UNIVERSITY OF EDUCATION, WINNEBA

KNOWLEDGE, PERCEPTIONS AND ATTITUDES OF NURSING TRAINEES REGARDING MALARIA AND HEPATITIS B

REBECCA DORCAS COMMEY

(7140130002)

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KNOWLEDGE, PERCEPTIONS AND ATTITUDES OF NURSING TRAINEES ON MALARIA AND HEPATITIS B, IN SELECTED HEALTH TRAINING INSTITUTIONS

REBECCA DORCAS COMMEY

2016

DECLARATION

I, Commey Dorcas Rebecca declare that this dissertation, with the exception of quotations and references contained in published works which have all to the best of my knowledge , been identified and acknowledged, is entirely my own original work, and that it has not been submitted , either in part or whole to any institution anywhere for the award of another degree.

…… **…….**

Rebecca Dorcas Commey **Date**

Supervisors' Declaration

I hereby declare that the preparation and presentation of this dissertation was supervised in accordance with the guidelines set for dissertation as laid down by the University of Education, Winneba.

…….. …….

Prof John K. Eminah Date

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DEDICATION

I dedicate this piece of work to Mr. and Mrs. Commey, Gloria, Emma, Stephen and blessed Commey.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Figure **Page**

ABSTRACT

The focus of this descriptive, qualitative study was to find the knowledge attitudes and perception of nursing trainees about hepatitis and malaria. The sample consisted of 200 health training students in four health training institutions, namely College of Health Yamfo, Nursing and Midwifery Training College Goaso, Health Assistant, Nursing and Midwifery Training College Sunyani and Nursing Training College- Drobo in the Brong Ahafo Region.

The main objectives of the study were: to verify the Knowledge, Perceptions and Attitudes regarding Malaria and Hepatitis B among trainees in selected health training institutions, Assess the sources providing knowledge on Malaria and Hepatitis b prevention and vaccination to trainees, Identify strategies to enhance education of malaria and hepatitis B among trainees and Identify trainees' perceived barriers to the accessibility of malaria prevention tools and Hepatitis B vaccine.

The tool of study was structured questionnaire specially designed for this study. Data were computerized using Microsoft Excel and analyzed using Statistical Package for Social Science.

This study was able to highlight three thematic areas and the need for prompt action to be taken. First and foremost, even though most trainees have a fair idea about HBV and malaria, the study deduced that majority of them were not knowledgeable about the causes, modes of transmission and effects or complications of HBV and malaria. Secondly, although most of the trainees indicated HBV as a big health problem in the country, the issue of stigmatization against already infected persons was very strong among trainees in both first and second years. Thirdly, vaccination which is paramount for HBV prevention was very low which they most trainees attributed it to lack of adequate information.

CHAPTER ONE

INTRODUCTION

1.0 Overview

This chapter discusses the background of the study, statement of the problem, purpose of the study, significance of the study, limitations, delimitations and abbreviations.

1.1 Background to the Study

Ghana, like any other country in Sub-Saharan Africa, is burdened with a lot of infectious diseases. According to the WHO, the most common diseases in Ghana include, cholera, typhoid, pulmonary diseases, anthrax, pertusis, tetanus, chicken pox, measles, infectious hepatitis, trachoma, malaria, schistosomiasis and yellow fever.

Many records continue to show that sub-Saharan Africa (SSA) has the greatest burden of infectious diseases and childhood illnesses in the world. Infectious diseases alone account for at least 69% of deaths in Africa.

According to the Ghana Health Service report for 2009 Malaria tops the list of all morbidity and hospital outpatient department attendance in the country with a national hospital attendance of 5,270,108 between the periods of 2001-2009 (GHS, 2009).

Malaria has been the major cause of poverty and low productivity accounting for about 32.5 percent of all Out Patient Department (OPD) attendance and 48.8 percent of under 5years admission in the country (National Malaria Control Program, 2009).

In Ghana, malaria is a major cause of illness and death mainly among children and pregnant women. According to the Ministry of Health 13.7 percent of all admissions of

pregnant women in 2006 were due to malaria out of which 9.0 percent died from the disease. It is estimated to cause the loss of about 10.6 percent Disability Adjusted Life Years (DALYs) in Ghana and cost an equivalent of up to 6 percent of the country's Gross Domestic Product (GDP) annually.

Malaria is constantly reported as the leading cause of outpatient visits, hospitalization and death in health facilities.

Malaria according to the President Malaria Initiative (PMI), accounts for 61 percent of under five (5) years admissions and 8 percent of pregnant women admissions. The country has been stratified into three malaria epidemiologic zones; the northern savanna ; the tropical rain forest; the coastal savanna and mangrove zones (PMI, 2009).

Ghana joins the world to celebrate the 'world hepatitis day' every year on 28th July, where programs are organized to sensitize the public on hepatitis such as medical screening and educational talks for areas and communities. "Hepatitis" means an inflammation of the liver. It refers to a group of viral infections that affect the liver. There are five main hepatitis viruses, referred to as types A, B, C, D, and E. The most common types are the A, B, and C of which only the A and B types have vaccination. Hepatitis B virus is the most common serious infection of the liver, it can lead to premature death from liver cancer or liver failure. In addition to causing hepatitis, infection with HBV can lead to cirrhosis and hepatocellular carcinoma. It has also been suggested that it may increase the risk of pancreatic cancer.

The global burden of Hepatitis B is severe with an estimated 360 million people or more being chronic carriers. The major routes of Hepatitis B transmission include blood transfusion, from mother to infant during child birth and sexually. The HCV can also

cause chronic liver diseases and is transmitted in the same ways as Hepatitis B, although mother to infant and sexual transmissions are less common.

An estimated 170 million people are said to be chronic carriers of HCV. Hepatitis D, also called delta hepatitis, is caused by an incomplete virus that requires Hepatitis B virus to replicate; hence this type of hepatitis is only seen in association with Hepatitis B infection. This makes infection with hepatitis very dangerous because you can have Hepatitis B and D at the same time. Hepatitis A and E are both transmitted by faecal-oral route, however signs and symptoms are not seen after being infected with hepatitis A and E and can therefore result in a lifelong development of immunity. Some of the viral hepatitis can be prevented by vaccination, and vaccines for hepatitis A and B have existed for 20 years now. But education of hepatitis has been limited, less public education has been given and students in first and cycle schools are not thought anything about these deadly diseases in their syllabus.

Hepatitis B is also known as the inflammation of the liver, and it one of the five types of hepatitis that can cause acute and chronic illnesses. Ghana is rated a high risk country for Hepatitis B with between 10 to 15 percent prevalence rate out of every 100 Ghanaians; 13 may test positive for Hepatitis B, which is far more prevalent than HIV/AIDS (Hepatitis Society of Ghana 2013). Currently Hepatitis B as C has no cure but a person who has tested positive could be managed to have prolonged lifespan.

Hepatitis B is an infectious disease caused by the Hepatitis B virus (HBV) which affects the liver. It can cause both acute and chronic infections. Many people have no symptoms during the initial infection. Some develop a rapid onset of sickness like vomiting, yellowish skin, feeling tired, dark urine and abdominal pain. Often these symptoms last a

few weeks and rarely does the initial infection result in death. It may take 30 to 180 days for symptoms to begin. In those who get infected around the time of birth 90% develop chronic Hepatitis B while less than 10% of those infected after the age of five do. Most of those with chronic disease have no symptoms; however, cirrhosis and liver cancer may eventually develop.

All HBV infections do not give symptoms, meaning that there is a risk that people are contagious without knowing it (Weinbaum et al., 2009; WHO, 2012). However some people may experience acute symptoms like jaundice, fatigue, loss of appetite, nausea and/or abdominal pain. For almost all adults, 90%, the infection heals and they become healthy, but for infants and young children, there is a 90% and 30-50% risk respectively, that the These complications result in the death of 15 to 25% of those with chronic disease.

Research has revealed that, an estimated 21 million new HBV infections occur each year due to unsafe injections in health care settings (Hauri et al, 2003). Hepatitis B is not only a health issue but also an issue of social injustice which rears its ugly head in most endemic countries in the world. Myths and misinformation about modes of HBV transmission have resulted in widespread discrimination against chronically infected persons in some endemic countries, such as China, the country with the world's largest population of chronically infected people, who are not allowed to work in the food industry, are often forced to go through a routine pre-employment HBV testing, and can be expelled from school or work because of a positive test (CDC, 2006).

1.2 Statement of the Problem

Both Hepatitis B and malaria are diseases that spread from person to person. Malaria and Hepatitis B have high record of mortality over the years. Malaria continues to be a major cause of death in Ghana.

Malaria is endemic and perennial in all parts of Ghana, with seasonal variations that are more pronounced in the north part of the country. Ghana's entire population of 24.2 million is at risk of malaria infection.

In 2013, Ghana recorded about 11.3 million cases of OPD malaria according to National Malaria Control Program, an average of 30,300 of such cases were seen each day in health facilities across the country. Malaria burden is not felt only in hospitals and health centers but in every aspect of social and economic life, it accounts for 80% employee absenteeism and 90% of student's absenteeism from class which subsequently affects performance. Awareness about malaria transmission continues to increase, yet misconceptions about the cause of malaria still persist.

Currently hepatitis B virus is 50 to 100 times more infectious than HIV and has more prevalent rate than HIV/AIDS. Despite the long history of the disease in Ghana, there have not been any bold and pragmatic measures put in place to curb it except the formation of the Ghana Hepatitis B Foundation (GHBF) which started its operation just in September, 2007. Statistics by the Ghana health service indicates that one in ten Ghanaians have been diagnosed with a variant of hepatitis translating into about 2.5 million Ghanaians living with the disease.

A lack of knowledge about hepatitis B among Ghanaians has been identified as a major setback to fighting the disease. Unlike HIV/AIDS, tuberculosis and malaria that have

attracted the attention of both government and foreign donors leading to the inflows of monies in developing countries including those of President Bush's 15-billion initiatives and the Global Fund for Malaria, Tuberculosis and HIV/AIDS which Ghana is part of, health education on HBV activities are extremely limited. This is evident by the fact that schools are not covered and a budgetary allocation in the Ministry of Health is yet to be given to Hepatitis B activities since it is not in their topmost health priorities. Hepatitis B education is relegated to the background such that even adults do not have any place to obtain information about this deadly disease.

1.3 Purpose of the Study

The purpose of the study is to explore the knowledge attitudes and perception of trainees of health training institutions in selected schools in the Brong Ahafo Region of Ghana concerning the fast spreading Hepatitis B and Malaria which still has a high morbidity and mortality rate.

Studies pertaining to knowledge, perceptions and attitudes on malaria and Hepatitis B have not received much attention in Ghana, understanding the local perceptions of malaria and Hepatitis B are critical and relevant to the development of health education messages that increase communication and awareness of the problem as well as early diagnosis and prompt treatment.

The purpose is to provide basis for appropriate intervention as well as for creating opportunities for both the Ministry of Health and Ministry of Education to produce policies and programmes.

Furthermore, information and strategies generated could be used by professionals and learners to reduce the spread of Hepatitis B and Malaria.

1.4.0 Research Objectives

1.4.1General objectives

To access the knowledge level, perceptions and attitudes of trainees in Malaria and Hepatitis B in the research area.

