

**SCHOOL OF PUBLIC HEALTH  
COLLEGE OF HEALTH SCIENCES  
UNIVERSITY OF GHANA**

**AWARENESS OF PROSTATE CANCER AMONG MALE SOLDIERS**

**IN THE  
GHANA ARMED FORCES**

**BY  
VIDA OTOO**

**THIS DISSERTATION IS SUBMITTED TO THE UNIVERSITY OF  
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THE MASTER OF PUBLIC HEALTH DEGREE**

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### **DECLARATION**

This dissertation, “Awareness of prostate cancer among male soldiers in the Ghana Armed Forces”, is a study I personally undertook with the supervision of Dr. Gameli Kwame Norgbe for the award of the Master of Public Health Degree. Whiles acknowledging all sources used in the study, I declare that this dissertation has not been presented in whole or part to any other educational institution for the award of any degree.

**Signature**.....

**Date**.....

**Vida Otoo**

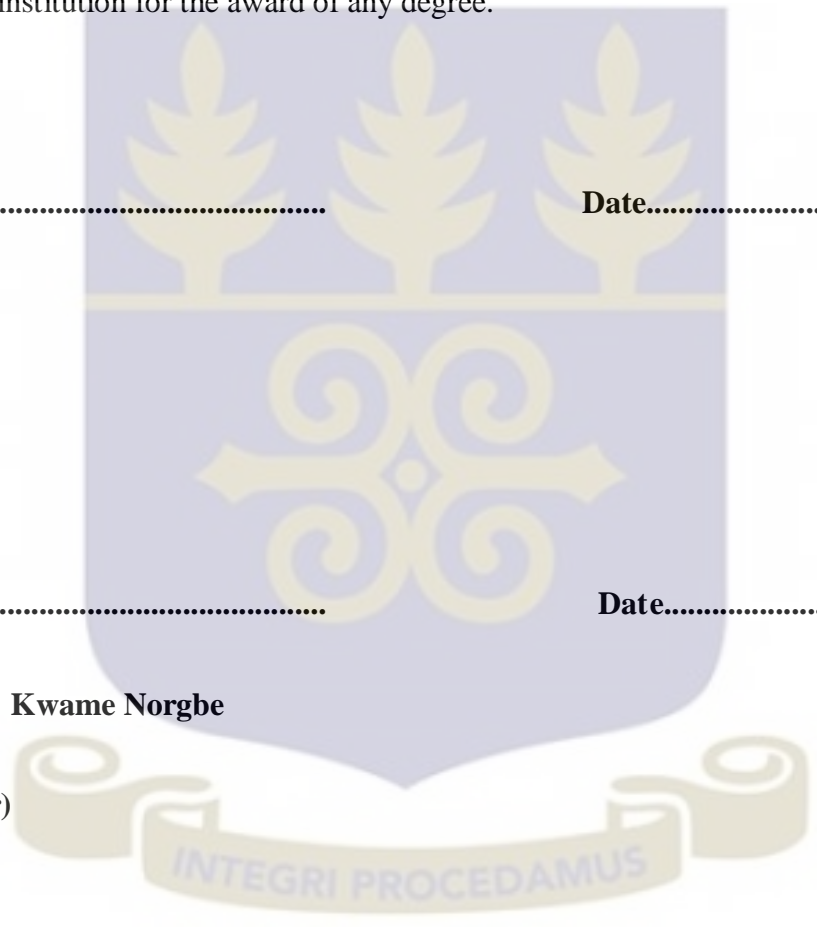
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**Date**.....

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**(Supervisor)**



## **DEDICATION**

Thanks be to the Almighty God through Jesus Christ my Lord and Saviour in whom I live, move, and have my being. I dedicate this thesis to God the Father, God the Son and God the Holy Spirit for his love and grace. I also dedicate this work to all my loved ones especially my beloved mother, Madam Hannah Derby, my husband Isaac Kodjoe, and my boys Stephen, Michael, Joel, David and Isaac.



## **ACKNOWLEDGEMENTS**

Words indeed cannot express the joy and peace I have because on completion of this thesis and I have some SPECIAL people I need to acknowledge for their enormous contribution in this work.

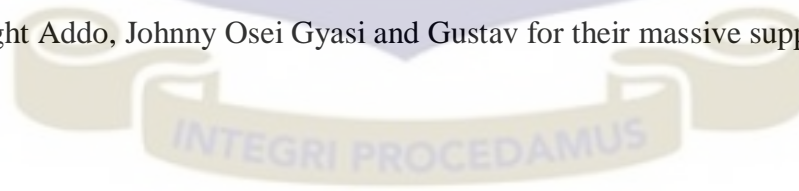
My first acknowledgement goes to God Almighty for the Love, Grace, Favour, kindness and protection He has given me.

Secondly my sincere gratitude goes to my able supervisor Dr Gameli Kwame Norgbe Head of Population, Family and Reproductive health for his constructive criticism and guidance without whom this work wouldn't have seen the light of day.

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My family have been very supportive, tolerant and loving and they would forever be remembered especially my dear husband and the children for helping me come this far.

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## **ABSTRACT**

Prostate cancer is a significant public health problem. The disease is potentially curable if diagnosed and treated at its early stages but there is seeming lack of awareness with regard to individual risk, perceived risk factors, screening and treatment options. A cross-sectional study was conducted among male soldiers of the Ghana Armed Forces to assess their general awareness, knowledge and attitude towards Prostate Cancer and its early detection. 10 units from 5 Garrison in Accra were purposively selected to reflect the diversities of the services of the Ghana Armed Forces. The study population were the senior commissioned officers (Officers) and senior non-commissioned officers (Other ranks). A sample of four hundred and twenty-four male soldiers was selected using the convenience sampling technique. The respondents who participated in the study ranged between the ages of 30 to 59 with a mean age of 39.66 years. Respondents were asked to fill a self-administered Prostate Cancer Questionnaire.

The findings of the study were that; the level of awareness of prostate cancer was poor although a majority had heard about it, the knowledge base of the participants and the attitude towards early detection of prostate cancer were poor.

The Public health department of the Ghana Armed Forces Medical Service should therefore be empowered to mount up campaigns to create awareness of prostate cancer among troops. Screening for prostate cancer should be added to the yearly medical examinations that Military personnel are made to undergo especially for men who are at risk. More research should be done in the area of prostate cancer within the Ghana Armed Forces and the in Ghana as a whole.

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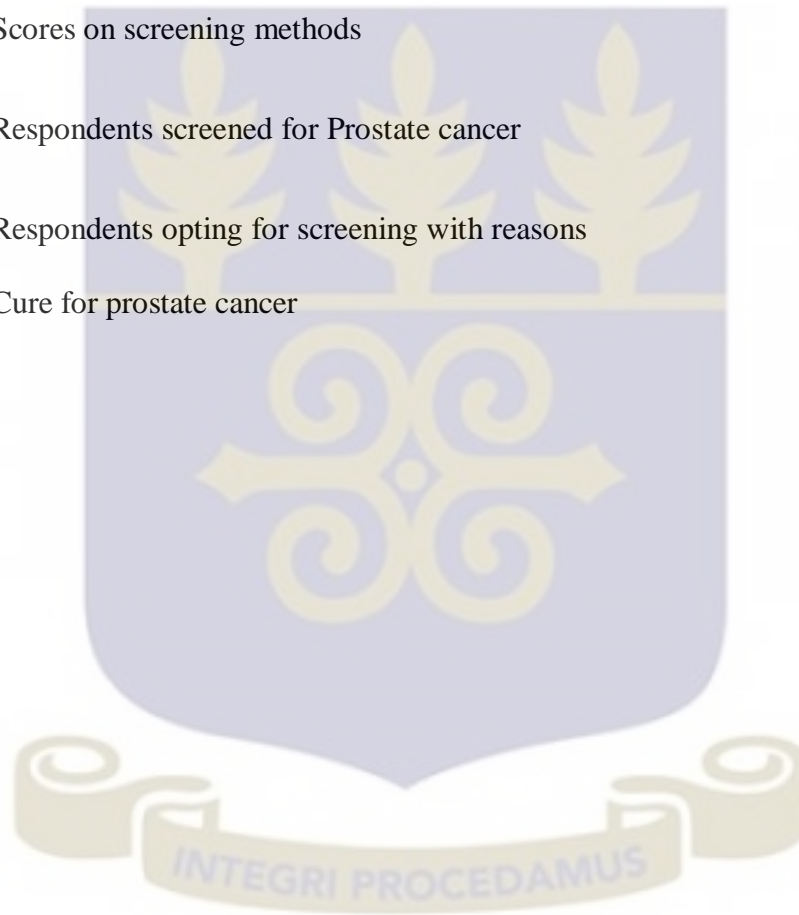
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## CHAPTER ONE

### ORIENTATION TO THE STUDY

#### 1.1 INTRODUCTION

Prostate cancer is a malignant (cancerous) tumour (growth) that consists of cells from the prostate gland. Generally, the tumour usually grows slowly and remains confined to the gland for many years. During this time, the tumour produces little or no symptoms or outward signs (abnormalities on physical examination). As a bladder disease, it is associated with difficulty in passing urine, inability to urinate, passing urine habitually (particularly at night), weak or interrupted urine flow, pain when urinating, blood in the urine and pain in the lower back, hips and upper thighs (Badoe et al, 2000).

According to the American cancer society, all men are at risk of developing prostate cancer from age 50. (America cancer society, 2004). There is some evidence that prostate cancer may develop at earlier ages in African Americans than in the general population (American cancer society, 2004). Due to the non- aggressive nature of prostate cancer although one man in six may develop prostate cancer during his lifetime, only one in 34 will die of this disease (Prostate cancer foundation, 2009). Well-known risk factors associated with prostate cancer are age, hereditary influences including a family history of prostate cancer, and race (Nelen, 2007).

The disease is potentially curable if diagnosed and treated at it's early stages (Ferlay et al, 2006). Although the management policy for early prostate cancer and routine population screening for the disease both remain a matter for debate (Ferlay et al, 2006), increasing the rate of early diagnosis and treatment would seem to be a desirable goal.

There is lack of awareness with regard to individual risk, perceived risk factors, screening and treatment options globally (Schulman et al, 2003) which is worrying. This is attributed to neglect of Prostate cancer compared with other cancers, in particular breast cancer, both in the media and in terms of clinical research, even though both diseases have a similar prevalence (Schulman, et al 2003). The study seeks to find out the awareness level of soldiers on prostate cancer in the Ghana Armed Forces.

## **1.2 Background to the study**

Prostate cancer is a significant public health problem. According to Ferlay et al (2006) it is the most frequently diagnosed cancer in men. It is diagnosed in almost 2000 men each day worldwide, and one man is estimated to die from the disease every 2 minutes. According to the American Cancer Society (2004), a man is 35% more likely to be diagnosed with prostate cancer than a woman is to be diagnosed with breast cancer.

The American Cancer Society (2004) reported that in the United States, although deaths from prostate cancer have declined over the past several years, prostate cancer remains the leading cancer among men, and the second leading cause of cancer mortality among men, in the United States. In Nigeria the incidence of prostate cancer may be high as seen among African Americans in America (Ukoli et al, 2003), with an estimated 6,236 new cases and 5, 098 deaths occurring each year. A recent review of cancer morbidity in adults in Ibadan, Nigeria showed prostate cancer as the most common cancer in males (Ukoli et al 2003).

