kept in the school's health facility records, it showed that malaria affects students more than any other disease as shown by the pie chart below for first term 2006.

DISEASE THAT COMMONLY AFFECT STUDENTS WITHIN THE SUB-COUNTY

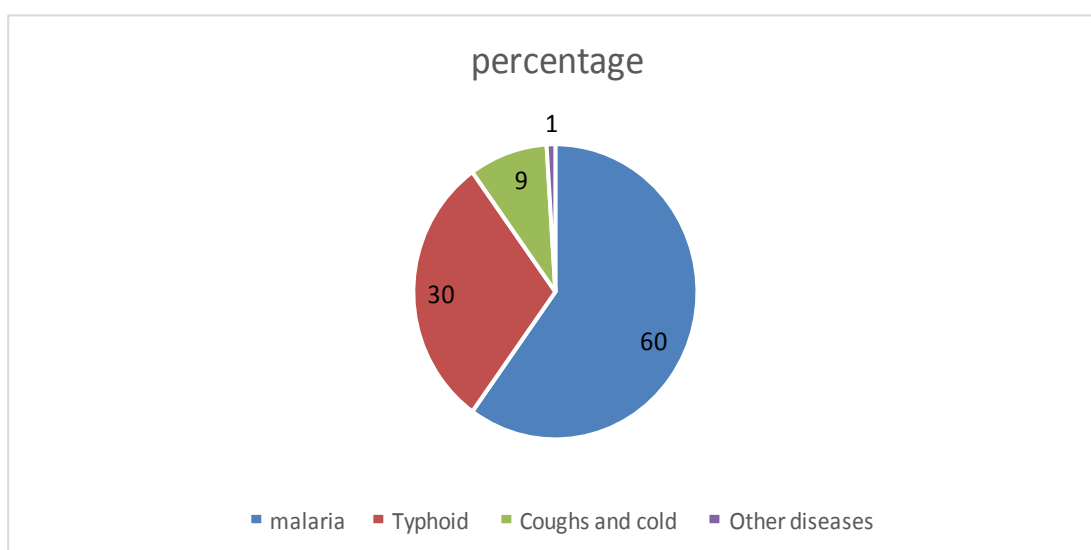


Fig.2 Pie chart showing diseases that commonly affect students in South West Nyakach Location

The rate of infection is so high that 18 students suffering from malaria seek medical attention every day. According to the response from students malaria affects academic achievement. It causes learners who have been affected not to attend classes since it is manifested through various symptoms such as stomachs, headaches and high fever which interfere with ones concentration in class. The results are shown by the bar chart below.

Malaria affects academic achievement

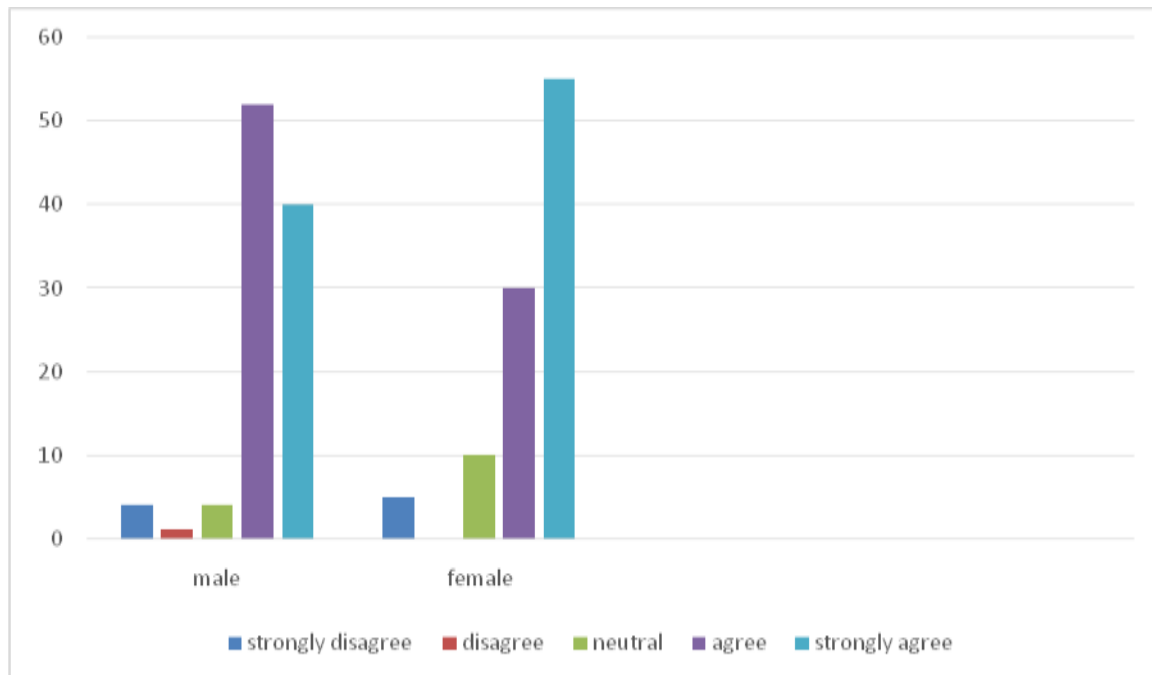


Fig.3 Bar chart showing opinion from students on the effect of malaria on academic achievement.

The teachers were asked to state how often they observed cases of students suffering from malaria, which season is malaria infection rate high, how does the disease affect student characteristic, what form of initiatives have been put in place to help curb the menace?