1.4.2 Specific objectives

- To verify the Knowledge, Perceptions and Attitudes regarding Malaria and Hepatitis B among trainees in selected health training institutions
- Assess the sources providing knowledge on Malaria and Hepatitis B prevention and vaccination to trainees
- Identify strategies to enhance education on malaria and Hepatitis B among trainees
- Identify trainees' perceived barriers to the accessibility of malaria prevention tools and Hepatitis B vaccine

1.5 Research Question

The following research questions were formulated to guide the investigation;

1. How knowledgeable are the trainees about malaria and hepatitis B
2. What are the sources of the trainees' knowledge about malaria and hepatitis B
3. What are the attitudes of the trainees towards the prevention and cure of malaria and hepatitis B
4. How do the trainees perceive malaria and hepatitis B?

1.6 Significance of the Study

The findings of this study could provide a basis for reviewing the current health educational programme offered in schools, clinics and hospitals. This, in turn, could enable the development of a more reality-based integrated programme to meet the total health needs of the people the trainees interact with during their study through clinical practicals and their work after the completion of their training.

Furthermore, the results of the study could lead to the development of programmes to revitalize education, sensitization, mobilization and motivation for health as well as the redirection, strengthening and provision of malaria and Hepatitis B information to sustain the motivation of the trainees.

This research work will also serve as a source of reference for those who wish to carry out research into this area.

1.7 Limitations of the Study

The research was be limited by the following reasons

- Health training institutions chosen were found in one region out of the ten regions although there are at least a health training institution in every region of Ghana.
- Lack of prior studies on the topic that helps to lay basis for the literature review and foundation for the understanding of the research problem.
- Access to people, organization and documents
- Longitudinal effect; time spent to investigate the research problem to measure stability or change.
- Financial constrains prevented reaching widely distributed training schools

1.8 Delimitations of the study

The study focused on first and second year students in four selected health training institutions in the Brong Ahafo region of Ghana. The third year students were excluded.

Tutors in the selected health training institutions were not involved in the study.

Additionally, the data collected focused only on malaria and hepatitis B. The students' knowledge of other diseases dealt with in the selected institutions were not assessed.

ABBREVIATION

AIDS	Acquired Immune Deficiency Syndrome
CDC	Center for Disease Control
GHBF	Ghana Hepatitis B Foundation
GHS	Ghana Health Service
HBV	Hepatitis B Virus
HIV	Human Immunodeficiency Virus
HTIs	Health Training Institutions
ITNs	Insecticide Treated Nets
MOE	Ministry of Education
MOH	Ministry of Health
NGO	Non-Governmental Organizations
NHIS	National Health Insurance Scheme
NMCP	National Malaria Control Program
OPD	Out Patients Department
PMI	President Malaria Initiative
UNICEF	United Nations Children's Fund
WHO	World Health Organization

CHAPTER TWO

LITERATURE REVIEW

2.0 Overview

This chapter reviews some of the published and unpublished literature which are relevant to the context of this research. They address various aspects of malaria and Hepatitis B with respect to human health as well as initiatives and programmes instituted by international and local organizations to control and prevent it.

2.1.0 What is Malaria?

Malaria is an infectious disease caused by a parasite, plasmodium, which infects red blood cells (Beers et al., 2004). Malaria is a mosquito-borne infectious disease of humans and other animals caused by parasitic protozoan (a group of single-celled microorganisms) belonging to the genus *Plasmodium.* The parasites are spread to people through the bites of infected female anopheles mosquitoes, called “malaria vectors”. There are five parasite species that cause malaria in humans, and two of these species are p. falciparum and P. vivax pose the greatest threat (WHO, 2015). Studies show that the malaria disease is often characterized by repeated chills, fever, pain, and sweating (CDC, 2007). The fever as generally recognized refers commonly to high body temperature.

2.1.1 History of Malaria

History of malaria and its terrible effects is as ancient as the history of man. Fossils of mosquitoes ranging 30 million years old show that the vector for malaria was present well before the earliest history of man. The history of malaria stretches from its prehistoric origin as zoonotic disease in the primates of Africa through the 21st century. A widespread and potentially lethal human infections disease, at its peak malaria infected every continent except Antarctica.

Various scientists and scientific journals, including Nature and National Geographic have theorized that malaria may have killed around or above half of all humans who have ever lived. It prevention and treatment have been targeted in science and medicine for hundreds of years

The term malaria originated from Medieval Italian: *mala aria*—"bad air". The term was shortened to "malaria" in the 20th century and the parasite first identified in human blood by Laveran in 1880. In 1889, Sir Roland Ross discovered that mosquitoes transmit malaria and recognized four common species of plasmodium that cause malaria. The most serious type is plasmodium falciparum which can cause life-threatening malaria. The other three common species of malaria (Plasmodium vivax, plasmodium malariae, and Plasmodium ovale) are generally less serious and are usually not life-threatening (Webster's New World Medical Dictionary, Third Edition, 2008).

The parasite responsible for *P. falciparum* malaria has been in existence for 50,000–100,000 years, the population size of the parasite did not increase until about 10,000 years ago, with concurrent advances in agriculture and the development of human

settlements. Close relatives of the human malaria parasites remain common in chimpanzees. Some evidence suggests that the *P. falciparum* malaria may have originated in gorillas.

Malaria or a disease resembling it has been noted for more than 4,000 years. It symptoms were described in ancient Chinese medical writings, in 2700 BC, several characteristic symptoms were recorded in "The Nei ching" (canon of medicine). The Roman Columella associated the disease with insects from swamps. Malaria may have contributed to the decline of the Roman Empire, and was so pervasive in Rome that it was known as the "Roman fever". Several regions in ancient Rome were considered at-risk for the disease because of the favourable conditions present for malaria vectors.

2.1.2 Biology of the Disease

Malaria is caused by several species of Plasmodium parasites each of which has a complex life cycle, the parasite interact with the human immune system; cause the human disease and are transmitted by mosquito.

Malaria parasites are transmitted to human hosts by mosquitoes of the genus Anopheles. A diverse group of Anopheles (30 to 40 species) serves as vectors for the disease (NIAID, 2009)

When an infected female anopheles mosquito bites a human she takes in blood, at the same time, she injects saliva that contains the infectious form of the parasite, which is a motile infective form (called the sporozoite), into a person's bloodstream transmits, thus acting as a transmission vector (NIH, 2002). The sporozoites rapidly (usually within one

hour) enter parenchymal cells of the liver (hepatocytes), where it reproduces asexually (tissue schizogony), producing thousands of merozoites. Subsequently the merozoites leave the liver cells and rupture into the blood stream, invading the erythrocytes. Parasites in the red blood cells multiply in a species-characteristic fashion, breaking out of their host cells synchronously. This is the erythrocytic cycle, with successive broods of merozoites appearing at 48-hour intervals (for *P. vivax, P. ovale P.* and *falciparum* infections) or every 72 hours (in *P. malariae* infections). For *P. vivax* and *P. falciparum*, this period is usually 10-15days, but it may lasts for weeks or months. The incubation period for *P. malariae* averages 28 days.

In *P. falciparum i*nfections there is no return of merozoites from the blood into the liver cells. The other three species continue to multiply in the liver cells long enough after the initial bloodstream invasion, or there may be delayed multiplication in the liver. These exo-erythrocytic cycles coexist with erythrocytic cycles and in *P. vivax* and *P. ovale*, may persist as non-growing resting forms (hypnozoites) after the parasite has disappeared from the blood peripheral blood.

Without treatment *P. vivax* and *P. ovale* infections may persists as periodic relapses for up to 5years. *P. malariae* infections lasting 40years have been reported; this is thought to be a cryptic erythrocytic rather than an exo-erythrocytic infection and it is termed recrudescence to distinguish it from a relapse. During the erythrocytic cycles, certain merozoites are differentiated into males and female gametocytes.

The sexual cycle therefore begins in the vertebrate host (figure 1.0), but for its continuation into the sporogonic phase, the gametocytes must be taken up and ingested

by blood sucking anopheles. In the sexual phase merozoites develop into immature gametocytes, which are the precursors of male and female gametes. When a fertilized mosquito bites an infected person, gametocytes are taken up with the blood and mature in the mosquito gut. The male and female gametocytes fuse and form an ookinete a fertilized, motile zygote. Ookinetes develop into new sporozoites that migrate to the insect's salivary glands, ready to infect a new vertebrate host. The sporozoites are injected into the skin, in the saliva, when the mosquito takes a subsequent blood meal.

Only female mosquitoes feed on blood; male mosquitoes feed on plant nectar, and do not transmit the disease. The females of the *Anopheles* genus of mosquito prefer to feed at night. They usually start searching for a meal at dusk, and will continue throughout the night until taking a meal. Malaria parasites can also be transmitted by blood transfusions, although this is rare. (WHO, 2014).

The signs and symptoms of malaria typically begin 8–25 days following infection; however, symptoms may occur later in those who have taken antimalarial medications as preventive measures. Initial manifestations of the disease common to all malaria species are similar to flu-like symptoms, and can resemble other conditions such as sepsis, gastroenteritis, and viral diseases. The presentation may include headache, fever, shivering, joint pain, vomiting, hemolytic anemia, jaundice, hemoglobin in the urine, retinal damage, and convulsions.

The classic symptom of malaria is paroxysm, this is a cyclical occurrence of sudden coldness followed by shivering and then fever and sweating, occurring every two days (tertian fever) in *P. vivax* and *P. ovale* infections, and every three days (quartan fever) for

P. malariae. *P. falciparum* infection can cause recurrent fever every 36 – 48 hours, or a less pronounced and almost continuous fever.

Severe malaria is usually caused by *P. falciparum* (often referred to as falciparum malaria). Symptoms of falciparum malaria arise 9 – 30 days after infection. Individuals with cerebral malaria frequently exhibit neurological symptoms, including abnormal posturing, nystagmus, conjugate gaze palsy (failure of the eyes to turn together in the same direction), opisthotonus, seizures, or coma. Plasmodium *vivax* is known to cause relapse of malaria months after an infection thus causing substantial morbidity but fewer severe complications (Singh et al., 1997). Figure 1.0 show the life cycle of the malaria parasite in humans.