In Ghana, there has been a steady rise in deaths from carcinoma of the prostate since 1991 and it is now the leading cause of male deaths at the Korle-Bu Teaching Hospital (Badoe et al. 2000).

The International Agency for Research on Cancer (IARC) published GLOBOCAN 2002 estimates of cancer incidence, mortality and prevalence for Ghana, with prostate cancer being the leading cause of cancer mortality. (GLOBOCAN, 2002). Prostate cancer is a predominant genitourinary tumour accounting for 81.4% of genitourinary cancers in the Korle-Bu Teaching Hospital (Klufio 2004). Prostate cancer affects 200 out of every 100,000 men in Ghana as compared to 170 world-wide, a survey at the Korle-Bu Teaching Hospital revealed. ( Kyei 2007) In 2006, 60 per cent of all cancer cases reported at the Korle-Bu Teaching Hospital was prostate cancer, and 27 people died from the disease in 2005 alone (Kyei 2007).

According to Wiredu and Armah (2006) awareness of cancer patterns in Africa is woefully inadequate, and population-based epidemiological data on the occurrence of cancer in sub-Saharan Africa, especially, are sparse. They also reported that until recently, cancers and other non-communicable diseases were thought to be unimportant public health problems in developing countries, like Ghana, because of the overwhelming high prevalence of communicable diseases. The estimated lifetime risk of being diagnosed with the disease is 17.6% for Caucasians and 20.6% for African Americans. The lifetime risk of death from prostate cancer similarly is 2.8% and 4.7% respectively. As reflected in these numbers, prostate cancer is likely to impact the lives of a significant proportion of men that are alive today. The awareness level of prostate cancer is not known in Ghana even though prostate cancer possesses a serious threat to the health of men in general. The study seeks to address this issue among other factors.

### 1.3 STATEMENT OF THE PROBLEM

According to the American Cancer Society all men are at risk of developing prostate cancer from age 50. There is some evidence that prostate cancer may develop at earlier ages in African Americans than in the general population (American Cancer Society 2004). It is estimated that 1 in 6 men will be diagnosed with prostate cancer at some point in their lives. According to Abayie (2009) one out of every three Ghanaian men aged 40 years and above is said to be at risk of prostate cancer, making the disease a serious issue in the country. In Ghana it is the second leading cause of cancer mortality at the Korle- Bu Teaching Hospital (Wiredu & Armah 2002) and 1 out of every 3 men in Ghana are at risk of the disease. According to Abayie (2009) only 3 percent of Ghanaian men at risk are aware of the disease. The Ghana Armed Forces is made up of 98% men who are at risk of developing prostate cancer. At the genital urinary clinic of the 37 Military Hospital an average of 5 military personnel both active and reserved who present at the clinic are often seen with late stages of prostate cancer. One of the contributing factors to this may be that many male soldiers are unaware of the risks they face with regards to this disease hence the late presentation with advanced stages of the disease.



## 1.4 RATIONALE FOR THE STUDY

Prostate cancer as one of the most prevalent cancers, has enormous public health importance and its prevention seems to be a rational approach to attenuate the economic, emotional, physical, and social impact of this disease.

For early diagnosis and treatment programmes of any malignancy to be effective, the general public must be aware of the disease and its impact, presentation, cause and potential treatments. For example, in breast cancer, health education campaigns in developed countries have dramatically increased awareness of breast cancer in women at risk and have led to increased rates of early diagnosis and treatment (Fitzpatrick et al, 2009). Mortality from breast cancer is now improving, partly due to earlier detection but also because of the use of adjuvant hormone therapy for early disease (Jemal et al, 2007). It is therefore very important for men to be made aware of prostate cancer. The study is to assess the general awareness level, knowledge and attitudes of prostate cancer among soldiers of the Ghana Armed Forces.

According to the Genitourinary department of the 37 Military Hospital there is a steady rise in the number of retired and serving male personnel diagnosed with Prostate cancer but there is no evidence backing this. The department is in the process of issuing an educative manual on prostate cancer for the Armed Forces but the level of awareness of the disease among soldiers is unknown. Awareness is nevertheless a critical requirement for the development of an effective program, hence the importance of this study. In academia it would serve as basis for future research and would also contribute to the nation's effort of creating awareness of prostate cancer.

## 1.5 PURPOSE OF THE STUDY

The purpose of the study is to assess the awareness, knowledge and attitude of Prostate Cancer among soldiers in 5 Garrison units in Accra. This is to try and answer the following research questions:

- a. Why are soldiers reporting with advance stage of prostate cancer?
- b. What is the awareness level of male soldiers on prostate cancer?
- c. What is their knowledge about the causes, symptoms and treatment of prostate cancer?
- d. What is their attitude towards the early detection of the disease?

For these research questions to be answered the under listed objectives were specifically set.

- a. To identify the level of awareness among soldier about prostate cancer.
- b. To examine the knowledge of the soldiers on prostate cancer.
- c. To assess the attitudes of soldiers towards early detection of prostate cancer.

## 1.6 Conceptual Framework

The proposed conceptual framework for the study of awareness of soldiers about prostate cancer among male soldiers is the pathway to the outcome. Within this model, the awareness and knowledge of soldiers about the existence of prostate cancer depends on the structures and the processes involved in getting to the outcome that is the pathway to the expected end. The structures are the Military community and the individual soldier.

**Military Community:** The Military community in this study is the Military as a whole and the barracks where the individual soldier lives. As a soldier living in a barracks, he is not an island

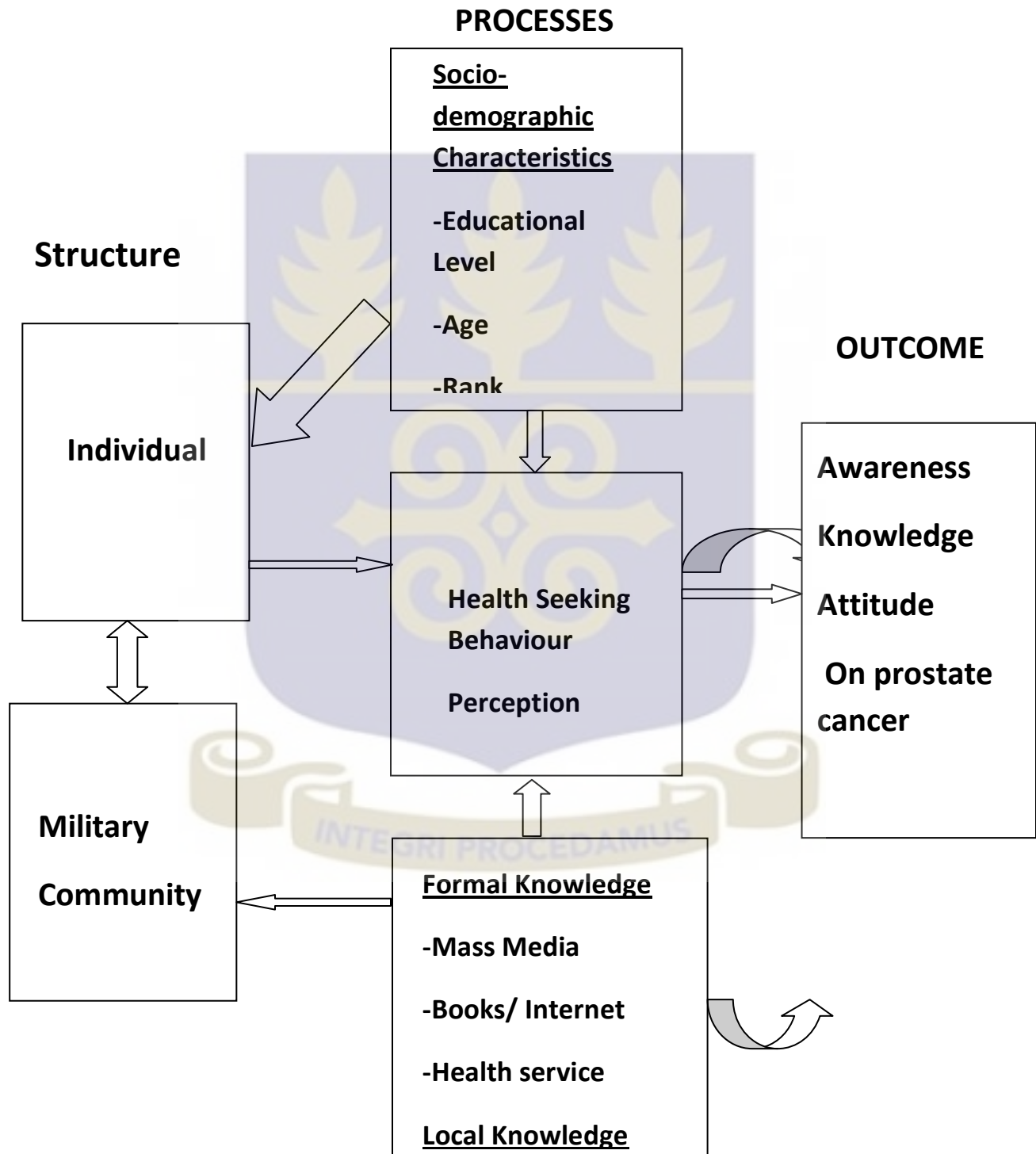
and therefore can be influenced by events within the community. In the community are two types of knowledge the formal and the informal. The formal knowledge is the knowledge gained through the print and electronic media and also through health care providers. The informal knowledge is what is acquired by the beliefs, norms and values of the community. These two influences the community and since the soldier lives in the community he is equally affected by these processes. For instance, the perception of other soldiers and even families of soldiers in the barracks can influence the individual soldier. Furthermore, the Military as an establishment also has a social influence on the awareness of prostate cancer by its personnel. The provision of print and electronic media and specific health programs by the medical corps, the behaviour of the health care service providers can influence or inform the soldier's perception to seek information on prostate cancer thus creating awareness.

The individual soldiers also have processes to go through to achieve this awareness. The socio-demographic characteristics of the soldier age, rank, marital status and his perceptions can enhance his own awareness of the disease and also influence that of the community. For instance a soldier who is in his early ages 20's or 30's would not see the need for screening for prostate cancer as compared to a soldier in the ages of 40 and 50. Hence the older the individual becomes the more concerned he becomes. The health seeking behaviour of the individual will determine whether he is ready to participate for example in screening practices but this can be influenced by the community processes and even past training. The processes at the individual level also influence the processes at the community to achieve the expected outcome awareness thus the community is influenced by the belief and norm which in turn influence the individual

characteristics especially the health seeking behaviour and perception thus cumulating into awareness, knowledge and attitude towards prostate cancer.