Most teachers expressed that from their own experience as teachers on duty about 4-5 students sought permission each day to go to the hospital to get medication and most of them complained of symptoms related to malaria. This also concurred with the response from boarding masters and mistresses. These are responsible for the welfare the students such that when the students come back from hospital they purchase for them the prescribed drugs. Most of them are diagnosed to be suffering from malaria. Malaria makes the students to miss classes because they spend the whole day in hospital. Some become so weak that they cannot concentrate in class. They also said some students end up not sitting for CATS which is so demotivating. The rate of malaria infection was high during the rainy seasons and had an impact on learners' attendance to lessons which impacts negatively on academic achievement. The school's administrations demand that every student should come with a treated mosquito net. However they expressed disappointment that most students are usually

overcome with sleep and end up not using the nets. This makes the effort to control the disease to be unsuccessful.

Students also strongly agreed that the rate of infection of malaria was high during the rainy season .This is shown by the bar graph on the next page.

Malaria affect most students during rainy seasons

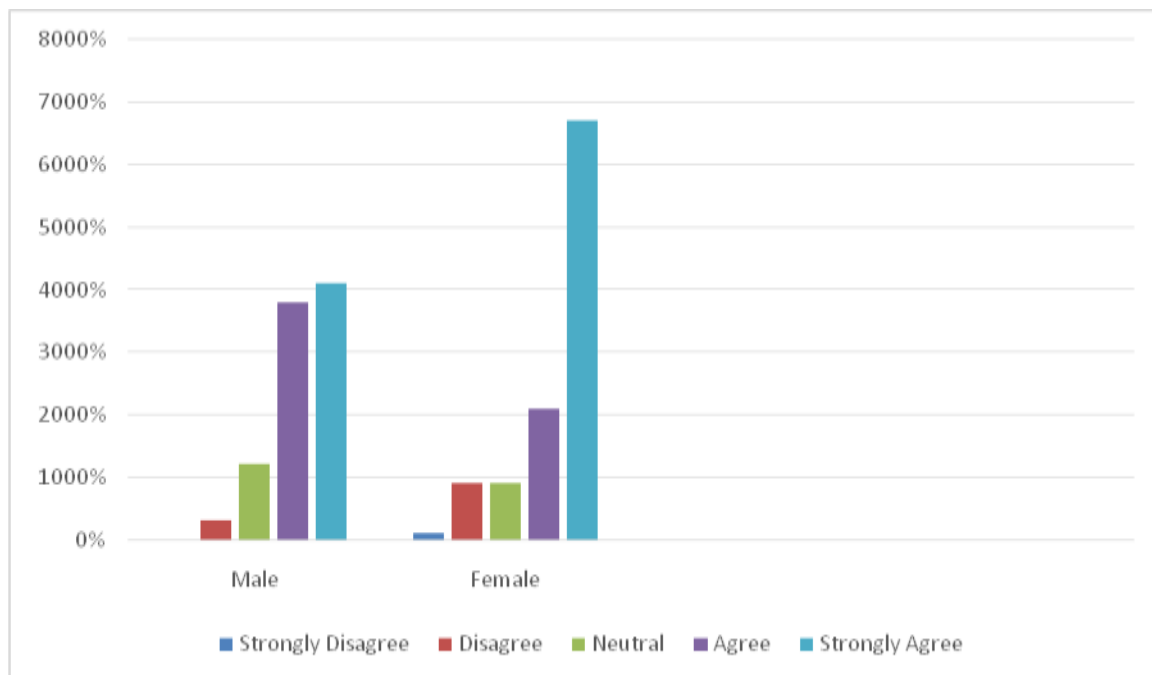


Fig.4 Abar chart showing opinion of students on malaria affecting mostly during rainy seasons.

From the results ,it is the rainy seasons that lead to increased malaria infection hence affecting academic achievement .This was particularly observed during the months of march, April, May and June according to the response from teachers .From the results it is evidence that malaria affects academic achievement ,since it incapacitates learners especially when the attack is acute ,making one to experience symptoms like headaches, fever which make an individual so uncomfortable leading to one being absent from school, in order to seek medical attention.

Some learners get hospitalized for several days hence catching up with what had been taught in their absence becomes a problem. However some teachers noted that the introduction of mosquito nets had greatly helped to improve the situation when effectively used. They also suggested that controlling breeding places for mosquitoes prevents malaria infection. Asked whether they had health facility to respond to an emergency, the teachers stated that such facilities had not been set up although there was need since the cases were rampant. Students also strongly agreed that lack of appropriate school's health facility, competent and qualified health personnel was a drawback to the fight against malaria. Some schools also did not have health facilities to attend to emergency cases hence students are

sent to nearest public health facilities which serve many people from the community on basis of first come first served hence students may spend the whole day in the hospital if the queues are long.

They also noted that some drugs are no longer effective in the treatment of malaria hence symptoms keep recurring and interfere with effective learning of students.

CONCLUSION AND RECOMMENDATION

Malaria has an impact on academic achievement in several ways. From the results it is evident that malaria affects student's class attendance, it interferes with their sitting for CATS, and it encourages indiscipline among students since some seek for permission to go to hospital pretending to be sick when they are not. Some students also do not attend private studies due to sickness and report to school late. Malaria also affects the ability of some students to participate in co-curricular Activities. All these effects impact negatively on academic achievement.

RECOMENDATION FROM THE FINDINGS

- i. Schools should be provided with treated mosquito nets.
- ii. Areas that encourage the breeding of mosquitoes within the school environment should be controlled, such as clearing of bushes, draining stagnant water
- iii. Students should be encouraged to use treated mosquito nets
- Iv. Health facilities should be set up in schools with qualified and competent health personnel to help curb the infection and spread of the diseases in order to contribute positively towards improving academic standards.

5.3 RECOMMENDATION FOR FURTHER RESEARCH

The research needs to be continued in order to make a follow up on individual students who have been affected by malaria in the course of the term to determine the impact on their results at the end of the term.

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