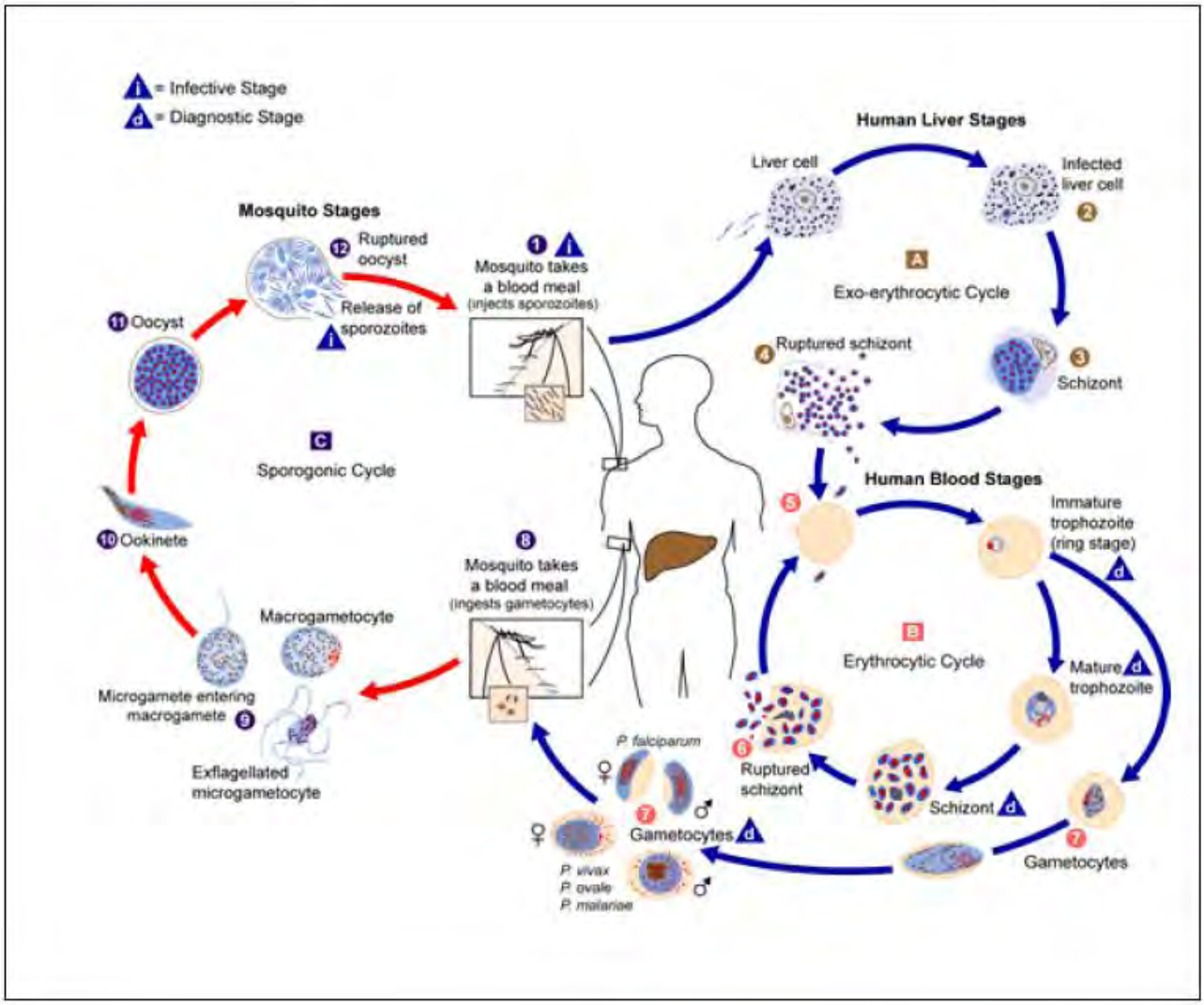

Fig 1.0 Cycles of malaria infections in humans

2.1.3 Prevention, Control and Treatment

Malaria infection can be prevented, controlled and treated, but malaria has no vaccination. Prevention methods include medication, elimination of mosquito and prevention of mosquito bites (WHO, 2010).

Knowledge of the species type is often important for knowing what strategies to adopt for successful malaria control among a population.

It is only possible to effectively control malaria when the determinants and their manifestations are clearly understood. Those inform appropriate interventions to be put in place. It is important to note that malaria transmission is dependent on complex interactions among host, vector, parasite, and environment where the anopheline mosquito feeds on the blood of an infected host (human) and then infects other people while feeding on their blood (Nevill, 1990).

Prevention of malaria may be more cost-effective than treatment of the disease in the long run, but the initial costs required are out of reach of many of the world's poorest people.

Malaria vectors have become more resistant to insecticides. The parasites that cause malaria have become resistant to chloroquine and possibly other anti-malarial drugs, making prevention and treatment increasingly more difficult and costly than ever (Sharma, 1996).

Combination therapy has been shown to increase the efficacy of combining drugs Whitty and Allan (2004) acknowledged the wide spread situation of drug-resistant malaria in Africa. Chloroquine resistant malaria is now almost universal and resistant to successor drug, sulfadoxine-pyrimethamine (SP) which is growing rapidly (Whitty & Allan, 2004).

Self prescription or medication is a widespread phenomenon in Ghana. Majority of the malaria victims only seek medical examination and treatment from health facilities when the initial attempts have failed resulting in late presentation. (Asenso-Okyere & Dzator, 1995).

Insecticide-treated bed nets (ITNs), including long-lasting insecticidal nets (LLINs), play a primary role in global campaigns to roll back malaria in tropical Africa. Effectiveness

of treated nets depends on direct impacts on individual mosquitoes including killing and excite-repellency, which vary considerably among vector species due to variations in host-seeking behaviours. While monitoring and evaluation programmes of ITNs have focused on morbidity and all-cause mortality in humans, local entomological context receives little attention. Without knowing the dynamics of local vector species and their responses to treated nets, it is difficult to predict clinical outcomes when ITN applications are scaled up across the African continent

2.1.4 Malaria Situation in the World

Each year between 300 and 500 million cases of malaria are diagnosed worldwide, with 1.5 to 2.7 million deaths a year (WHO, 2002). The geographic distribution of malaria within large regions is complex. worldwide malaria-afflicted and malaria-free areas are often found close to each other.

Malaria is prevalent in tropical and subtropical regions because of rainfall, consistent high temperatures and high humidity, along with stagnant waters in which mosquito larvae readily mature, providing them with the environment they need for continuous breeding. In drier areas, outbreaks of malaria have been predicted with reasonable accuracy by mapping rainfall.

The dominant vector species most commonly found in Africa, *An. gambiae and An. arabiensis,* have longer life spans and display higher rates of biting humans, which are some of the factors contributing to the high rates of malaria deaths in Africa.

Malaria is more common in rural areas than in cities. For example, several cities in the Greater Mekong Sub-region of Southeast Asia are essentially malaria-free, but the disease is prevalent in many rural regions, including along international borders and forest fringes. In contrast, malaria in Africa is present in both rural and urban areas, though the risk is lower in the larger cities.

Malaria is one of the most important causes of morbidity and mortality in the world, and remains not only a major cause of much suffering and death, but also the cause of many social and economic problems. Malaria causes over a million deaths each year, and more than 90% of these occur in Africa south of the Sahara. In recent years, the region has experienced a dramatic resurgence of this disease and almost with up to 450 million clinical cases of malaria recorded each year.

According to (Snow et al., 1999) there are more malaria related deaths due each year occurring in Sub-Saharan Africa alone where an estimated 360 million people live in endemic areas commonly prone to high rate of plasmodium falciparum transmission. Malaria is responsible for 30-40% of outpatient visits to health facilities, 10-20% of hospital admissions and 10-40% of severe cases in children under five years.

In 2012, about 80% of all malaria attack cases worldwide, and 90% of all malaria deaths, occurred in Africa. The WHO has identified 10 high-burden countries, which account for 60% of all malaria deaths in Africa: Burkina Faso, Cameroon, Cote d'Ivore, the Democratic Republic of the Congo, Ghana, Mozambique, Niger, Nigeria, Uganda, and Tanzania (WHO, 2013). These ten countries bear the majority of the global malaria impact

Today malaria is the top killer disease in sub-Saharan Africa; it is estimated to result in losses of US$12 billion a year due to increased healthcare costs, lost ability to work, and negative effects on tourism. This occurs in some of the world's poorest countries making it even harder for them to escape poverty.

In addition to causing high rates of morbidity and mortality, malaria impacts the economic growth in the country's most affected. Costs incurred by individual families include the purchase of treatment, transport expense to reach health facilities, absence from school, caretaker time lost due to traveling to health facilities and caring for sick children, and burial expenses. Government-incurred costs include providing treatment, diagnostics, and staff to health facilities as well as managing prevention interventions. These individual and national-level impacts contribute significantly to the ongoing cycle of poverty. Direct loses due to malaria illness are estimated to be $12 billion each year in Africa alone (RBM Partnership, 2008).

The high malaria burden in Sub-Saharan Africa (SSA) results from a wide range of factors largely environmental, socio-economic and species type. Highly efficient anopheles gambiae and anopheles funestus vectors are commonest species in the tropics and with the parasite population composed largely of plasmodium falciparum which is by far the most virulent human malaria species (WHO, 2012).

There is also poverty and poor healthcare infrastructure among the developing countries (Snow et al., 1999). This means that malaria control interventions would be ineffective due to poor resource and infrastructure among poor countries (Killeen et al., 2000). In spite of their immeasurability, epidemiologists are sure morbidity and mortality are on

the rise in East and Central Africa because of the development of chloroquine resistant *Plasmodium falciparum* (CRPF).

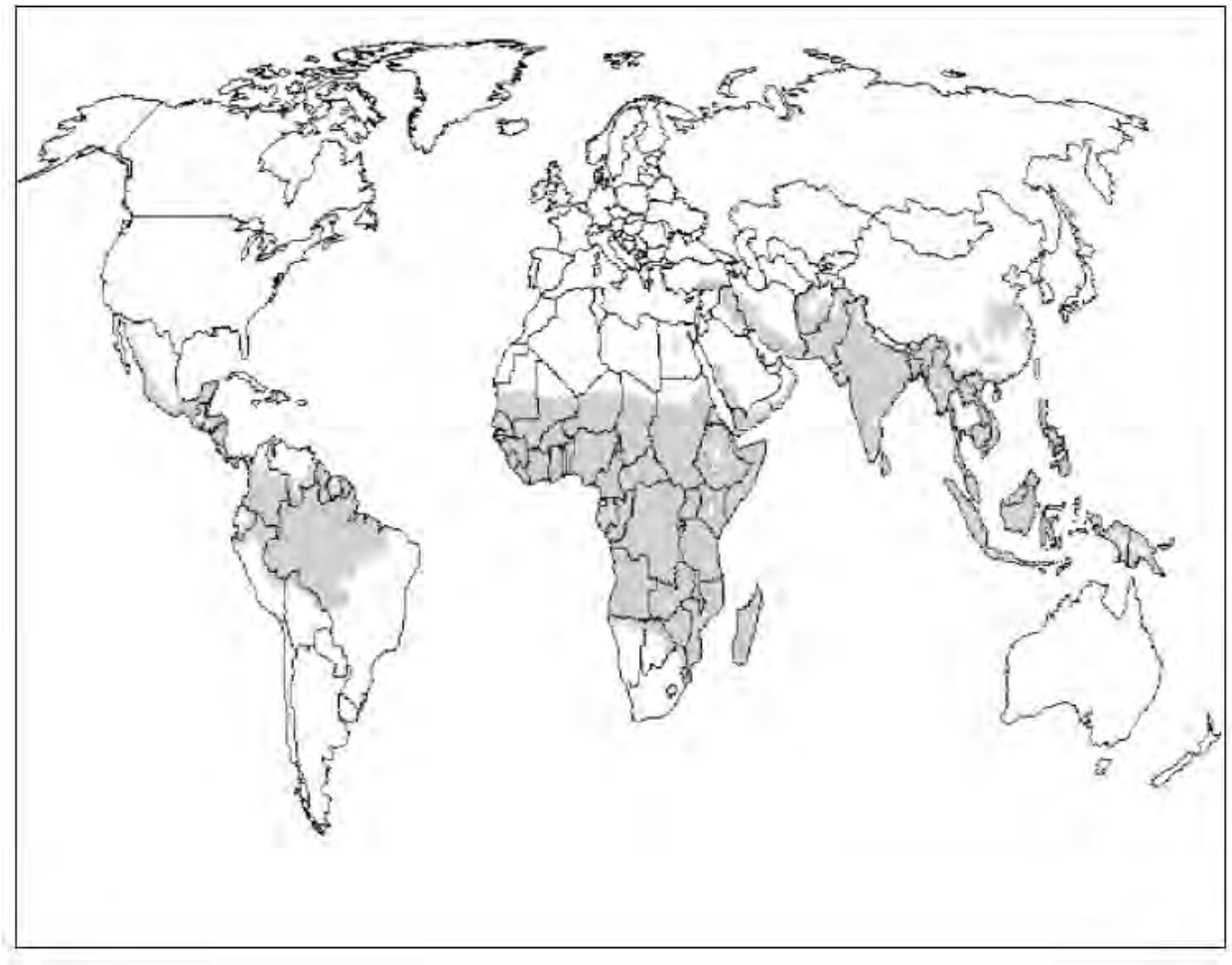

Fig 2. Malaria Distribution Map

Source: World Health Organization (2002), and Centre for Disease Control and Prevention (2000).