**CONCEPTUAL FRAMEWORK FOR AWARENESS OF PROSTATE CANCER  
AMONG MALE SOLDIERS IN THE GHANA ARMED FORCES**



## 1.7 DEFINITION OF TERMS

**Attitude toward early detection** - the way the soldier feels or thinks about prostate cancer.

**Awareness of prostate cancer** - it is the state or quality of knowing that something exists.

**Knowledge of prostate cancer** - the confident understanding of a subject with the ability to use it for a specific purpose if appropriate



## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 introduction**

The literature reviewed covered the general literature about prostate cancer, the level of awareness of prostate cancer, the knowledge about the causes and symptoms of prostate cancer, and the attitude towards early treatment.

#### **2.2 OVERVIEW OF PROSTATE CANCER**

Prostate cancer is the most frequently diagnosed cancer in men. Almost 2000 men are diagnosed each day and one man is estimated to die from the disease every 2 minutes (Fitzpatrick et al 2009). According to the Fitzpatrick et al (2009) the disease has been said to be already approaching epidemic proportions. According to the researcher the reported incidence of prostate cancer doubled between 1985 and 1994 with the introduction of more intensive medical surveillance using prostate specific antigen (PSA) and other tests. Fitzpatrick et al (2009) add that because three quarters of all men diagnosed with Prostate cancer are aged 65 years and above, with an aging population in many regions of the world, the prevalence of the disease is likely to increase, with concomitant socioeconomic and medical implications.

Researchers still do not know exactly what causes prostate cancer. However, available epidemiologic data suggests a number of risk factors, as summarized by Badoe et al (2000):

- Definite risk factors – Advancing age, family and genetic factors (hereditary, familial, sporadic) and race.

- Probable risk factors- High dietary fat consumption and hormones such as testosterone and its more potent metabolite dihydrotestosterone.
- Potential risk factors – Vasectomy under 35 years; cadmium exposure; high vitamin A (retinol) intake; vitamin D deficiency and sexual behaviour.

According to the Society Cancer Society (2004) early curable prostate cancer rarely causes symptoms (i.e. it is asymptomatic). Also according to the Cancer Council this is because the cancer is not large enough to put pressure on the urethra. The Cancer Council notes that if the cancer grows and spreads beyond the prostate (advanced prostate cancer), the following symptoms may result:

- pain or burning when urinating
- difficulty in, or increased frequency of, urinating
- blood in the urine or semen
- Pain in the lower back, hips or upper thighs.

The Society Cancer Society (2004) however cautions that these symptoms are common to many conditions and may not be advanced prostate cancer. In about 5% to 10% of men with prostate cancer, there may be an underlying inherited risk that contributed to the cancer's development. Families that may have an inherited prostate cancer gene can include multiple family members with prostate cancer on the same side of the family (on either the mother's or father's side; men diagnosed with prostate cancer at a younger age Society Cancer Society (2004)).

The Prostate Cancer Foundation (2009) adds that men with a single relative with a history of prostate cancer are twice as likely to develop the disease, while those with two or more relatives are nearly four times as likely to be diagnosed. The risk is even higher if the affected family

members were diagnosed at a young age, with the highest risk seen in men whose family members were diagnosed before age 65. However the Prostate Cancer Foundation (2009) notes that although genetics may play a role in deciding why one man might be at higher risk than another, social and environmental factors, particularly diet and lifestyle likely have an effect as well. Although the exact relationship between obesity and prostate cancer remains unclear, there is no doubt that obesity can have a negative effect on outcomes. The Prostate Cancer Foundation (2009) also adds that research has shown that prostate-specific antigen test results in obese men can be lower despite the presence of disease, potentially leading to a delay in diagnosis and treatment. At the same time recovery from surgery tends to be longer and more difficult and the risk of dying from prostate cancer can be higher.

Johns and Houlston (2003) adds that from experience and accumulated evidence in urological oncology literature it is known and widely accepted that the Black African race - Black Africans and the ethnic diasporas - are at increased risk for development of prostate cancer. Population studies of racial differences in prostate cancer have shown a higher prevalence, preponderance of more advanced stage of disease at diagnosis and worse outcomes in black men in West Africa, Caribbean Black men, African-Americans and Black men in the United Kingdom. Several reasons are given by Johns and Houlston (2003) as possible explanations for the observed differences between Blacks, Arabs, Asians, and Whites; these being delayed diagnosis, health seeking behaviour, lifestyle, genetic derangements, environment, diet, hormonal differences and infection.

According to Besada and Ermakov (2008), although many of the cancers found in Africa are preventable or treatable when detected early enough, the grim picture of insufficient resources

and a lack of basic infrastructure mean that most Africans have no access to cancer screening, early diagnosis, treatment or palliative care. At the same time, more than one-third of cancer deaths are a result of preventable causes, such as viral infection, poor nutrition, pollution and widespread tobacco use (Besada & Ermakov 2008).

In Ghana, a survey conducted at the Korle - Bu Teaching Hospital indicated that Ghana has exceeded the global Prostate Cancer limit as the country records 200 cases out of every 100,000 men as against 170 worldwide (kyei 2007). In Benin the estimated number of new prostate cases per year is 255, while the estimated number of deaths is 210. Burkina Faso has an estimated number of new cases per year at 305 and deaths at 261. Nigeria has an estimated number of new cases per year at 6,236 and deaths at 5,098. Ivory Coast has an estimated number of new cases per year at 847 and deaths at 706 (Prostate Cancer Foundation 2009).

A study (Hoffman-Goetz & Friedman 2006) using data from the National Interview Health Survey examined the association between established risk factors for cancer (e.g. age, sex, education, income, family, smoking, alcohol use, body mass index, and physical activity) and perceived cancer risk in a sample of 32,374 asymptomatic adults age 18 and older.



### **2.3 LEVEL OF AWARENESS OF PROSTATE CANCER**

According to Schulman et al (2003) for early diagnosis and treatment programs of any malignancy to be effective, the general public must be aware of the disease and its impact, presentation, and potential treatments. According to researchers this is because prostate cancer is potentially curable if diagnosed and treated at an early stage. They noted that in contrast to breast cancer in women, prostate cancer in men has had a much lower profile and it seems unlikely that the population at risk is sufficiently aware of the disease and the possibilities for early treatment and cure.

The researchers studied awareness of prostate cancer among the general public in selected countries in Europe, and the USA. Their study involved 700 men and 700 women. The results of their study revealed the lack of awareness of prostate cancer, PSA testing and treatment for early disease among the general population, both in Europe and the USA. With respect to the awareness of prostate cancer, only 39% of men and 28% of women spontaneously mentioned prostate cancer when asked what types of cancer they were aware of, although 97% of respondents said they had heard of the disease when asked directly. The number of women who spontaneously mentioned breast cancer (79%) was more than double the number of men who spontaneously mentioned prostate cancer. Even among men, breast cancer was mentioned more frequently than prostate cancer (46% versus 39%, respectively). The researcher added that the considerable research gap between prostate cancer and breast cancer is reflected by the fact that there are currently more than 1000 active trials for the treatment of breast cancer compared with only around half that number for prostate cancer.

The researchers noted that respondents tended to have only a basic knowledge of prostate cancer and were unaware of many important facts. While most identified age as a risk factor, few mentioned family history. Many respondents were also not aware that the disease can be asymptomatic. They contend that the lack of awareness among the general public on many issues surrounding prostate cancer, particularly those relevant to optimizing early diagnosis, means that many men with prostate cancer are likely to present too late for successful curative treatment. According to the researchers, experience in the breast cancer setting suggests that improved public awareness of prostate cancer could be achieved through health education programs.

They summed up the findings as follows: men are more aware of breast cancer than of prostate cancer; awareness of simple tests for detecting prostate cancer is low; the risk factors for prostate cancer are poorly understood; and few people are aware of the full range of treatment options for early disease.

Studies (for example, Jandorf, Fatone, Borker, Levin, Esmond et al 2006) have shown that medically underserved ethnic minorities have, in general, less knowledge about cancer than do whites.

## **2.4 CAUSES AND SYMPTOMS OF PROSTATE CANCER**

Arnold-Reed, Hince, Bulsara, Ngo, Eaton, et al (2008) did a study with the objective to ascertain the current level of understanding among older men about prostate cancer, including treatment options and their potential side effects. Questionnaires were administered by general practitioners in five general practices in the Perth metropolitan and regional areas of Western Australia. Participants of 503 men aged 40–80 years using a convenience sampling technique were used for the study. The study cohort comprised 503 men (participation rate, 97%), with a

median age of 62 years (interquartile range, 18 years). Ninety-seven per cent identified themselves as Caucasian. Fifty-three per cent had received an education to high school level, and 40% had a higher qualification. Just over half the cohort had some previous exposure to prostate cancer; 30% had a friend with the disease and 6% had the disease themselves. Of the 82 men (16%) had a family history of prostate cancer, 61% said their father had the disease, 6% said their grandfather had it, and 18% and 15% said their brother or uncle, respectively, had prostate cancer. The results showed that eighty per cent of men did not know the function of the prostate, and 48% failed to identify prostate cancer as the most common internal cancer in men. Thirty-five per cent had no knowledge of the treatments for prostate cancer and 53% had no knowledge of the side effects of treatments. Asked how they would arrive at a decision about treatment, 70% said they would ask the general practitioner (GP) or specialist for information on all their options and then decide themselves. There is a deficit in knowledge about prostate cancer among men in the at-risk age group, encompassing areas that could delay diagnosis and treatment. Overall, the men preferred some GP or specialist involvement in treatment decision making.

Fitzpatrick et al (2009) did a study in which the objective was to assess the level of awareness of prostate cancer among the general public and prostate cancer patients in Europe and North America. A survey was undertaken across four European countries (UK, Germany, Italy and Spain), and across the United States and Canada in late 2007. In total, 1008 men with prostate cancer and their partners (the 'prostate sample'), and 911 men without prostate cancer and their partners (the 'well sample') participated in the survey, all aged  $\geq 50$  years. Interviews were conducted through telephone, pen and paper, and online. Many people surveyed (53%) thought that breast cancer is more common than prostate cancer. Moreover, 1 in 10 people from the well

sample (10%) thought that prostate cancer affects both men and women. When the prostate sample was asked about their perceived level of risk of prostate cancer before diagnosis, 50% believed that they/their husband or partner were previously at low or very low risk, before they were diagnosed. Awareness of the major risk factors for prostate cancer (age and family history) was generally good, but respondents were less clear about the role of other potential factors, such as smoking and drinking alcohol. This international survey, thought to be largest of its type, shows that although patient and public awareness of prostate cancer is generally satisfactory, there is still a considerable lack of clarity about prostate cancer risk factors, and a danger for people to underestimate their own/their partner's perceived risk for prostate cancer.

## **2.5 ATTITUDE TOWARDS EARLY TREATMENT**

Sarma and Schottenfeld (2002) study noted that although prostate cancer incidence and mortality increased during the 1980s and 1990s, this was followed by a decrease that was promising. However, the rates continued to increase for Blacks during that same period. During the period 1991-1998, the use of prostate-specific antigen (PSA) tests among older adults (65 years and above) on medicare were sampled to detect whether there was an increase or decrease in prostate cancer trends. The results of their study showed that Black men in this age group were tested less often than Whites. Furthermore, an investigation of health beliefs and practices of Black men about prostate cancer screening showed that knowledge of prostate cancer was fairly high. They were also aware of early detection benefits and were regularly being screened. However, they did not believe that prostate cancer was preventable, but that it was important to have good health habits.