2.1.5 Malaria Situation in Ghana

Malaria is a disease so rampant in parts of the world that it has become endemic. However, no matter how common it is to the people, malaria is still very deadly and

current research is far from finding a solution to its control or eradication. The malaria situation is Ghana is typical of sub-Saharan Africa where malaria is ranked first among ten diseases most frequently seen in health facilities in the country. Due to poverty many households depend on a combination of herbs and over the counter drugs usually consisting of inadequate doses of antimalarials.

The distribution of malaria cases in Ghana follows ecological zones, incidence being highest in the forest zone, followed by the coastal zone and then the northern savannah (Afari *et a.,* 1992). The National Malaria Control Programme of Ghana annual report in 2005 revealed that, malaria was responsible for up to 40% of daily out-patient consultations at hospitals and clinics and over 23% of deaths in children under five years of age. The report further indicated that it was also responsible for 38,000 deaths per annum and over 2,000 deaths in pregnant women, accounting for 9% of all deaths in pregnancy (NMCP, 2005).

The world malaria report for 2008, indicated that Ghana had an estimated 7.2 million malaria cases in 2006, 3% of the total for the whole of Africa. There was no evidence of a reduction in malaria cases between 2001 and 2007, and reported deaths also increased in 2007 (WHO, 2008).

In Ghana, as in other parts of sub-Saharan Africa, where malaria is mainly due to plasmodium falciparum, early and effective treatment saves lives by preventing disease progression to severe malaria.

It is also estimated that the highest burden of the disease is borne by children and pregnant women characterized by anemia and low birth weight which have contributed to

about 50% of the overall malaria morbidity and mortality in Africa (Murphy, 2000). In fact, similar studies in Ghana have put the incidence and burden of the disease to be very high as has been the number one cause of illnesses among the population (MOH, 2011).

2.1.6 Knowledge, Perception and Attitudes Towards Malaria

Malaria-related knowledge, attitudes and practices (MKAP) have been examined in many rural and partly urban multiethnic populations in Africa.

Research findings have shown that environmental, behavioural and socio-economic factors are associated with ability to avoid mosquitoes and prevention of malaria attack (Macintyre *et al*., 2002).

Vector control programs are more effective with the involvement of the community, and prompter results are obtained from community-based programs compared with government-supported activities alone (Ruebush *et al.*, 1994).

Klein *et al*., (1995) identified that prior knowledge of the community beliefs and practices with respect to the disease in question is required to obtain and maintain its participation in surveillance and control activities. An understanding of local attitudes and beliefs is also important, since these can affect the acceptability of some interventions, particularly those that depend on changing human behaviour (Saiprasad & Banerjee 2003).

Knowledge or awareness about diseases among people may vary from one individual to another or community to the other. Sometimes, the degree of awareness/knowledge about

disease depends on the extent to which people have experienced such diseases, or are exposed to the campaigns available against such diseases. The knowledge about the symptoms of malaria is usually high in endemic areas where people are aware of the clinical manifestations of the disease. But knowledge concerning causes of the disease differs from individual to individual and community to community.

Evidence shows that people's perceptions about disease risks such as transmission and health consequences do influence their attitudes and health seeking actions/behaviours towards the diseases concerned. Most of the studies reviewed about people's knowledge of malaria have indicated that some community members still have misconceptions about causes of malaria.

In a study in Hoima district by Kalisa (1997), reported that community members' misconceptions about the cause of malaria included; Bedbugs, poor nutrition, maize and mangoes. Mosquitoes Local people reported that heat from the sun is a major cause of malaria-related illness without convulsion.

People's attitudes toward this disease as well as its treatments and preventions greatly influence their compliance; knowing these attitudes and ideas will help educators and health care providers modify their plans for decreasing the spread of malaria. Understanding people of western and northern Africa's current ideas toward malaria will help in construction of plans to provide better, more adequate care.

Interviews on Television and Radio indicate that most interviewees have the perception that Hepatitis B is a spiritual disease and which prayers and deliverance as treatment.

They belief that the disease is given by witches to destroy or kill a person. As such a lot of traditional concoctions are on the market for Hepatitis B treatment.

However practices on Hepatitis B have received some attention in various communities but few have been done on the perceptions of Ghanaian communities which cannot be accessed easily.

2.2.0 Nature of Hepatitis B

Hepatitis B is a severe form of viral hepatitis transmitted in infected blood and body fluids of an infected person causing fever, debility and jaundice. It is also said to be an infectious disease caused by the Hepatitis B virus (HBV) which affects the liver. It can cause both acute and chronic infections. Many people have no symptoms during the initial infection

2.2.1 Historical Background of HBV

The earliest record of an epidemic caused by Hepatitis B virus was made by Lurman in 1885. An outbreak of smallpox occurred in Bremen in 1883 and 1,289 shipyard employees were vaccinated with lymph from other people. After several weeks, and up to eight months later, 191 of the vaccinated workers became ill with jaundice and were diagnosed as suffering from serum hepatitis. Other employees who had been inoculated with different batches of lymph remained healthy.

Lurman's paper, now regarded as a classical example of an epidemiological study, proved that contaminated lymph was the source of the outbreak. Later, numerous similar

outbreaks were reported following the introduction, in 1909, of hypodermic needles that were used, and, more importantly, reused, for administering Salvarsan for the treatment of syphilis.

The virus was not discovered until 1966 when Baruch Blumberg, then working at the National Institutes of Health (NIH), discovered the Australia antigen (later known to be Hepatitis B surface antigen, or HBsAg) in the blood of Australian aboriginal people. At that time Dr Blumberg was actually researching the genetics of disease susceptibility. He did not set out to discover Hepatitis But his work led to a major breakthrough and increased understanding of the disease.

In the 1950s, Dr Blumberg stated to explore whether inherited traits could make different groups of people more or less susceptible to the same disease. He and his team travelled round the world to native populations to collect blood samples for analysis. They specifically studied hemophilic patients who had received multiple blood transfusion and therefore would be exposed to blood they had received from donors. The consequence of receiving other people's blood is that the immune system produces 'antibodies' against the foreign blood serum proteins or 'antigens'. Dr. Blumberg and his team identified an unusual antigen from a blood sample of an Australian Aborigine which they called Australian antigen. After further research it turned out to be the antigen that caused Hepatitis B, which was officially recognised in 1967. After two years Dr. Blumberg and his colleague Dr. Iriving Millam invented the Hepatitis B vaccine.

Although a virus had been suspected since the research published by MacCallum in 1947, D.S. Dane and others discovered the virus particle in 1970 by electron microscopy. By

the early 1980s the genome of the virus had been sequenced, and the first vaccines were being tested.

2.2.2 Transmission of HBV

The HBV is a member of a fairly new viral family, Hepadnaviridae. Studies have shown that the means by which the HBV replicates is very similar to the human immunodeficiency virus (HIV). The HBV-DNA first uses reverse transcription to form a RNA intermediate. It then converts back to DNA.

In addition to its unique means of replication, the virus is only capable of replication in the liver.

Grob and Esteban (1995) stated that HBV may be transmitted horizontally and vertically. Horizontal transmission occurs during adolescence or childhood, throughout sexual exposure, needle stick (both accidental or through intravenous drug use), and blood transfusion (Alter et al, 1990). Therefore, any person with a bad history of sexually transmitted diseases (STDs), multiple sexual partners or an injecting drug user stands a higher chance of being infected with

HBV (CDC, 2002).

Exposure to blood is thus by means of open wounds in households and other close contacts and multiple transfusions in hemophiliacs (Meheus, 1995).

This view of exposure to risk was also shared by Margolis et al, 2000 who argued that most of the infections occur among adolescents and young adults due to exposure to high risk activities they engage in at this stage of their life.

2.2.3 Prevention and Treatment HBV

Although HBV has become a major source of health concern worldwide, we are reminded by the good news that it is the only STD that can be prevented by vaccination (CDC, 2002).

The guideline for prevention, care and treatment of persons with chronic Hepatitis B infection (WHO, 2015), recommends that; all infants should receive their first dose of Hepatitis B vaccine as soon as possible after birth, preferably within 24 hours, followed by two or three additional doses.

The prevention of HBV globally has become one of the topmost priorities of major political actors and decision makers in recent years. The disease is prevented by the use of safe and effective vaccine which became available in 1982 through funding and implementation of Hepatitis B immunization programs. Measures for HBV prevention have been geared towards avoidance of unsafe blood exposure or blocking of transmission before the advent of the vaccine.

Unsafe blood transfusion has been a major force in the transmission of HBV globally (Wang & Wong, 1960).

The enactment of a law for the donation and management of blood in blood banks across the world has aggressively fought this channel of HBV transmission. This notwithstanding, current researches have showed that blood transfusion is regaining its position as one of the major risk factors for HBV transmission globally. This finding is attributed to the presence of occult HBV infection (OHBVI) among blood donors (Shang et al, 2007). It is also worth mentioning that the global acceptance of the auto-disposable

syringes (ADS) has considerably reduced the incidence of HBV infections that occur due to unsafe injections. Also, as a result of the extensive use of invasive medical procedures, iatrogenic HBV infections are no longer frequent.

There have also been speculations that dental care operations which are capable of causing oral mucous membrane injuries is becoming a major route to HBV transmission if steps are not taken to prevent it (Zhang et al, 2008).

HBV, per say, does not have permanent treatment; therefore the surest antidote to the global epidemic is prevention. There has not been any universal agreement on drugs used for the temporary treatment of the HBV in the world even though two therapeutic agents such as interferon-alpha (IFNa) and lamivudine are currently used by many countries for the treatment of the disease. Interferon-alpha is a potent cytokine with antiviral and immunomodulating actions which is produced in response to viral infection (Sen & Ransohoff, 1993).

Temporary treatment of the disease is therefore aimed at suppressing viral replication, reducing the risk of progressing to advanced liver disease or inflammation of the liver and the development of complications such as liver failure or liver cancer. Chronic Hepatitis B is therefore easily managed rather than treated.

Some of the general management strategies for HBV recommended by medical experts include;

1. Avoidance of:
    - Heavy alcohol consumption.
    - Unprotected sexual intercourse with partners who are not vaccinated.

- Sharing of needles or other items that potentially contain blood such as shavers or toothbrushes
- Donation of blood or organs.

2. Screening of family members and sexual partners for HBV infection and vaccination of those who are sero-negative
3. Patient education and long-term follow-up with regular testing of liver biochemistry and surveillance of hepatocellular carcinoma in high risk groups

2.2.4 Hepatitis B Epidemiology Globally and Africa

Despite the fact that since 1982 there is a vaccine against HBV that gives 90-100% protection against infection, there are in the world today more than 350 million people living with chronic Hepatitis B. The consequence of this is approximately 600 000 HBV related deaths every year around the world, where the cause is primary liver cirrhosis or liver cancer (Dunford et al., 2012; WHO, 2012).