Modeste Curtis and Cort (2003) studied the attitudes towards prostate cancer screening among Blacks and Whites. There were 214 who participated in the study and completed the survey. Of these, 75% were Black and 25% were White. Most (53%) were within the 40-50 years age group, 26% in the 51-60 age group, and 21% indicated that they were over 60 years old. Seventy-four percent were married, most had a college degree with a yearly income greater than \$21,000. Approximately 39% reported earning \$50,000 or more per year.

Participants were asked how difficult it was for them to obtain a screening test for prostate cancer. The majority (76%) reported that it was not difficult, 15% thought that it was difficult and 9% reported that they did not know whether or not it was difficult to obtain a screening test for prostate cancer. A little more than half of the sample (54%) reported that they had a prostate test within the last year, at the time the survey was conducted, but 46% did not have a test within that year. As to whether screening for prostate cancer was part of their regular medical check-up, 58% reported yes and 42% indicated that this was not a part of their regular check-up. More Whites (62%) than Blacks (57%) said that prostate screening was part of their regular medical check-ups. As to whether their doctor discussed prostate cancer or the need for screening with them, 50% said yes while the other 50% said no.

The television ranked highest as their source of information about prostate cancer, followed by their doctor and brochures at health centers. Participants were asked about their knowledge about screening tests for prostate cancer. Of the sample, 67% indicated that they knew what screening tests are done for detecting prostate cancer. There were 33% that did not know. Participants were asked about their family history of prostate cancer. Twenty-five percent did not know about their family history, and 22% said that they had a relative with prostate cancer.

Of the relatives who had prostate cancer, 38% were fathers, 17% brothers, 19% cousins, and the rest were other relatives. Of those who indicated that they had a relative with prostate cancer approximately 30% of them said that they had a prostate test within the last year. Only 13% of respondents said that they had experienced having prostate cancer themselves or were told that they had an enlarged prostate. When comparing Blacks and Whites on this question, more Blacks (15%) than Whites (10%) were told that they had cancer of an enlarged prostate. They were asked if they had a personal family doctor and 81% said yes, however, there were some differences when comparing Blacks and Whites. More Whites (92%) than Blacks (77%) reported having a personal family physician they can see on a regular basis.

When responding to attitudes and beliefs about prostate cancer screening, 84% either agreed or strongly agreed that if they had prostate cancer it would be serious enough to want to do something about it. Over 65% felt that the blood test for prostate cancer, PSA can detect the cancer early, 33% were not sure what tests were actually carried out and 42% believed that screening would be uncomfortable. Those who felt that the screening would be uncomfortable were also less likely to get screened.

The majority (72%) felt that their doctors cared about them enough and did not withhold important information from them, but 21% said they were uncertain as to whether their doctors would withhold information. Fifty-three percent did not believe that prostate cancer was a common part of aging, but 34% were uncertain. Overall, 53% of respondents and 55% of Blacks expressed uncertain feelings as to whether or not they were likely to develop prostate cancer. The majority (82%) believed that prostate cancer can be cured if detected early and 83% believed that screening is effective in finding the cancer early. Most (48%) were uncertain as to

whether a person with prostate cancer will die within a few years and 43% did not believe they will die within a few years. Although 72% believed that men can have prostate cancer without having a family history of the disease, 25% were uncertain.

Generally, most respondents (60%) said that they wanted to do what their immediate family thought was important for detecting prostate cancer early. More Blacks (82%) than Whites (55%) said that they would do what their family member thought was important. Half (50%) said that they would get tested for prostate cancer if their wife or girlfriend told them to get a test.

Taghipour, Vydelingum and Faithfull (2010) study noted that despite significant progress in prostate cancer research over the last two decades, screening of the disease has remained controversial. From a socio-epidemiological perspective, little is known of patients' beliefs about their illness and why they often delay in seeking diagnosis. The purpose of qualitative study was to understand the experiences and perceptions of men about the early detection of prostate cancer. This study used a grounded theory approach incorporating the theoretical perspective of social constructionism. A purposive sampling of twelve men from public and private sector hospitals who had received therapy were interviewed face to face in Persian using a semi-structured interview guide. Interviews were audio taped, then transcribed in full, translated into English by the investigator, and then analysed. The value men accorded to early detection of prostate cancer was found to be conditional upon their beliefs of prostate illness and their experiences about cure. There was a lack of information about the early detection process. The men felt that medical intervention was focused on the biological aspects, ignoring the needs of the psychosocial concerns. The men were not expecting to have symptoms because of prostate

treatment; this influenced their subsequent decision-making. Given men's perceptions and experiences of the illness, screening of prostate cancer seems to have wider implications. The findings suggest that early detection of the disease may need a screening model that incorporates both biomedical and psychosocial aspects.



## CHAPTER THREE

### METHODOLOGY

#### 3.1 INTRODUCTION

This chapter shows the methodological steps in the data gathering process from respondents in order to answer the research questions. It includes the following sub-sections: Introduction; Purpose of the study; Research design; Population and sample; Data collection and data collection instrument; Development of the interview schedule and guides; Data collection; Data analysis; Validity and reliability; Bias; Ethical consideration and Conclusion.

#### 3.2 VARIABLES

Dependent variables - Awareness of prostate cancer

Knowledge of prostate cancer

Attitudes towards the prostate cancer

Independent variables – Age

Marital Status

Rank

Educational level

Religious Affiliation

### **3.3 study site**

The study was done in 5 Garrison which is one of the 7 Garrisons of the Ghana Armed forces. This is in Burma Camp Accra. Burma Camp is a Military camp named after the Burma war. It is within the La Sub-Metropolis which covers Teshie, Lamansaamokpe and La in the Accra Metropolis. Most of the Ghana Armed Forces units in Accra are found in and around Burma Camp and forms the 5<sup>th</sup> Garrison of the Ghana Armed Forces. The Ghana Armed Forces is made up of three services. These are the Ghana Army, Ghana Navy and the Ghana Air Force. The Forces are further zoned into Garrisons. A Garrison is an area where all elements of military units are found. Five Garrison is made up of the General headquarters of the Ghana Armed Forces, the Army, Navy and Air force headquarters, the Southern command headquarters of the Ghana Army, two infantry units, combat support units, Support service units, Air force station and the training schools in Accra.

Enlisted ranks comprise of Officers and Men. There is also the Civilian employees' component in 5 Garrison. There are different occupations in the Garrison and literacy rate is high. The 5 Garrison has a referral hospital which is the 37 Military Hospital and three Medical Reception Stations.



### **3.4 RESEARCH DESIGN**

A research design is the work plan details of what needs to be done to complete a project. Its main function is to ensure that the results obtained answers the research question (William 2003). The selected design for this study was quantitative, cross-sectional, descriptive design which assessed the awareness of prostate cancer among male soldiers in Ghana.

### **3.3.1 Quantitative**

The study was a quantitative study which employed the use of the Prostate Cancer Questionnaire designed by the researcher to assess the awareness, knowledge and attitude of early detection of prostate cancer. This method allowed for the collection of a sample within the limited time period.

### **3.3.2 Cross -sectional**

It is a type of descriptive or observational study that is organised within a well sampled population. It aims at describing the relationship between states of health and factors within a specific population (Abramson 2000). The study was a cross-sectional survey design which assessed the awareness of prostate cancer among male soldiers in Ghana.

### **3.3.3 Descriptive research**

Descriptive research is used to describe the characteristics of the population being studied but it cannot be used to establish a cause despite the fact that it could be very factual and accurate (Shields, Patricia & Hassan 2006). Descriptive research is used to obtain information concerning the current status of the phenomena to describe "what exists" with respect to variables or conditions in a situation.

## **3.5 POPULATION AND SAMPLE**

The study population for this research involved Male Senior Commissioned Officers (Officers) and Male senior non-commissioned officers (Other ranks) who were 30 years and above in 5

Garrison. There are two major groups of military personnel in the Ghana Armed Forces. These are the commissioned and non-commissioned officers.

The commissioned officers may further be divided into junior officers and senior officers. This dichotomy is based on their ranks. Lieutenant colonels and above are considered as senior officers while Majors and below are considered as junior officers.

The non-commissioned officers form the bulk of the Ghana Armed Forces. They are also further divided into junior ranks and senior non-commissioned officers. The junior ranks start from Private to Corporal and its equivalent, while Sergeant to Warrant officer class one and equivalent form the senior non-commissioned officers. Enlisted personnel enter after completing senior secondary school. The length of employment is usually set by the length of the enlistment contract and can vary from 5 years to 25 years. At the end of each contract, the soldier may be offered a new contract based on job performance and the operational needs of the Ghana Armed Forces. Officers are given a ten year contract which can also be renewed. Options to break a contract can be voluntary or due to medical conditions, job performance and operational needs. Generally a person may retire from the army after completing 25 years of active service. This is for other ranks. Retirement for officers can be voluntary or after ten years is based on rank. Generally it is between 55 and 60 years. The study population is selected because men in that age group are potentially at risk for prostate cancer.

### 3.5.1 Sampling and sample size

In determining the sample for this study the purposive sampling technique which is a non probability sampling technique was used. In this study the researcher purposively selected 5- Garrison in Accra out of the seven Garrisons. This was done by assessing all the seven Garrisons to find out the Garrison that had majority of the elements in the Armed Forces. The Accra garrison was found to have almost all the elements of the Ghana Armed Forces. The 5- Garrison has all the three major services of the Ghana Armed Forces represented that is Army, Navy and Airforce in addition to the support elements. Again in the selection of the units within 5-Garrison purposive sampling technique was used. This was to ensure that all the elements of the Ghana Armed forces were represented. The following 10 units were therefore selected, General headquarters of the Ghana Armed Forces, Air Force Station, Navy Headquarters, 5<sup>th</sup> battalion of infantry, Signal Regiment, the Military police, the Support Services Brigade, Military Academy and Training Schools, Reece Regiment and the Forces Pay Office.

Convenience sampling technique was used to select the respondents who were available at the time of the study. Convenience sampling is when a set of subjects who happen to be around are used for a study. The advantage is that it is a simple and less expensive means of making sure that the right numbers for the study is achieved (Trochim 2006). The researcher chose this because soldiers are very mobile such that their movement cannot be predicted at any given time.

The inclusion criteria were that the respondent must be soldier, should be a male, a senior commissioned officer or a senior non-commissioned officer aged 30 years and above.

The maximum sample size of 424 for the study was determined using the formula:  $n = z^2pq/d^2$ .

The sample size was determined by making the following assumptions; the prevalence rate of 50%, confidence interval of 95% and extra 10% non- response rate was added.

The formula  $n = z^2pq/d^2$ , where n is the sample size, Z is confidence level at 95%, P is prevalence of prostate cancer awareness 50% and d is precision (margin of error) at 5%. The prevalence rate of 50% was chosen because there was no existing research work in Ghana on awareness of prostate cancer with an existing prevalence rate and since the prevalence is unknown, 50% was used to calculate the maximum sample size ever needed for the study.