The virus is transmitted differently between geographic regions and countries depending on how endemic the HBV is. In regions where the endemicity is low, it is more common that the virus is transmitted through horizontal routes such as injecting drug use, high-risk sexual behaviour and receiving blood products. When in regions with high endemicity, for example in Vietnam, HBV is primarily spread by vertical transmission early in childhood or perinatally, from mother to child at birth (Dunford et al., 2012).

In a study conducted in Singapore (Tan et al., 2005) the authors looked into the health-seeking behaviours of those infected with HBV by interviewing 39 HBV infected individuals. Those who had a family member that had had HBV-related liver disease or had liver abnormality themselves, were more likely to seek help. They wanted to know if their own livers were functioning normally, but were at the same time reluctant to find out the results of a test, in fear of it. The authors concluded that the low compliance to follow-up among the patients was partly due to a widespread perception that there was no efficient treatment to the disease. Many patients preferred traditional medication such as herbs instead of western medication, which was perceived not to be as effective.

In a study by Mohamed and co-workers (2012), knowledge, attitudes and practices among 483 chronically HBV infected people in Malaysia was investigated. The study showed that more than half of the participants felt worried about the diagnosis and felt anxious about spreading the HBV infection to family and friends. A third of the participants felt embarrassed to make their diagnosis public. About 11.6% reported that they would not tell their doctor or dentist about being HBV positive, while most of them would tell their family and friends. Many of the participants had changed their life-style habits after receiving the HBV diagnosis.

A majority of those who had smoked and drunk alcohol reduced their intake-level and about half of the participants also made healthier food choices and increased their daily exercise level. A large increscent about encouraging family members to get screened for HBV was also noticed after receiving the HBV diagnosis (Mohamed et al., 2012).

In the U.S. approximately 1.4 million residents are chronically infected with HBV (Weinbaum et al., 2009; Nguyen et al., 2010). According to the fact that during the years

1974-2008 17.6 million people born in countries of intermediate or high prevalence of chronic Hepatitis B have immigrated to the U.S, there is an increased burden of chronic Hepatitis B in the country (Mitchell, Armstrong, Hu, Wasley & Painter, 2011). More than half of the estimated chronic Hepatitis B cases were from the Western Pacific region, from countries such as the Philippines, China and Vietnam. These were the main countries of birth for imported cases of chronic Hepatitis B. Africa was the second largest region for imported cases of chronic Hepatitis B.

According to a systematic review (Rossi et al., 2012) migrants from East Asia, the Pacific and Sub-Saharan Africa represented a high sero prevalence of chronic Hepatitis B, 10.3-11.3%, and migrants from Eastern Europe, Central Africa and South Asia were an intermediate seroprevalence. The seroprevalence of chronic Hepatitis B was low among migrants from the Caribbean, Latin America, the Middle East and North Africa. Refugees and asylum seekers had higher seroprevalence of chronic Hepatitis B compared to migrants.

2.2.5 Hepatitis B in Ghana

The exact Hepatitis B prevalence in Ghana is not known as different studies targeted different segments of the population and does not give a clear picture of the situation on the ground..

Meanwhile, few studies conducted in the country about HBV revealed its continuous increase. In a hospital-based study conducted among blood donors it was revealed that HBV is endemic in the country with prevalence rates ranging from 6.4% to 10% among

blood donors, 6.4% among pregnant women and 16% for children among the general population (Foli et al, 1971; Acquaye et al, 1991, 1994; Martinson et al, 1998).

Although there is a relatively low prevalence of HIV with an estimated number of 260,000 carriers as compared to an estimated number of four million carriers of HBV, much of the attention of Ghana Health Service and other health related organizations is focused on HIV prevention and treatment through health education programs and provision of anti-retroviral drugs to the neglect of equally deadly diseases like Hepatitis B

Another hospital-based study conducted in two different hospitals in Jirapa and Tumu in the Upper West Region of Ghana by a Cuban Medical Brigade has shown that in 2009, 128 admitted patients were tested HBV positive and that majority of the cases were between the ages of 30-44 years (GHS, 2009).

In a cross-sectional study of children aged 15 years and younger in the rural Ashanti-Akim North district of Ghana Martinson et al (1998) estimated the HBV prevalence at 5.4%.

Lassey et al, (2004) in a study of pregnant women in Accra, the capital of Ghana, estimated the HBV prevalence rate at 2.5%

Adjei et al (2006) performed a cross-sectional study of prison inmates in two regional central prisons in Ghana and found that the HBV prevalence was 19%. Prisoners have been found to be part of the high risk groups of hepatitis prevalence in Ghana. The congested nature of most prisons in the country coupled with the fact that prison inmates

are not usually screened before serving their prison sentence exposes them to HBV infection.

Unpublished data on causes of deaths in Ghana's premier hospital, Korle Bu Teaching Hospital, over a 20 year period (1980-2000) from the Department of Pathology revealed that the commonest cause of liver diseases leading to death at autopsy in Ghana was cirrhosis of the liver. Although statistics from the Ghana Health Service mentioned liver cirrhosis as the major cause of all liver related deaths in Ghana, there have been very few studies of the possible role of Hepatitis B and other possible risk factors that account for the deadly epidemic in the country. This is a clear manifestation that Hepatitis B related causes of liver cirrhosis are relegated to the background and not much documentation on it.

In view of the above mentioned factors and forces facilitating the spread of the disease worldwide, being knowledgeable about the facts and figures on the ground and having positive attitudes and behaviors are paramount in the fight against the spread of the global malaria and Hepatitis B epidemic

2.2.6 Knowledge, Perceptions and Attitudes towards HBV

The theoretical framework of the Health Belief Model as described by Rosenstock (1974) assumed that health behavior is based on an individual's beliefs. The model was developed to understand the relationship between attitudes and behaviors governing the motivation to seek action in prevention, diagnosis, and treatment of diseases.

Research has revealed that, an estimated 21 million new HBV infections occur each year due to unsafe injections in health care settings (Hauri et al, 2003).

Hepatitis B is not only a health issue but also an issue of social injustice which rears its ugly head in most endemic countries in the world. Myths and misinformation about modes of HBV transmission have resulted in widespread discrimination against chronically infected persons in some endemic countries, such as China, the country with the world's largest population of chronically infected people, who are not allowed to work in the food industry, are often forced to go through a routine pre-employment HBV testing, and can be expelled from school or work because of a positive test (CDC, 2006).

Knowledge is formed through interaction with the surroundings where individuals themselves construct their understanding of the world through experience. Its exchange is an integral part of learning as well as helping the individual to shape his or her abilities by converting theoretical and practical skills into new knowledge.

Knowledge is key to prevention and education is the key to knowledge. However, knowledge about the deadly disease in Ghana is low. A talk with people across the country has the impression that a majority of Ghanaians have little or no knowledge or understanding of the importance of their liver condition for good health. This lack of knowledge or awareness is not only limited to only Hepatitis B but also their overall well-being in terms of health.

There are a lot of factors impeding efforts put up by established institutions like WHO and other world organizations to curb the menace of Hepatitis B globally. Notably among these are the lack of knowledge and awareness among health care providers, social

service professionals, adolescents, members of the public and even policy makers. It is an established fact that though there has been a safe and effective vaccine for Hepatitis B over the past 20years, universal vaccination is still lacking in many countries. One of the major obstacles identified for this drawback is the lack of commitment to preventive medicine and vaccines. Due to the apparent lack of knowledge about Hepatitis B, most governments which are supposed to be the major financiers of public health activities have seriously not considered Hepatitis B prevention as a topmost priority in health care and have opted for selective prevention strategies. Most interventions aimed at reducing HBV prevalence among high risks groups have failed because of the inability to access these groups. There is also lack of perceived risk among these high risk groups and over 30% of those with acute Hepatitis B infection do not have identifiable risk factors (Mangtani, 1995).

Atkinson et al (2003) defined attitude as the favorable or unfavorable reaction to objects, people, situations or other aspects of the world. Other social psychologists considered attitudes to include factors such as cognition, affection and behavior (Kruglanski et al, 2007). They further explained the cognition aspect of a person to mean a person's knowledge of something, the affective component represents an individual's feelings and evaluations that influence the standpoint for or against something and the behavioral aspect to be, the way people act towards a situation or a person and the motivation to make changes. Attitudes, as suggested by psychologists are formed through experiences in lifetime and are usually determined by beliefs and the evaluation of such beliefs. Attitudes formed by individuals in society can be comprehensive as well as unspecific.

A person's behavior can be predicted by using the strength and consistency of his or her attitude. In this regard, any intervention that is aimed at changing the behavior of an individual must first of all have enough information about his or her attitudes and then employ methods that will help change these attitudes. Attitudes of which one is aware of or that are based on one's own experience can predict behavior to a higher degree than attitudes that do not meet these criteria (Smith et al, 2003).

Smith et al (2003) indicated those possible factors that could help influence the attitudes of an individual include, the nature of the sender (e.g. the nurse, doctor, health worker or professional in a counseling situation), the receiver (e.g. the patient), the message itself and the social context in which the information was communicated. Trustworthiness, expertise and interpersonal attraction are important signs that should be exhibited by the sender in order to influence a person's attitude. It is important to state that for a sender to be able to make an impact on the attitude of a receiver factors such as sex, age, self-esteem and knowledge have an important role to play.

Knowledge does not necessarily influence a person's attitude. People may be knowledgeable about a particular risk behavior but may still go ahead to do it. Knowledge about Hepatitis B is necessary but the provision of knowledge alone is not sufficient since it does not necessarily lead to the behavior change. Attitudes, values and beliefs (including perceptions about personal vulnerability to infection) as well as cultural norms and the influence of family, peers and the media are all important determinants of whether or not appropriate behavior is adopted by adolescents (Emmons et al.1986).

Another important motivation for a behavior change among trainees and practicing health professionals or anybody at risk of a health risk is the feeling of compassion for those

already affected. According to Parker & Aggleton, (2003) This is backed by the fact that stigmatization of disease is often a sign of denial of potential personal risk.

Most African and some western communities have different perceptions about Hepatitis B and these vary from individual to individual and community to community. Various reasons and causes have been attributed to the infection of this disease.

The kinds of misconceptions that may exist and the influence they have on individuals' Hepatitis B and liver cancer knowledge and screening behavior deserve further investigation. Few literature are available on perceptions of Ghanaians on Hepatitis B. but studies carried out on perceptions of communities in other countries are very accessible.

Traditional beliefs about illness and well-being are based primarily on animism (a belief that all natural objects and individuals have souls), ancestral worship, and soul calling (Bliatout, 1982; CDC, 2008b).

Furthermore, health beliefs and practices are often interconnected with spiritual and religious beliefs. Some illnesses are believed to be caused by evil spirits, soul loss, or offended spirits

The belief by some people that a person has multiple souls and that one of the souls can be lost or frightened away can cause an individual to become ill (Bliatout, 1982).

People also believed that illnesses can occur due to the imbalance of metaphysical forces of hot and cold (Aronson, 1987; Burke, Jackson, Thai, Lam, et al., 2004; Burke, Jackson, Thai, Lam, Stackhouse, et al., 2004; Kemp, 1985; Landrine & Klonoff, 2001; Ong, Back, Lu, Shakespeare, & Wynne, 2002).

CHAPTER THREE

MATERIALS AND METHODOLOGY

3.0 Overview

This chapter outlines the research design and methodology, including the target population from which the sample was drawn, selection criteria, research instrument, ethical considerations and data analysis procedures.

3.1 Study Area

The study was carried out in the Brong Ahafo region, one of the ten administrative regions of Ghana. Brong Ahafo region is located in the peninsula of Ashantiland. It is bordered to the north by the Black volta and to the east by Lake Volta, and to the south by the Ashanti region, Eastern and Western regions and to the west by Ivory Coast. The region was created in 1958.

Fig. 3.1 The map of Ghana showing the region in which the survey was conducted

3.2 Study Design

The study design was a descriptive cross-sectional survey. This type of study design was chosen because, considering the purpose of this study, the research questions and the target population, it was the most appropriate design that will help the researcher design and collect data from the respondents.

According to Gay and Airasian (2006), the descriptive survey is concerned with the conditions or relationships that exist, such as determining the nature of prevailing conditions, practices and attitudes; opinions that are held; processes that are going on; or trends that are developed. They also argued that it was only descriptive studies that lead to generalizations beyond the given sample and situation.

Descriptive survey is the type of study design that determined and reported the way things are. The design has the advantage of eliciting responses from a wide range of people, it involved asking the same set of questions to large number of individuals through mails, telephone and by hand on the basis of data gathered at a point in time. It is also appropriate when the researcher attempted to describe some aspects of a population by selecting unbiased samples of individuals who are asked to complete questionnaire, interview and test Silverman (2006).

3.3 Study Population

The target population of the study consisted of students in all the health training institutions in the Brong Ahafo Region of Ghana. The accessible population comprised selected first and second year students in four (4) of the twelve (12) health training

institutions in the Brong Ahafo region. The institutions are at Sunyani, Goaso, Yamfo and Drobo.

3.4 Sampling Procedure and Sample Size

A three-stage cluster sampling technique was used for the study. In the first stage, the names of all health schools in the region were written on pieces of paper and four were randomly selected; Sunyani Nursing and Midwifery College, College of Health Yamfo, Drobo Nursing and Midwifery College, Goaso Midwifery Training School.

In the second stage at the training school, first and second year classes were selected. In the third stage 25 pupils were randomly selected through a lottery system of selection introduced whereby the students were given numbers. Those with odd numbers took part in the research while those with even numbers were made to leave the classes to enable their colleagues respond independently to the questionnaire.

Due to the large number, time and financial constraints, it was difficult to ask all the students to respond to the questionnaire. A simple random sample of 200 respondents was included in the study taking into cognizance the total population of students in the study area in order to facilitate generalizability.

3.5 Instrumentation

The main instrument used for the data collection was a standardized close-ended questionnaire. It was designed from a sample questionnaire used in a similar study in Alexandria, Egypt to measure the knowledge, attitude and perception of health trainees towards Hepatitis B virus and malaria. The instrument was chosen because of its simplicity, ability to save time, and the possibility to make comparison as well as gather

data from a group of people at ago. The questionnaire was divided into three major sections and consisted of 44 items. Section A sought to know the respondents background information such as sex, age, year of study, programme of study, religion and area of residence.

Section B consisted of three parts with each part basically about trainee's knowledge, perception and attitude respectively about Hepatitis B. Section C covered the knowledge, perception and attitude of trainee's towards the malaria.

3.6 Data Collection

A suitable time for the research was agreed upon by Principals of the health institutions and the researcher for the administration of the questionnaire. Twenty five respondents were randomly picked in every class in all the four schools visited. A sample size of 50 students of both first and second year was selected in all the schools.

After the selection process, a vivid explanation was made to the students sampled for the study, the purpose of the research as well as their right to opt out of the study if they so wished and the need for them to answer the questions individually. The researcher also assured them of confidentiality and promised not to release the data for any other purpose apart from the purpose it was meant for. After the explanation, the questionnaires were personally administered to the respondents with the help of some staff of the various schools who showed a lot of interest in the research. They were given 30 minutes to respond to the items, after which the questionnaires were collected from them.

3.7 Data Analysis

Data were computerized using Excel and analyzed using Statistical Package for Social Science version 18. Frequencies and percentages were generated. There were no missing values in the data analysis.

3.8 Ethical Issues

A written informed consent was obtained from the Principals of the various selected schools involved in the study. An oral informed consent was also obtained from students who were willing to participate in the study. The questionnaires were anonymous and did not require any identity and all data were kept confidential. Institutional consent and ethical approval was sought from the Department of Science Education of The University of Education Winneba.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.0 Overview

The chapter discusses the data analysis and interpretation of results of the study concerning respondents' knowledge, perceptions and attitudes on Hepatitis B and malaria.

4.1.0 Results

4.1.1 Socio-demographic characteristics of the respondents

The total response rate was 200 representing (100%), 50% for each year of study (first and second year), 179 representing (88.2%) live in urban areas or town, 13 respondents representing 6.4% and 8 represent (3.9) live in rural areas and peri-urban areas respectively. 193 respondents were with the age range of 18-24 (95.1%) and 7 (3.4%) representing the age range of 25-29. 114 females and 36 male representing 56.2% and 42.4% respectively. The programs of study of respondents were Nursing and Midwifery, Physician Assistant and Community Health Program with 75%, 14% and 11% respectively.

4.2 Analysis of results relating to research questions

4.2.1 Research question 1: How knowledgeable are the trainees about malaria and Hepatitis B?

The question was to determine how knowledgeable trainees are about malaria and Hepatitis B.

If the trainee being able to provide correct responses to the means of transmission, causative organism, signs and symptoms and it associated complications, then he/she was considered knowledgeable. Unlike HBV for which options were provided, respondents were to provide short statements with regards to the means of transmission, causative organism, signs and symptoms and it associated complications associated with malaria. The respondents knowledge about the means of transmission of HBV is shown in Table 1

Tables 7 and 8 shows the general knowledge level of trainees on HBV and malaria respectively which was categorized under adequate, average and no knowledge. From table 5, 157 trainees representing 78.5% had adequate knowledge in Hepatitis B, 18 trainees representing 9% had average knowledge and 25 trainees representing 12.5% had no knowledge in Hepatitis B.

Table 6 showed 30.5% having adequate knowledge, 31.5% scoring average knowledge and 38% having no knowledge in malaria. Table 5 shows the performance between first and second year students, from the table 71 first years against 86 second had adequate knowledge on HBV, 13 and 5 first and second years respectively had average knowledge on HBV, 16 first years and 9 second years had no knowledge about HBV. Table 6 compares the knowledge of first and second year trainees on malaria 20 first years and 41 second years have adequate knowledge on malaria as compared to 27 first years and 36 second years having average knowledge. But 53 first year and 23 second year trainees had no knowledge about malaria.

Table 1: Means of Transmission of HBV

Means of transmission	Number of students	Percent
Heredity (genes)	29	14.5
Body Contact	78	39.0
Sexual Contact	25	12.5
Exposure to infected objects	28	14.0
Exchange of body secretions	31	15.5
Perinatal (mother to baby)	5	2.5
Other	4	2.0
Total	**200**	**100.0**

Table 2: Hepatitis B causative organism

Causative organism	Number of students	Percent (%)
Virus	174	87.0
Bacteria	20	10.0
Mosquitoes	4	2.0
Other	2	1.0
Total	**200**	**100.0**

Table 3: signs and symptoms of Hepatitis B

Signs and symptoms	Number of students	Percent
Jaundice	45	22.5
Abdominal pain	55	27.5
Fever	17	8.5
Joint pains	16	8.0
Dark colour urine	35	17.5
Loss of apetite	16	8.0
weakness and fatigue	11	5.5
Other	5	2.5
Total	200	100.0

Table 4: Complications Associated with HBV

Complications	Number of students	Percent
Liver damage	108	54.0
Cancer	27	13.5
Swollen Abdomen	65	32.5
Total	**200**	**100.0**

Table 5: Year of study compared to General Knowledge on HBV

		General Knowledge on HBV			
		Adequate	Average	No Knowledge	Total
Year of study	1st	71	13	16	100
	2nd	86	5	9	100
Total		157	18	25	200

Table 6: Year of study compared to General Knowledge on Malaria

		General Knowledge on Malaria			
		Adequate	average	no knowledge	Total
Year of study	1st	20	27	53	100
	2nd	41	36	23	100
Total		61	63	76	200

Table 7: General Knowledge on HBV

Level	Number of students	Percent
Adequate	157	78.5
Average	18	9.0
No Knowledge	25	12.5
Total	**200**	**100.0**

Table 8: General Knowledge on Malaria

Knowledge level	Number of students	Percent
Adequate	61	30.5
average	63	31.5
no knowledge	76	38.0
Total	**200**	**100**

4.2.2 Research question 2: What are the sources of the trainee's knowledge about malaria and Hepatitis B

The question was to assess the sources that provided information on Hepatitis B and malaria to trainees or the means through which trainees received education on the Hepatitis B and malaria. The sources was categorized into TV/radio, print media, family or friends or relations, health setting, school and any other source. Trainees or respondents were given the chance to state their source if was not among the stated sources. Tables 7 and 8 show the number of students and their source of information, or education on hepatitis B and malaria respectively. Table 7 showed 111 trainees received their information from radio and television representing 55.5%, print media 45 representing 22.5, family or relation or friends 14 representing 7%, health settings 16 representing 8% and school 14 trainees representing 7%. Sources of information on malaria is captured in table 8, 58 trainees representing 29% obtained their information from radio and television, with 32, 13, 31, and 20 trainees; receiving their information from print media, family/friends, health settings and school representing 16%, 6.5%, 15.5%, and 10% respectively. However 46 trainees representing 23% received information on other sources than the ones stated.

Table 9: Sources of information on HBV

Source	Number of students	Percent
TV/Radio	111	55.5
Print Media	45	22.5
Family/relations/Friends	14	7.0
Health Settings	16	8.0
School	14	7.0
Total	**200**	**100.0**

Table 10: Sources of information on Malaria

Source	Number of students	Percent
TV/Radio	58	29.0
Print media	32	16.0
family/friends	13	6.5
Health setting	31	15.5
school	20	10.0
other	46	23.0
Total	**200**	**100.0**

4.2.3 Research question 3: What are the attitudes of the trainees towards the prevention and cure of malaria and Hepatitis B?

This question was to assess the attitudes of trainees towards Hepatitis B and malaria prevention and cure as well as their attitudes towards already infected persons. This was done to by assessing the number of trainees who knew their HBV status, action taken after knowing status, attitudes towards infected person, if they would ask for HBV screening, if the trainee had suffered from malaria, kind and experience from drug for malaria treatment.

Table 16 shows the general attitude of trainee's towards HBV, 117 trainees representing 58.5% shows conscious attitude towards HBV. 65 trainees representing 32.5% showed unconscious attitude and 18 trainees showed irresponsible attitude representing 9%. The attitude of trainees towards malaria is represented in table 16, 64 trainees representing 32% exhibit conscious attitude towards malaria. 78 and 58 trainees representing 39% and 29% exhibit unconscious and irresponsible attitude towards malaria respectively.

Comparing the first and second year trainee's attitudes towards Hepatitis B and malaria is shown in tables 15 and 19. From the tables (15 and 19), 42, 23 first years with 75, 41 second year trainees showed conscious attitudes towards HBV and malaria. Unconscious attitudes were shown by 48 first years as compared to 17 second year trainees, but 8 second years showed irresponsible attitudes as compared to 10 first year trainees concerning HBV. 29 showed irresponsible attitudes towards malaria in both first and second year, but 48 against 30 trainees showed unconscious attitudes towards malaria in first and second year respectively.