### **3.6 Data collection and data collection instrument**

#### **3.6.1 Development of questionnaire and interview schedule**

The Prostate Cancer Questionnaire was developed by the researcher based on the objectives of the study and also by reviewing and modifying questions from previous studies as well as reviewing various literatures and using them as guidelines (Schulman et al 2003; Fitzpatrick et al 2009). This became necessary because there was no standardised Prostate cancer questionnaire to be used for the study. It was therefore expedient for the researcher in consultation with her supervisor to construct a new Prostate Cancer Questionnaire suitable for the peculiar needs of the population under study.

The format for the questionnaire was mainly close-ended questions. The questionnaire was used because it was the most practical and economical tool for conducting the study as it can be used for a large number of people within the limited time.

The Prostate Cancer Questionnaire is made up of three (3) sections namely: Section A- assess information on socio- demo graphical characteristics, it involved variables such as age, marital status, rank, educational attainment and religious affiliation; Section B- involved items that assess the level of awareness / knowledge about prostate cancer; Section C- involved items that assess information about screening processes and attitude towards early detection.

A schedule was drawn involving the dates and the venue for the interview for all the units which were chosen.

### **3.6.2 Pre-test**

A pre-test usually refers to a small-scale trial of particular research components. A pre-test or pilot study serves as a trial run that allows us to identify potential problems in the proposed study.

A sample of twenty (20) soldiers was selected by the researcher. She and her four assistants from the 37 Military Hospital pre-tested the newly designed Prostate Cancer Questionnaire. These soldiers were selected since they had similar characteristics with soldiers belonging to 5 Garrison. After the pre-test, some questions which were deemed too technical or ambiguous were modified to make the questionnaire more reliable and valid.

### 3.6.3 Data collection

Letters of introduction were taken from the School of Public Health and the Ghana Armed Forces to the Commanding Officers of the various units under the 5 Garrison– for approval for the study to be carried out in their units. After approval was given, the researcher together with the four (4) research assistants, who were trained on how to collect data, went to the units at different dates for collection of data. The researcher and research assistants had direct access to the respondents to ensure that the respondents understood what they were doing and also to ensure safe return of the questionnaires. The nature of the research was explained to the respondent and after their consent was sought and was made to sign an informed consent. Following this, a self-administered questionnaire was given to the respondent to fill after being instructed as to what was expected of him in filling out the questionnaire, and then respondent was given about 30 minutes to complete the questionnaire. The questionnaire was quite lengthy therefore some who were slow used more time to complete it.

After completing the questionnaires the researchers showed their appreciation (said thank you) to the respondents. All the units selected under the 5 Garrison for the study were visited during the six (6) weeks of data collection. This procedure was used in all the units. It took six (6) weeks, to finish the collection of data for four hundred and twenty four (424) respondents.

### **3.7 data analysis**

Statistical analysis was performed using SPSS 16.0 software. Descriptive statistics was used to summarize the collected data and Pearson Chi-square test to examine the association between demographic data (age, marital status, rank in the military, educational attainment, religious affiliation) and prostate cancer (awareness, knowledge and screening and early detection).

The Prostate Cancer Questionnaire for scoring purposes was further divided into six (6) subdivisions. Awareness of prostate cancer comprised of questions 6 to 10, however questions 8 to 10 had questions to test the respondent's awareness of prostate cancer; the scores ranged from agree, disagree and don't know. When a respondent choose the correct answer he was given one (1) mark. All the questions in this section were scored independently.

The second set of questions involved items on the knowledge of risk factors for prostate cancer. The items were from questions 11 to 20. Each question was scored on a likert scale - agree, disagree and don't know. When a respondent choose the correct answer he was given one (1) mark and the total scored determined the knowledge he has on the risk factors of prostate cancer. A respondent who had a score of 8 to 10 had very good knowledge of the risk factors; a respondent who had a score of 6 to 7 had good knowledge of the risk factors; a respondent who had a score of 4 to 5 had fair knowledge of the risk factors; and a respondent who had a score of 0 to 3 had poor knowledge of the risk factors.

The third set of questions involved items on the knowledge of signs/symptoms of prostate cancer. The items were from questions 21 to 32. Each question was scored on a likert scale - agree, disagree and don't know. When a respondent choose the correct answer he was given one (1) mark and the total scored determined the knowledge he has on the signs/symptoms of

prostate cancer. A respondent who had a score of 10 to 12 had very good knowledge of the signs/symptoms of prostate cancer; a respondent who had a score of 7 to 9 had good knowledge of the signs/symptoms of prostate cancer; a respondent who had a score of 5 to 6 had fair knowledge of the signs/symptoms of prostate cancer; and a respondent who had a score of 0 to 4 had poor knowledge of the signs/symptoms of prostate cancer.

The fourth set of questions involved items on the knowledge about the treatment of prostate cancer. The items were from questions 33 to 39. Each question was scored on a likert scale - agree, disagree and don't know. When a respondent choose the correct answer he was given one (1) mark and the total scored determined the knowledge he has about the treatment of prostate cancer. A respondent who had a score of 6 to 7 had very good knowledge about the treatment of prostate cancer; a respondent who had a score of 5 had good knowledge about the treatment of prostate cancer; a respondent who had a score of 4 had fair knowledge about the treatment of prostate cancer; and a respondent who had a score of 0 to 3 had poor knowledge about the treatment of prostate cancer.

The fifth set of questions involved items on the knowledge about screening practices of prostate cancer. The items were from questions 40 to 46. Each question was scored on a likert scale - agree, disagree and don't know except questions 46. When a respondent choose the correct answer he was given one (1) mark and the total scored determined the knowledge he has about the screening of prostate cancer. A respondent who had a score of 6 had very good knowledge about the screening of prostate cancer; a respondent who had a score of 5 had good knowledge about the screening of prostate cancer; a respondent who had a score of 4 had fair knowledge

about the screening of prostate cancer; and a respondent who had a score of 0 to 3 had poor knowledge about the screening of prostate cancer.

The sixth set of questions involved items on the attitude to early detection of prostate cancer. The items were from questions 47 to 50. There was no right or wrong answers to these questions except question 50 which was scored on a likert scale - agree, disagree and don't know. Independent analysis was done for all the questions in this section.

### **3.8 validity and reliability**

#### **3.8.1 Validity**

Validity of a test describes how the test measures what objectives the researcher wants to measure. The researcher in this research focused on both the face and content validity. There was therefore a proper assessment of the questionnaire that was used.

#### **3.8.2 Reliability**

The researcher did pre testing since is one of the easiest ways to determine the reliability of measurements. The reliability of the test (instrument) can be estimated by examining the consistency of the responses between the two tests.

### **3.9 bias**

The collection of data may have suffered a response bias, i.e. those who agreed to be in a study may be in some way different from those who refused to participate or volunteers may be different from those who were enlisted.

### **3.10 ethical consideration**

Before the study began approval was sought from the School of Public Health and ethical clearance from Research and Development Division, Ghana Health Service through the appropriate procedure. Permission has also been sought from the Ghana Armed Forces where the study was carried out.

#### **3.10.1 Informed consent**

Individual informed consent was obtained from all participants. The nature and the purpose of the study were explained to the participants and filled an informed consent form. The respondents voluntarily participated in the study and they were told they could withdraw from the study without any penalty. Information was used for only purposes of the study, therefore full confidentiality was observed for the study.

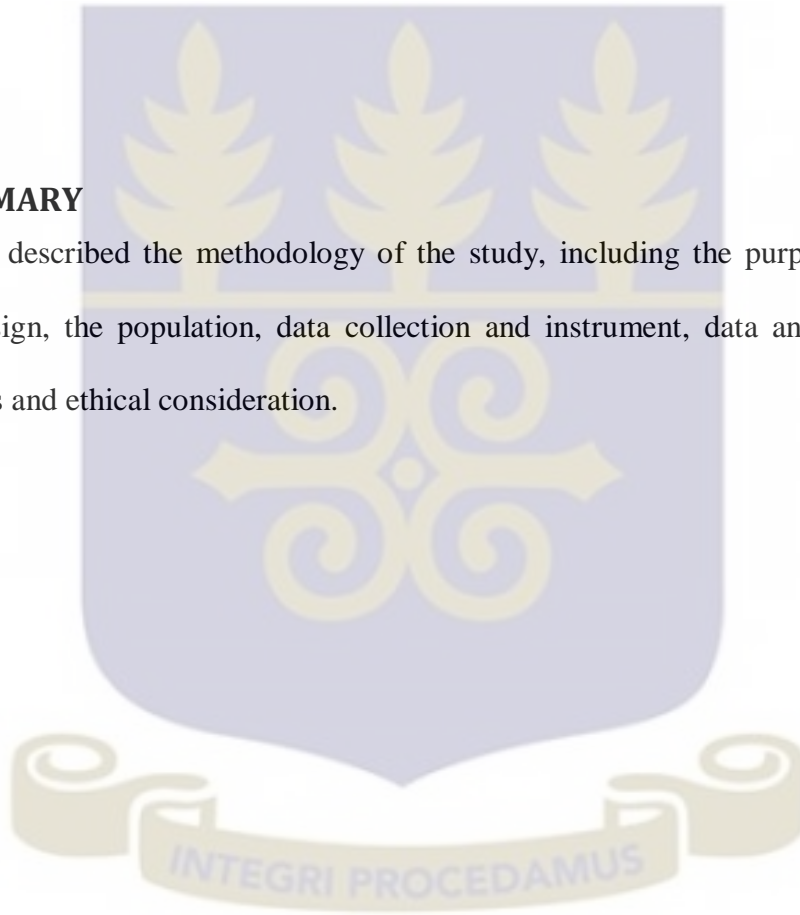
#### **3.10.2 Privacy and confidentiality**

In order to ensure privacy of the participants of the study, the personal identity of a given participant was kept separate from his data. Also the confidentiality of the participants was

ensured by the researcher not sharing or releasing data of personal nature to others who were not directly involved with the study.

### **3.11 SUMMARY**

The chapter described the methodology of the study, including the purpose of the study, the research design, the population, data collection and instrument, data analysis, reliability and validity, bias and ethical consideration.



## CHAPTER FOUR

### RESULTS

#### 4.1 INTRODUCTION

This chapter is a presentation on the results of the data analysis conducted in this research. It is made up of four sections. The section “A” is on the socio-demographic characteristics of respondents. The section “B” deals with the awareness of prostate cancer. Section “C” assesses knowledge about prostate cancer and the section “D” deals with screening processes and attitude towards early detection of prostate cancer.

#### 4.2 Section A: Socio-demographic characteristics of respondents

##### Item 1: Respondents’ Age, Marital status, Ranks, Educational level and Religious affiliation

A sample of 424 male soldiers participated in the study. The ages ranged from 30 to 59. Majority of the respondents (50.7%) were within the ages of 40 to 49 years, whilst about 4.7% of the respondents were within the ages 50 to 59 years. The mean age was 39.66 years and mode was 40 to 49. Most of the respondents (84%) were married. see Table 4.1 below for details.

The respondents who participated in the study were categorized into commissioned officers (officers) who formed 6.5% of the total respondents and non-commissioned officers (other ranks) accounting for 93.5% of the respondents, see Table 4.1.

Majority of the respondents (40%) had either completed senior high school, O' level or A' Level, with about 19.4% of the respondents having tertiary forms of education, see Table 4.1.

The majority of the respondents (89.2%) who took part in the study were Christians, whilst 9.4% of the respondents were Muslims and about 1.4% of the respondents were traditionalist, *see Table 4.1 below for details.*

**Table 4.1: Socio-demographic characteristics of Respondents**

| Characteristics                  | Frequency | Percentage (%) | Mean                                 |
|----------------------------------|-----------|----------------|--------------------------------------|
| <b>Age (years)</b>               |           |                |                                      |
| 30 – 39                          | 186       | 44.6           | Mean 39.66 years<br>Mode 40-49 years |
| 40 – 49                          | 215       | 50.7           |                                      |
| 50 – 59                          | 20        | 4.7            |                                      |
| <b>Marital Status</b>            |           |                |                                      |
| Single                           | 57        | 13.5           |                                      |
| Married                          | 354       | 83.5           |                                      |
| Divorced                         | 9         | 2.1            |                                      |
| Widowed                          | 4         | 0.9            |                                      |
| <b>Highest Educational level</b> |           |                |                                      |
| Junior High/Middle School        | 102       | 24             |                                      |
| Secondary/ 'O' Level/ 'A' Level  | 170       | 40.1           |                                      |
| Technical                        | 70        | 16.5           |                                      |
| Tertiary                         | 82        | 19.4           |                                      |
| <b>Religion</b>                  |           |                |                                      |
| Christianity                     | 378       | 89.2           |                                      |
| Islam                            | 40        | 9.4            |                                      |
| Traditionalist                   | 6         | 1.4            |                                      |
| <b>Rank</b>                      |           |                |                                      |
| Senior Commissioned Officers     | 28        | 6.17           |                                      |
| Senior Non-Commissioned Officers | 396       | 93.83          |                                      |

### **4.3. Section B: FACTORS RELATED TO AWARENESS OF PROSTATE CANCER**

Section B covered the respondents' awareness on prostate cancer as to whether they have heard of prostate cancer, where the gland is located and the gender that it affects

#### **Item 2: Heard of Prostate cancer**

Respondents were asked whether they have heard of prostate cancer. The majority of the respondents (68%) who took part in the study had heard of prostate cancer, whilst 32% of the respondents said they have not heard of prostate cancer. *see table 4*

#### **Item 3: Sources of information**

Those who said they have heard about prostate cancer were further asked their source. The most common source was radio (27%) and television (20%) said they heard about it on radio, whilst and about 3% of them said they heard of prostate cancer from other means apart from those mentioned. *see Table 4.2 for details.*

#### **Item 4: Prostate cancer and gender that it affects**

Respondents were asked the gender prostate cancer affects. About 41% of the respondents were able to indicate the particular gender that is affected by prostate cancer (i.e. men), whilst about (39%) of the respondents did not know the particular sex that the cancer affects, and about 1% of the respondents said that prostate cancer affected women, *see Table 4.2 for details.*

**Item 5: Location of prostate gland**

The prostate gland is located just below the bladder and surrounding the upper part of the urethral. To further probe on the respondents' awareness of the prostate cancer the respondents were required to indicate where the prostate gland could be located. About 19% of the respondents were able to indicate the correct location of the prostate gland (i.e. upper part of the urethral) and about 48% of the respondents did not know where the gland is located in the human body. *See table 4.2 for details.*

**Table 4.2: FACTORS RELATED TO AWARENESS**

| Characteristics                   | Frequency (n) | Percentage (%) |
|-----------------------------------|---------------|----------------|
| <b>Heard of Prostate Cancer</b>   |               |                |
| Yes                               | 288           | 67.9           |
| No                                | 136           | 32.1           |
| <b>Sources of Information</b>     |               |                |
| Radio                             | 115           | 27.1           |
| Television                        | 86            | 20.1           |
| Newspapers                        | 32            | 7.5            |
| Friends                           | 30            | 7.1            |
| Family Members                    | 12            | 2.8            |
| Others                            | 13            | 3.1            |
| N/Applicable                      | 136           | 32.1           |
| <b>Prostate Cancer Affects</b>    |               |                |
| Men Only                          | 174           | 41             |
| Women Only                        | 6             | 1.4            |
| Both Men & women                  | 80            | 18.9           |
| Don't Know                        | 164           | 38.7           |
| <b>Location of Prostate Gland</b> |               |                |
| Abdomen                           | 34            | 8              |
| In the Bladder                    | 68            | 16             |
| Scrotum                           | 81            | 19             |

|                           |     |    |
|---------------------------|-----|----|
| Upper Part of the Urethra | 38  | 9  |
| Don't Know                | 203 | 48 |

#### 4.3.1 Factors Related To Respondents' Hearing about Prostate Cancer

##### Item 6: Age and hearing about prostate cancer

The ages of respondents were used to find out which age category might have heard of prostate cancer and whether there was an association. About 39% of the respondents who were within the ages of 30 to 39 years answered 'NO' but 80% of the respondents within the ages of 50 to 59 years answered 'YES'. A Pearson Chi-square was computed to determine whether there is an association between ages of respondents and if they have ever heard of prostate cancer. The results showed that there was a significant association ( $\chi^2 = 8.250, p < .05$ ) between respondents age and whether they have ever heard about prostate cancer. See Table 4.3 For details

##### Item 7: Marital Status and hearing about prostate cancer

Marital status was used to find how many have heard of Prostate cancer and whether there was an association between marital status and hearing of Prostate cancer. The results showed that about 15% of the respondents who were divorce did indicate that they have never heard of prostate cancer, whilst 85% of the respondents who were also divorce said they have heard of prostate cancer. To find out whether there was any form of association between marital status and ever hearing about prostate cancer the Pearson Chi-square was computed. The results showed that there was a significant association ( $\chi^2 = 16.755, p < .05$ ) between marital status and hearing about prostate cancer. See Table 4.3 for details

**Item 8: Educational qualification and hearing about prostate cancer**

The educational levels of respondents were also used to assess having heard of Prostate cancer. About 85% of the respondents who had tertiary education and 46% of respondent with technical education answered 'NO' to having heard of prostate cancer. A Pearson Chi-square computed showed that there was a significant association between the level of education of the respondents and been aware of prostate cancer ( $\chi^2 = 17.835, p < .05$ ). See table 4.3 for details

**Item 9: Rank and hearing about prostate cancer**

All the officers who took part in the study said they have heard of prostate cancer, whilst 66% of the respondents who fell into the category of other ranks said they were aware of prostate cancer. A chi-square computed showed that there was a significant association between rank of respondents and their awareness of prostate cancer ( $\chi^2 = 14.157, p < .05$ ). See Table 4.3 for details



**Table 4.3: Factors Relating To Respondents Hearing Of Prostate Cancer**

| <b>Characteristics</b>           | <b>Frequency</b> | <b>Yes</b>   | <b>No</b>    | <b>P-value</b> |
|----------------------------------|------------------|--------------|--------------|----------------|
|                                  | <b>N=424</b>     | <b>n (%)</b> | <b>n (%)</b> |                |
| <b>Age (years)</b>               |                  |              |              |                |
| 30 – 39                          | 186              | 72 (39)      | 114 (61)     | P<.05          |
| 40 – 49                          | 215              | 157 (73)     | 58 (27)      |                |
| 50 – 59                          | 20               | 16 (80)      | 4 (20)       |                |
| <b>Marital Status</b>            |                  |              |              |                |
| Single                           | 57               | 26 (46)      | 31 (54)      | P<.05          |
| Married                          | 354              | 251 (71)     | 103 (29)     |                |
| Divorced/ Widowed                | 11               | 9 (85)       | 2 (15)       |                |
| <b>Highest Educational level</b> |                  |              |              |                |
| Junior High/Middle School        | 102              | 69 (68)      | 33 (32)      | P<.05          |
| Secondary/ 'O' Level/ 'A' Level  | 170              | 112 (66)     | 58 (34)      |                |
| Technical                        | 70               | 37 (54)      | 33 (46)      |                |
| Tertiary                         | 82               | 69 (85)      | 33 (32)      |                |
| <b>Rank</b>                      |                  |              |              |                |
| Senior Commissioned Officers     | 28               | 28 (100)     | 0 (0)        | P<.05          |
| Senior Non-Commissioned Officers | 396              | 261 (66)     | 135 (34)     |                |

#### 4.4 Section C: KNOWLEDGE ABOUT PROSTATE CANCER

**Section C** covered knowledge on risk factors, signs and symptoms, causes and treatment of prostate cancer.

##### **Item 10: Knowledge on Risk factors of Prostate cancer**

As many as 50% of the respondents agreed with the statement that a man's risk or chance of developing prostate cancer increase as he grows older, furthermore, about 33% of the respondents agreed that eating a lot of fatty foods may increase a man's chances of developing

prostate cancer. 21% of the respondents agreed with the assertion that black men have a high risk of developing prostate cancer compared to white men and 19% of the respondents agreed with the assertion that prostate cancer has a genetic predisposition. *See Table 4.4 below for details*

**Table 4.4: Respondents Knowledge on risk factors of prostate cancer**

| <b>Risk factors of prostate cancer</b>  | <b>Agree (%)</b> | <b>Disagree (%)</b> | <b>Don't know (%)</b> | <b>Correct Response in percentage</b> |
|---|------------------|---------------------|-----------------------|---------------------------------------|
| A man's risk/ chance of developing prostate cancer increase as he grows older                                     | 210(49.5)        | 18(4.2)             | 19.6(46.3)            | 49.5                                  |
| Excessive alcohol intake/consumption can predispose a man to prostate cancer.                                     | 152(35.8)        | 39(9.2)             | 233(55)               | 9.2                                   |
| Eating a lot of fatty foods may increase a man's chances of developing prostate cancer.                           | 140(33)          | 46(10.8)            | 238(56.1)             | 33                                    |
| Smoking increases a man's risk/ chance of developing prostate cancer.   | 173(40.3)        | 26(6.1)             | 225(53.1)             | 6.1                                   |
| Black men have a high risk of developing prostate cancer compared to white men                                    | 87(20.5)         | 88(20.8)            | 249(58.7)             | 20.5                                  |
| If one's father, uncle or grandfather had/has prostate cancer, it increases one's risk of developing the disease. | 82(19.3)         | 112(26.4)           | 230(54.2)             | 19.3                                  |
| Sexually transmitted infections increase one's risk of developing the disease.                                    | 164(38.7)        | 61(14.4)            | 199(46.9)             | 14.4                                  |
| Stress can predispose a man to prostate cancer  | 58(13.7)         | 110(25.9)           | 256(60.4)             | 25.9                                  |
| Vasectomy may increase a man's risk/chances of developing prostate cancer   | 50(11.8)         | 69(16.3)            | 305(71.9)             | 11.8                                  |
| A man with multiple sexual partners   | 168(39.6)        | 49(11.6)            | 207(48.8)             | 39.6                                  |

|   |  |  |  |  |
|---|--|--|--|--|
| has a higher risk/chance of developing prostate cancer. |  |  |  |  |
|---|--|--|--|--|