Table 11: Know HBV Status

Know status	Number of students	Percent
yes	131	65.5
no	69	34.5
Total	**200**	**100.0**

Table 12: Action taken after knowing status

Action taken	Number of students	Percent
Nothing	24	12.0
sought medical advice	43	21.5
took vaccination	64	32.0
other	69	34.5
Total	**200**	**100.0**

Table 13: Attitude towards infected friend or relation

Attitude	Number of students	Percent
interact well	11	5.5
avoid contact with person	29	14.5
live normally with person	11	5.5
other	149	74.5
Total	**200**	**100.0**

Table 14: Isolate HBV infected persons

isolate	Number of students	Percent
yes	170	85.0
no	21	10.5
Not sure	9	4.5
Total	**200**	**100.0**

Table 15: Year of study compared to General attitude on HBV

		General attitude on HBV			
		conscious	unconscious	Irresponsible	Total
Year of study	1st	42	48	10	100
	2nd	75	17	8	100
Total		**117**	**65**	**18**	**200**

Table 16: General Attitude towards HBV

Attitude	Number of students	Percent
concious	117	58.5
unconcious	65	32.5
Irresponsible	18	9.0
Total	**200**	**100.0**

Table 17: Had malaria and knows a malaria treatment (drug)

Treatment	Number of students	Percent
Had experienced malaria	200	100.0
any of the known malaria drugs	200	100.0
Total	**200**	**100.0**

Table 18: Experience from Malaria drug taken

Experience	Number of students	Percent
Normal	186	93.0
Bitter	10	5.0
Don't know	4	2.0
Total	**200**	**100.0**

Table 19 : Year of study compared to General Attitude on Malaria

		General Attitude on Malaria			
		conscious	unconscious	irresponsible	Total
Year of	1st	23	48	29	100
study	2nd	41	30	29	100
Total		**64**	**78**	**58**	**200**

Table 20: General Attitude towards Malaria

Attitude	Number of students	Percent
conscious	64	32.0
unconscious	78	39.0
irresponsible	58	29
Total	**200**	**100**

4.2.4 Research question 4: How do the trainees perceive malaria and Hepatitis B?

The perception of trainees on malaria and Hepatitis B was assessed from trainees on their treatment whether cured or managed, ideas on how persons got infected, if malaria and Hepatitis B are major challenges and if their study should be added to the syllabus or intensified. It also included perceived barriers to the accessibility of malaria prevention tools and Hepatitis B vaccine. Table 21 shows the general perception of trainees on HBV, 26 trainees representing 13% have a positive perception about HBV, 111 representing 55.5% had negative perception about HBV with 63 representing 31.5% having a neutral perception about HBV. Table 22 shows the general perception of trainees on malaria 17 trainees representing 8.5% had positive perception, 9 and 173 representing 4.5% and 85.5 had negative and neutral perception about malaria respectively.

Tables 25 and 27 compared the perception of first and second year trainees, from table 25 first year trainees showed 17, 37 and 46 positive, negative and neutral perception about HBV respectively as compared to second year trainees showing 7,74 and 19 positive, negative and neutral perception respectively about HBV. Table 27 showed 5,4 and 91 first year trainees showing positive negative and neutral perception respectively about malaria as compared to 12, 5 and 82 second year trainees showing positive, negative and neutral perception respectively.

Table 21: trainees' perception on cure and prevention/management of HBV and malaria

infection	Only Curable	percent(%)	Only Manageable	Percent (%)	Both(cured& managed)	Percent (%)	Don't know	Percent (%)
Hepatitis B	26	**13**	52	**26**	119	**59.5**	3	1.5
Malaria	48	**24**	57	**28.5**	95	**47.5**	0	0

Table 22: Is Hepatitis B a major challenge in Ghana?

challenge	Number of students	Percent
yes	189	94.5
no	9	4.5
not sure	2	1.0
Total	**200**	**100.0**

Table 23: Malaria as a challenge in Ghana

challenge	Number of students	Percent
yes	**200**	**100.0**

Table 24: Barriers to information on HBV

Barrier	Number of students	Percent
Busy	5	2.5
Not concerned	4	2.0
test expensive	18	9.0
inadequate info/education	36	18.0
missing	137	68.5
Total	**200**	**100.0**

Table 25: Year of study compared to General Perception on HBV

		positive	negative	neutral	Total
Year of	1st	17	37	46	100
study	2nd	7	74	19	100
Total		**24**	**111**	**65**	**200**

Table 26: General perception on HBV

Perception	Number of students	Percent
positive	26	13
negative	111	55.5
neutral	63	31.5
Total	**200**	**100**

Table 27: Year of study compared to General Perception on Malaria

		positive	negative	irresponsible	Total
Year of	1st	5	4	91	100
study	2nd	12	5	82	100
Total		17	9	173	200

Table 28: General perception on malaria

Perception	Number of students	Percent
positive	17	8.5
negative	9	4.5
neutral	173	85.5
Total	200	100.0

4. 3 Discussion

Despite the long history of malaria and HBV disease in Ghana, there have not been appropriate policies and pragmatic measures put in place to curb it coupled with the act of selective prevention vigorously exhibited by health professionals which led to low level of knowledge about HBV in the country (GHBF,2007).

As stated in the introduction (pg. 5), this thesis is to assess the knowledge, perception and attitude concerning HBV and malaria among selected health training institutions in the Brong Ahafo region of Ghana specifically College of Health – Yamfo, Midwifery and Nursing Training School – Goaso, Nursing Training School – Drobo and Midwifery, Nursing and Health Assistant Training School – Sunyani.

4.3. 1. Trainees General Knowledge on HBV and Malaria

The present study revealed that on the average, sampled trainees have a fair level of knowledge about Hepatitis B and malaria even though there were significant differences between first year and second year trainee`s knowledge as shown in tables 5 and 6.

The entire sampled respondent had heard some information about HBV and malaria. The source that most trainees received their information was radio and TV compared to print media and family friends or relation (tables 9 and 10). However, one could have expected a high percentage from health setting and school as sources of information for theses sources are considered credible. Although print media had the second highest score as source of information on Hepatitis B and malaria, prints media have different categories which the study could not specify exactly which category of print media provided trainees with the information

Body contact was the means of transmission of HBV chosen by most trainees although some trainees opted for exchange of body secretions or fluids (table 1). From the literature (pg. 28)the spread of HBV it is not merely from body contact of an infected person that cause a spread but coming into contact with bodily secretions of infected persons. Sexual contact and exposure to infected objects are also major means by which HBV spread. HBV does not spread by heredity (genes) as it is not a genetic disease or genetic disorder however it can spread by parinatal (from mother to child). Parinatal transmission can be prevented by identifying HBV infected pregnant woman and providing hepatitis immune globulin and Hepatitis B vaccine to their infants with 12 hours of birth. With the introduction of the parinatal hepatitis prevention vaccine there has been the universal screening of pregnant women for HBV during each pregnancy, routine vaccination of all infants with the Hepatitis B vaccine, with the first dose administered at birth. Respondents were able to state the means of malaria transmission as well as its causative organism as mosquito has become a household name.

Almost all the respondents identified virus as a causative organism of Hepatitis B, although some chose bacteria and mosquito. The high number of respondents identifying virus as the causative organism for Hepatitis B may be due to the word “virus” attached to the name.

The signs and symptoms of HBV infection form the respondents included abdominal pains, jaundice, dark urine, fever joint pains, loss of appetite, weakness and fatigue. The signs and symptoms provided were accurate as provided by literature. All the respondents indicated that they have had malaria before so they signs and symptoms were well stated and known to them.

Complications resulting from HBV infection include liver cirrhosis, liver cancer, liver failure and other complications like kidney disease, inflammation of blood vessels or anemia. The respondents were able to identify complications associated with HBV infection as compared to complications associated with malaria; this could be as a result of the options provided for HBV unlike malaria which made it easier for respondents to identify.

The most exposed category of people to HBV according to respondents was same sex partners. According to (CDC 2015) 20% of all new hepatitis infections in the United States are among gay and bisexual men although effective vaccine is available. Commercial sex workers were with the next category with the highest percentage.

The study revealed that second year trainees had adequate knowledge in Hepatitis B and Malaria as compared to second year students. More first year trainees showed no knowledge in HBV and Malaria as compared to second years. This may be due to courses taken or clinical field experiences.

4.3.2 Respondents attitudes towards Hepatitis B and Malaria

The percentage of trainees, who knew their HBV status as indicated (Table 11), shows that more than half the respondents knew their HBV status. However a significant number of respondents do not know their HBV status when the individual institution is assessed with the number of trainees who knew their HBV status. Second year trainees knew the HBV status as compared to first year trainees, this could be as a result of compulsory medical examination conducted in some health training schools or from exposure on the medical wards during clinical attachments. For example about 42% of

trainees' respondents do not know their HBV status in Goaso midwifery training school as compared to Yamfo with 26%. A significant number of trainees knew their HBV status with the one month to one year this could be as a results of medical examination taken in school or during clinical attachment due to exposure.

The study showed that action taken by most respondents was to take vaccination or seek medical advice after knowing their HBV status (table 12) this could results from the advice given by the medical personal to the respondents based on the results of the respondents test results. However a significant number of the respondents who knew their HBV status did nothing after the test which was attributed to unavailable HBV advice centers or expensive vaccination.

Those without knowledge of their HBV status attributed it to inadequate knowledge and expensive testing, while others showed busy or not concerned about their HBV status.

Respondents with friends or relations with HBV mostly avoided contact, only a minimal number interact or live normally with infected family relation or friend (table 13). However those without friends or relation maintained that infected HBV people should be isolated to avoid spreading, this could be as a result of the knowledge of contracting HBV by means of body contact.

Trainees were able to state the malaria treatment received as well as their experience with the drugs given to them. The study also showed that respondents are willing to ask for screening against Hepatitis B before blood transfusion.

The study revealed that second year trainees were more conscious about HBV and malaria than first year trainees and but more first year trainees showed irresponsible attitudes than second year trainees about HBV and malaria.

4.3.3. Respondents Perception about Hepatitis B and Malaria

First year trainees exhibited positive perception with regards to HBV and malaria being curable , manageable or both as compared to the second year, a significant number of first years chose only curable, although percentages where higher for only manageable and both curable and manageable, the curability of HBV is dependent on its detection state. First year students many have exhibited positive perception towards Hepatitis B curability or manageability because they may have not come had the experience with meeting Hepatitis B infected person or had average knowledge about the disease. The study revealed; trainees had the perception that, the curing of HBV and Malaria needs the combination of medical and traditional treatments. This may due to the traditional medicine that floods our radio stations about their cure which is also their major source of information on HBV and malaria.

Respondents maintained that managing Hepatitis B patients were mainly through avoiding alcohol intake, exercise and healthy eating. The high percentage for the avoidance of alcohol may be due to the fore knowledge that alcohol intake causes damages to the liver, so if HBV also cause similar damages then it avoidance would go a long way in managing the effect of HBV.

In managing malaria trainees indicated that taking lots of water goes a long way in managing malaria , this may be from the traditional believe that taking lots of water when suffering from malaria can help flash out the malaria from your system.

The following are some of the perceived ways by which people get infected by HBV by some respondents. Respondents 1: “sexual intercourse and drug abuse”. Respondent 2: “Coming in-contact with the sweat of an infected person. “. Respondents 3: “eating

sugary foods ". Respondent 4: "through birth; when the one that assist child birth is infected". Respondents: 5 through unprotected sex and exchange of saliva through kissing.

The following are also ways of handling infected persons of HBV suggested by some respondents. Respondent 1: the person should be isolated. Respondent 2: one must use a sanitizer after coming in-contact with an infected person. Respondent 3: the persons should be vaccinated immediately after testing positive. Respondent 4: the person should visit the hospital immediately after testing positive. Respondent 5;' infected persons should by hospitalized.

Most trainees perceive that infected persons would eventually die but some stated that medication or treatments could help sustain persons with HBV.

Trainees perceive that Hepatitis B and malaria are major challenges in Ghana as such more education and measures to curb the problem should be introduced by policy makers. The study of Hepatitis B should be introduced into the educational syllabus of Ghana and most trainees indicated it should be added at the junior high level and that of malaria should be intensified.

CHAPTER FIVE

SUMMARY, CONCLUSION, RECOMMENDATIONS, SUGGESTIONS FOR FURTHER RESEARCH AND CONTRIBUTIONS OF THE STUDY TO HEALTH EDUCATORS

5.0 Overview

This chapter includes the summary of findings, conclusion and recommendations. The chapter also looks at suggestions for further research and contribution of the study to health educators.

5.1 Summary of Findings

The study revealed that second year students were more knowledgeable than first year student about HBV and malaria. However first year had positive perception about HBV than second years and negative perception about malaria than second year trainees. There are high numbers of irresponsible attitudes among trainees towards malaria. Trainees exhibit more conscious attitudes towards HBV than malaria

The study revealed that the source that provide trainees with information on HBV and malaria is radio and television as most trainees live in urban areas. Both first and second year trainees perceive that the isolation of HBV infected persons help in the prevention of its spreading and the taking of lots of water aid in the management of malaria.

Both first year and second year trainees attributed the barrier to HBV and malaria prevention tools to inadequate information and suggested intensification of education and

the addition of HBV and malaria to educational syllabus. Trainees identified HBV and Malaria as a major health challenge in Ghana.

5.2 Conclusions

This study sought to assess the level of the trainees' knowledge, their attitudes and perception concerning Hepatitis B and malaria among selected schools in the Brong Ahafo region of Ghana, the study was able to highlight three thematic areas and the need for prompt action to be taken.

First, even though most trainees in first and second have a fair idea about the disease HBV; there were significant number (38%) with less knowledge in malaria, the study deduced that majority (55%) of them were not knowledgeable about the causes, modes of transmission and effects of HBV and malaria even though the second year trainees were a little more informed compared to the first years.

Secondly, although most (100%) of the trainees indicated HBV and malaria as a big health problem in the country, the issue of stigmatization against already infected persons was very strong among trainees in both first and second trainees, with a lot not being conscious about malaria which may account for a high malaria infection.

Thirdly, knowledge of vaccination which is paramount for HBV prevention was very low among trainees in both first and second year, which. This was either due to lack of adequate information or lack of perceived risk among them.

The study also revealed that, the sources that provided trainees with information on HBV and malaria were radio and television. On the other hand, it was realized that second years had a conscious attitude and negative perception about HBV and than first year

trainees. Both first and second year trainees exhibited unconscious and irresponsible attitude towards malaria.

The study also revealed that both first and second year trainees had more negative attitude towards chronic HBV patients (68%) with more irresponsible perception towards malaria. These findings are needed to help assess the effectiveness of health education campaigns carried out by the Ghana health services at the various regional and district health directorates. These surprising revelations are an indication that a clear strategy is needed to make the health education sessions more effective.

5.3 General Recommendations

The researcher upon careful analysis and discussion of the results came to the point that much still needs to be done to win the fight against the HBV and malaria completely. The recommendations are categorized into two blocks, namely recommendations for researchers and secondly, recommendations for policy makers, educational institutions and health care providers.

5.3.1 Recommendations for the Researcher

1. More researches that cover large numbers or different regions are recommended to investigate the level of knowledge of HBV and malaria among trainees and even investigate the prevalence of the diseases among trainees.
2. Further studies are required to measure other factors that may contribute to the low level of trainees' knowledge about HBV particularly concerning mode of transmission, effects and causes and high irresponsible attitudes towards malaria in Ghana.

3. Additional studies, with a blend of qualitative and quantitative approaches are recommended to enable health care providers and educators to understand the trainees' perceptions about HBV and malaria and their health seeking behaviors.

5.3.2 Recommendations for Policy makers, educational institutions and health care providers

1. The integration of knowledge about Hepatitis B and malaria within formal and informal school programs. Conscious efforts should be made to blend HBV education into the curriculum or extracurricular activities in schools.
2. Health education campaigns about the HBV and malaria and its complications in the clubs, NGOs and the mass media to increase the awareness, and to help in modification of their different risk behaviors that will cover out of school as well as cover vulnerable and high risk groups and also intensify the campaign on stigma on chronic carriers.
3. The health authorities should carry out a program of compulsory vaccination of those who were born before HBV vaccine introduction in Ghana. It should be backed by a national comprehensive immunization policy and should cover the screening of pregnant women, risk groups and the general public. Intense health education campaigns are recommended to increase awareness, confidence, and utilization of national treatment guidelines and government recommended ACTs
4. Formulation of a Legislative Instrument to enable the Ghana Hepatitis B foundation to function as a commission. The autonomy of this foundation will enable it have a budgetary allocation which will eventually lead to an increase in

funding for Hepatitis B activities and research. Since the foundation cannot work in isolation, there should be effective collaboration between it and key stakeholders such as health care workers, schools, government of Ghana and its immunization development partners.

5. Policies should be enacted to enable the Malaria control program function effectively as the AIDs commission. This is to facilitate effective malaria control protocols and and provision of malaria prevention tools.

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APPENDICES

APPENDIX A

UNIVERSITY OF EDUCATION WINNEBA

The aim of this research is to assess the knowledge, attitude and perception of Health Trainees concerning Hepatitis B and Malaria. The research is purely for academic purposes. The responses that you willingly give will facilitate the completion of the study. I assure you of strict confidentiality that is why your name is not required. Please, tick the most appropriate response.

QUESTIONNAIRE FOR STUDENT

SECTION A: DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

1. Sex
   - Male ( )
   - Female ( )
2. Age
   - 18- 24 ( ) 25 – 29 ( ) 30- 35 ( )
3. Year of study
   - 1st ( )
   - 2nd ( )
4. Which programme are you studying?:

   □ Nursing/Midwifery Programme □ Physician Assistant□ Technician Programme
5. Religion:

   □ Christian □ Islam □ Traditional □ Other (please specify)……

6. Area of residence

   - Rural ( )
   - Urban ( )
   - Peril-urban ( )

SECTION B

Tick those that apply to the question

PART I: Respondents Knowledge about HBV Infection

7. Have you heard about hepatitis B virus (HBV) infection?: Yes □ No □
8. If "yes" what was your source of information……..

   TV/ Radio □ Print Media □ Family/relations/friends □ Health Setting □

   School □Other (please specify)…... . . . .
9. Through which means do people get HBV

   Heredity (genes)□ Body Contact □ Sexual Contact □ Exposure to infected objects: e.g. blade, syringe □ Exchange of Body Secretions/fluids (saliva/ blood) □ perinatal (mother to baby at birth)□polluted water or food □ other (please specify). . . . . .
10. Hepatitis B is cause by which organism?

    Virus □ Bacteria □ Mosquitoes□ Other (please specify).. . . . . .
11. What are the signs and symptoms of HBV infection

    Jaundice□ abdominal pain□ fever □joint pains□ dark colour urine □ loss of appetite □ weakness and fatigue□ Other (please specify)

    ……
12. What complications may result from HBV infection

    …….

13. Which category of people is/are more exposed?

    Barbering □Tattooing/Piercing □Commercial Sex Workers □ same sex partners (Gay/lesbians) □Other (please specify).. . . . . .

Part II: Respondents attitudes towards hepatitis B

14. If you responded yes to question 8 do you know your HBV status

    □Yes □No

15. If 'Yes' how many years or months have you known your status?

    .. . .

16. If 'Yes' what did you do after knowing your status

    Nothing □ sought medical advice □ took vaccination □Other (please specify)

    ……

17. If 'No' to question 14 why don't you know your status?

    Busy□ not concerned □ test expensive □ inadequate information/education on (how/place/who /why)□Other (please specify).. . . . . .

18. Do you know a friend or relative with HBV□Yes □No

19. If Yes what has been your attitude towards the person

    Interact with the person □ avoid contact with the person □ live normally with the person □Other(please specify).. . . . . .

20. If you responded avoid person 'why'

    ……

    ……

21. Should infected person with hepatitis B be isolated from people to prevent their infection? □Yes □No □Do not know

22. Will you ask for screening against hepatitis B before blood transfusion? □Yes □No □Do not know

Part III: Respondents perception on hepatitis B

23. Is hepatitis B Cured or Managed

Only curable□ only manageable □ both □don't know

a. 'If curable' how can it be cured

Medically□ Traditional □ both □ other (please specify) . . . . . .

. ……..

b. if managed how is it manage

Exercise □healthy eating□ avoiding intake of alcohol □other (please specify)

……

24. If someone is diagnosed of HBV what is the first thing that comes to mind with regards to

a. How the person got it

……

……..

……

How it should be handled……

……

b. What would happen to the person……

.....

25. Do you think HBV infection is a major challenge in Ghana ?□Yes □No □not sure

26. If yes what should be done about it?

……

.....

……

27. Should hepatitis B education be added to the educational syllabus of Ghana Yes□ No □

Not sure□

28. At which level should the education on hepatitis B be introduced? Primary □ Junior High □ Senior High □Tertiary□

SECTION C

Tick those that apply to the question

PART I: Respondents Knowledge about Malaria

29. Have you heard about malaria?: □ Yes □ No

30. If "yes" what was your source of information……..

TV/ Radio □ Print Media □ Family/relations/friends □ Health Setting □ School □Other (please specify) …….

How does one get malaria . . . . . .

31. How do you prevent malaria at home (Any 3) . . . . . .

. . . . . .

32. What are the signs and symptoms of malaria? (Any 3) . . . . . .

. . . . . .

33. What complications results from malaria?(Any 3) . . . .

. . . . . .

Part II: Respondents Attitudes towards Malaria

34. Have you had malaria before Yes□ No □ Don't Know□

35. If yes, what kind of treatment did you receive . . . . . .

. . . .

36. What is your experience in taking malaria drugs . . . . . .

. . . .

37. Were you satisfied with the treatment Yes□ No □ Don't Know□

38. If No why? . . . . . .

. . . .

39. What goes into the treatment of malaria . . . . . .

. . . .

Part III: Respondents Perception on Malaria

40. Is malaria Cured or Managed

Only curable□ only manageable □ both □don't know

a. 'If curable' how can it be cured

Medically□ Traditional □ both □ other (please specify) . . . . . .

b. if managed how is it manage

Exercise □healthy eating□ taking lots of water □other (please specify) . . . . . .

. . . . . .

41. If someone is diagnosed of malaria what is the first thing that comes to mind with regards to

c. How the person got it …….

d. How it should be handled……

……

e. What would happen to the person…….....

42. Do you think malaria infection is a major challenge in Ghana ?□Yes □No □not sure

43. If yes what should be done about it?

……

.....