The overall score of risk factors showed that 3% (n=13) had good knowledge, 12% (n=50) of the respondents had good knowledge whilst 22% (n=93) of the respondents had a fair knowledge, 12% of the respondents had good knowledge about risk factors but 62% (n=262) of the respondents had a very poor knowledge about the risk factors of prostate cancer, *see Figure 4.1 for details.*

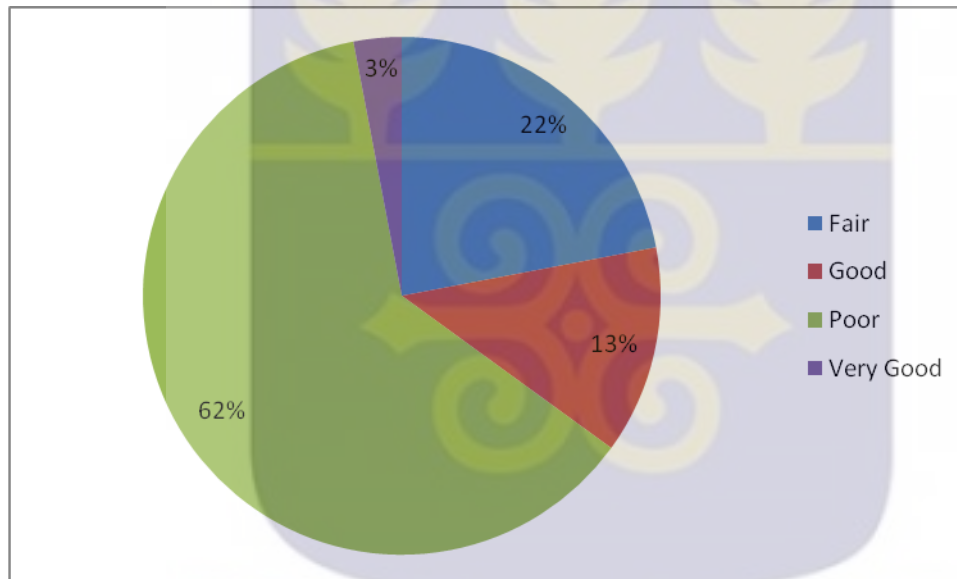


Figure 4.1: Scores on knowledge on the risk factors associated with Prostate cancer.

#### 4.4.1 Factors associated with Respondents' knowledge about risk factors of Prostate Cancer.

The chi-squared test was used to investigate the effect of age, marital status, rank, education and religion on the respondents' knowledge about risk factors of Prostate cancer. A Pearson Chi-square showed a significant association between age of respondents and knowledge of risk

factors for prostate cancer ( $\chi^2 = 23.029$ ,  $p < .05$ ), but shows no significant ( $\chi^2 = 12.962$ ,  $p > .05$ ) association between the educational level of the respondents and their knowledge of the risk factors associated with prostate cancer. *See the Table 4.5 below for details.*

**Table 4.5: Association between demographic factors and knowledge risk factors Prostate cancer**

| Variable          | (n = 424) | $\chi^2$ | Df | p-value |
|-------------------|-----------|----------|----|---------|
| Age               |           | 23.029   | 6  | .001    |
| Marital status    |           | 6.925    | 6  | .328    |
| Rank              |           | 9.624    | 3  | .022    |
| Educational level |           | 12.962   | 9  | .164    |
| Religion          |           | 13.158   | 6  | .041    |

**Item 11: Respondents Knowledge on signs and symptoms of prostate cancer**

As many as 214 respondents (51%) were aware that prostate cancer may manifest as poor urinary stream, similarly about 119 respondents (28%) said that waking up too many times in the night to pass urine may be a sign of prostate cancer, about 260 respondents (39%) disagreed with the statement that there were no apparent symptoms for prostate cancer. *See Table 4.6 for details.*

**Table 4.6: Respondents knowledge on signs and symptoms of prostate cancer**

| <b>Signs and symptom of prostate cancer</b>  | <b>Agree (%)</b> | <b>Disagree (%)</b> | <b>Don't know (%)</b> | <b>Correct Response in percentage</b> |
|--|------------------|---------------------|-----------------------|---------------------------------------|
| Prostate cancer may manifest as poor urinary stream  | 214(50.5)        | 12(2.8)             | 198(46.7)             | 50.5                                  |
| Waking up too many times in the night to pass urine may be a sign of prostate cancer.                        | 119(28.1)        | 92(21.7)            | 213(50.2)             | 28.1                                  |
| Impotence may be a warning sign of prostate cancer.  | 68(16)           | 100(23.6)           | 256(60.4)             | 16                                    |
| Straining in the process of passing urine may be a warning sign for prostate cancer.                         | 160(37.7)        | 42(9.9)             | 222(52.4)             | 37.7                                  |
| Frequency of urination is a warning sign of prostate cancer.   | 114(26.9)        | 85(20)              | 225(53.1)             | 26.9                                  |
| Passing bloody urine maybe a warning sign of prostate.   | 166(39.2)        | 44(10.4)            | 214(50.5)             | 39.2                                  |
| Prostate cancer may manifest as waist pain   | 93(21.9)         | 68(16)              | 263(62)               | 21.9                                  |
| Sudden inability to pass urine despite the edge to do so may be a warning sign of prostate cancer.           | 182(42.9)        | 28(6.6)             | 214(50.5)             | 42.9                                  |
| Urgency of urination may be warning sign of prostate cancer  | 117(27.6)        | 130(30.7)           | 177(41.7)             | 27.6                                  |
| Gradual weakness in the lower limbs and inability to walk properly may be a warning sign of prostate cancer. | 99(23.3)         | 64(15.1)            | 261(61.6)             | 23.3                                  |
| Stomach cramps is a symptom of prostate cancer.  | 62(14.6)         | 80(18.9)            | 282(66.5)             | 18.9                                  |
| There are no apparent symptoms for prostate cancer   | 3.6(8.5)         | 164(38.7)           | 224(52.8)             | 38.7                                  |

The overall scores for signs and symptoms showed that about 2% (n=8) of the respondents had a very good knowledge about the signs and symptoms of prostate cancer, 22% (n=94) of the respondents had a good knowledge whilst a similar percentage 23% (n=97) had a fair knowledge 2% (n=8) but 53% (n=225) of the respondents had poor knowledge about the sign and symptoms of prostate cancer, *see Figure 4.2 for details*

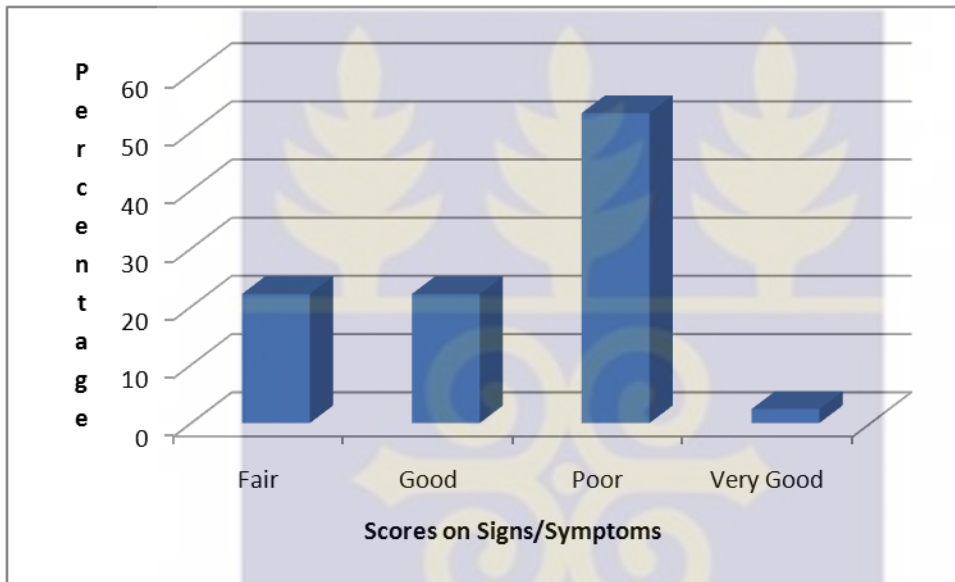


Figure 4.2: Scores on knowledge on sign/symptoms of prostate cancer

#### 4.4.2 Factors associated with respondents' knowledge on signs and symptoms of Prostate Cancer

A Pearson Chi-square was computed to determine whether there was an association between the demographic factors and knowledge of signs and symptoms. The results showed that there was a significant association between some of the factors and knowledge about the signs and symptoms of prostate cancer. Significantly the association between the ranks of respondents and

their knowledge about the signs and symptoms of prostate cancer ( $\chi^2 = 21.114$ ,  $p < .05$ ), *see Table 4.7 above for details.*

**Table 4.7: Association between demographic factors and knowledge of sign and symptoms**

| Variable          | $\chi^2$ | Df | p-value |
|-------------------|----------|----|---------|
| Age               | 3.915    | 6  | .688    |
| Marital status    | 21.767   | 6  | .001    |
| Rank              | 21.114   | 3  | .000    |
| Educational level | 15.375   | 9  | .081    |
| Religion          | 10.406   | 6  | .109    |

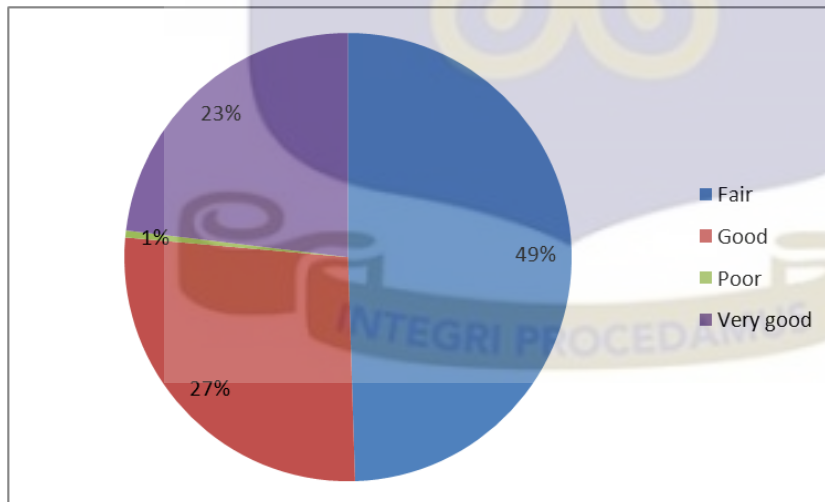
**Item 12: Knowledge on treatment of Prostate cancer**

Knowledge of respondents on treatment was assessed by asking them to identify some treatment for prostate cancer. Sixty-two of the respondents (15%) did not agree with the notion that prostate cancer can be treated with herbal medicine, while about 210 of the respondents (50%) of the respondents indicated that drugs can be used to treat prostate cancer, and 173 of the respondents (41%) agreed that surgery is one of the ways of treating prostate cancer, *see Table 4.8 below for details.*

**Table 4.8: Knowledge of Respondents on treatment of prostate cancer**

| Treatment of prostate cancer                                       | Agree (%) | Disagree (%) | Don't know (%) | Correct Response in percentage |
|--|-----------|--------------|----------------|--------------------------------|
| Surgery (operation) is one of the ways of treating prostate cancer | 173(40.8) | 40(9.4)      | 211(49.8)      | 40.8                           |
| Prostate cancer can be treated with herbal (traditional) medicine  | 106(25)   | 62(14.6)     | 256(60.4)      | 14.6                           |
| Drugs can be used to treat prostate cancer                         | 210(49.5) | 20(4.7)      | 194(45.8)      | 49.5                           |

The overall score showed that respondent had fair knowledge on treatment as 23% (n=97) of the respondents had a very good knowledge, 27% (n=114) of the respondents had good knowledge about the treatment 50% (n=212) of the respondents had a fair knowledge whilst 1% (n=4) of the respondents had poor knowledge about the treatment of prostate cancer, *see Figure 4.3.*



**Figure 4.3: Scores on knowledge on the treatment of prostate cancer**

#### 4.4.3 Factors associated with respondents' knowledge on treatment of Prostate Cancer

A Pearson Chi-square showed that there was a significant association between educational level of the respondents and their knowledge about the treatment of prostate cancer ( $\chi^2 = 23.981, p < .05$ ). Furthermore the Pearson Chi-square computed shows that there was a significant association between age of respondents and their knowledge about the treatment of prostate cancer ( $\chi^2 = 32.277, p < .05$ ). A further analysis carried out showed that there was a significant association between rank of the respondents and their knowledge about the treatment of prostate cancer ( $\chi^2 = 18.610, p < .05$ ), see the Table 4.9 below for details.

**Table 4.9: Association between demographic factors and knowledge of treatment prostate cancer**

| Variable          | $\chi^2$ | Df | p-value |
|-------------------|----------|----|---------|
| Age               | 33.277   | 6  | .000    |
| Marital status    | 8.645    | 6  | .195    |
| Rank              | 18.610   | 3  | .000    |
| Educational level | 23.981   | 9  | .004    |
| Religion          | 6.479    | 6  | .372    |

#### Item 13: Knowledge on causes of Prostate cancer

The respondents were asked about what causes of prostate cancer. Forty-eight (48) of the respondents (11%) of the respondent did not agree that prostate cancer is caused by a bacteria, whilst 196 of the respondents (42%) did not agree with the assertion that the cause of prostate

cancer can be spiritual, and 43 of the respondents (10%) indicated that prostate cancer has unknown causes, *see table 4.10 below for details.*

**Table 4.10: Respondents Knowledge of causes of prostate cancer**

| <b>Causes of prostate cancer</b>                           | <b>Agree (%)</b> | <b>Disagree (%)</b> | <b>Don't know (%)</b> | <b>Correct Response in percentage</b> |
|--|------------------|---------------------|-----------------------|---------------------------------------|
| Prostate cancer is caused by bacteria                      | 147 (34.7)       | 48 (11.3)           | 229 (54)              | 11.3                                  |
| Putting mobile phone in pocket can lead to prostate cancer | 87 (20.5)        | 103 (24.3)          | 234 (55.2)            | 24.3                                  |
| The cause of Prostate cancer can be spiritual              | 26 (6.1)         | 196 (42.2)          | 202 (47.6)            | 42.2                                  |
| The cause of prostate cancer is unknown                    | 43 (10.1)        | 199 (46.9)          | 182 (42.9)            | 10.1                                  |

The overall score for respondents knowledge on causes of prostate cancer showed that many as 202 of the respondents (48%) had a very good knowledge about the causes of prostate cancer, about 29% (n=124) of the respondents had good knowledge on the causes of prostate cancer, whilst about 18% (n=77) of the respondents had a fair idea about what causes prostate cancer, and 5% (n=21) of the respondent had a poor understanding of what causes prostate cancer, *see Figure 4.4 for details.*

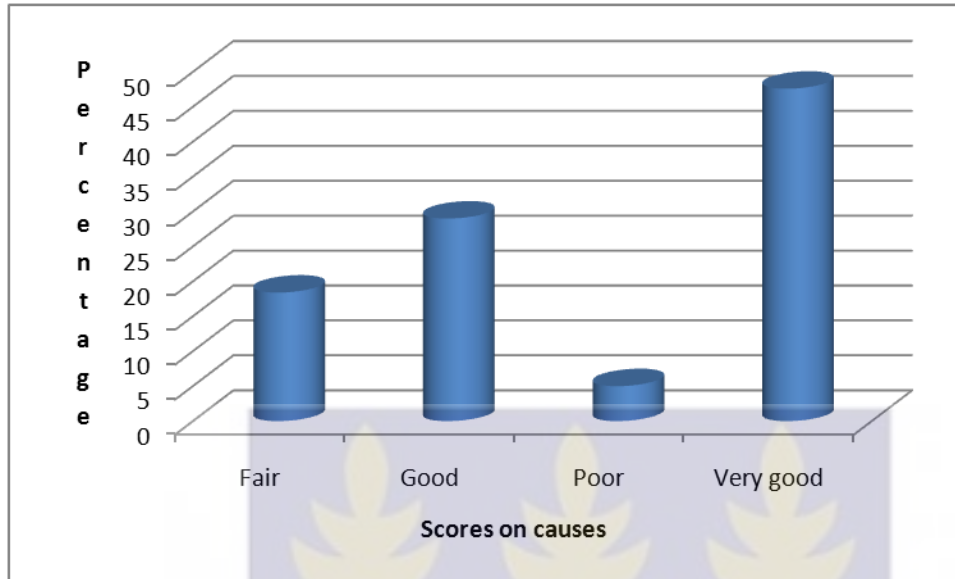


Figure 4.4 Scores on knowledge on causes of prostate cancer

#### 4.4.4 Factors associated with respondents' knowledge on causes of Prostate Cancer

The Pearson Chi-square test was used to determine the association between the demographic variables and the causes of prostate cancer. The results shows that there was a significant association between age of the respondents and their knowledge of the causes of prostate cancer ( $\chi^2 = 24.993, p < .05$ ). The results further showed that there was a significant association between the rank of the respondent and their knowledge on the causes of prostate cancer ( $\chi^2 = 52.759, p < .05$ ). See Table 4.11 below for details.

Table 4.11: Association between demographic factors and causes for prostate cancer

| Variable          | $\chi^2$ | Df | p-value |
|-------------------|----------|----|---------|
| Age               | 33.065   | 6  | .000    |
| Marital status    | 8.298    | 6  | .217    |
| Rank              | 52.759   | 3  | .000    |
| Educational level | 35.538   | 9  | .000    |
| Religion          | 12.544   | 6  | .051    |

#### 4.5 Section D: SCREENING AND EARLY DETECTION OF PROSTATE CANCER

Section D covers the knowledge on screening and attitude towards early detection of prostate cancer.

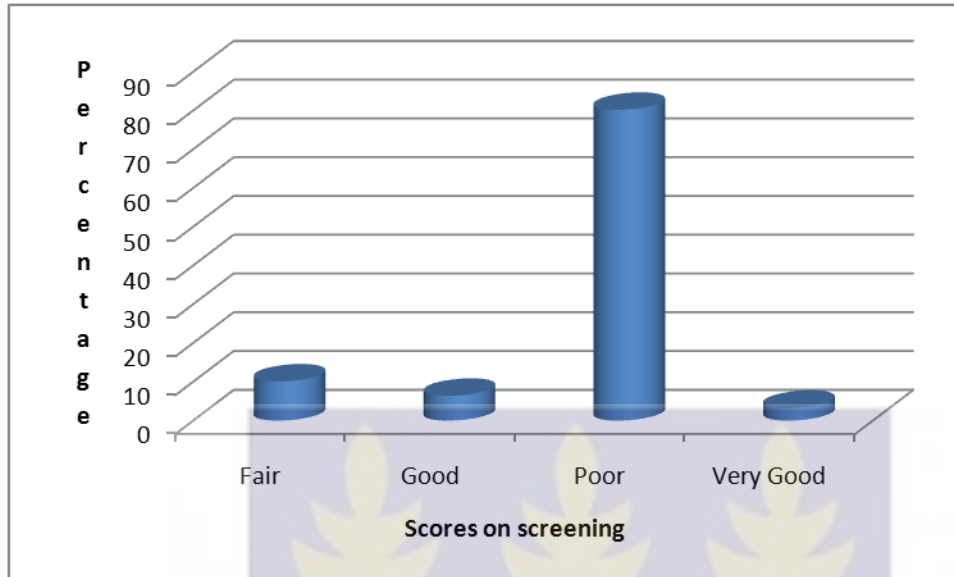
##### Item 14: Knowledge of screening test

Regarding screening for prostate cancer sixty-five of the respondents (15%) indicated that sperm analysis could be used as a screening tool for prostate cancer, similarly 91 of the respondents (22%) said that stool can be used for screening but 152 of the respondents (36%) said that prostate cancer could be determined through a simple blood test screening, and about 141 of the respondents (33%) said that a digital rectal examination can be used to screen for prostate cancer, *see Table 4.12 below for details.*

**Table 4.12: Respondent knowledge on the screening processes for prostate cancer**

| <b>Screening processes for prostate cancer</b>                         | <b>Agree (%)</b> | <b>Disagree (%)</b> | <b>Don't know (%)</b> | <b>Correct Response in percentage</b> |
|--|------------------|---------------------|-----------------------|---------------------------------------|
| There is no test that identifies Prostate cancer                       | 24 (5.7)         | 225(53.1)           | 175(41.3)             | 53.1                                  |
| A simple blood test can be used to screen for prostate cancer          | 152(35.8)        | 44(10.4)            | 228(53.8)             | 35.8                                  |
| A digital rectal examination can be used to screen for prostate cancer | 141(33.3)        | 16(3.8)             | 267(63)               | 33.3                                  |
| Sperm analysis is a screening tool for prostate cancer                 | 67(15.8)         | 65(15.3)            | 292(68.9)             | 15.3                                  |
| Stool test can be used to identify prostate cancer                     | 49(11.6)         | 91(21.5)            | 284(67)               | 22                                    |
| Urine test can be used to identify prostate cancer                     | 166(39.2)        | 22(5.2)             | 236(55.7)             | 5                                     |

The general score for knowledge on screening processes was poor. About 10% (n=43). Only 3% (n=14) of the respondents had a very good knowledge about screening for prostate cancer, and about 80% (n=340) of the respondents had poor knowledge about the screening for prostate cancer, *see Figure 4.5 for details.*



**Figure 4.5 Scores on screening methods**

#### **4.5.1 Factors associated with respondents' knowledge on screening methods for Prostate Cancer**

The Pearson Chi-square showed that there was no significant association between age of the respondents and their knowledge on screening for prostate cancer ( $\chi^2 = 4.500, p > .05$ ). Further analysis showed a non-significant association between the rank of the respondents and their knowledge about the screening for prostate cancer ( $\chi^2 = 7.506, p > .05$ ).but there was a significant association between educational level of the respondents and their knowledge about the screening methods for prostate cancer ( $\chi^2 = 17.071, p < .05$ ), see the Table 4.13 below for details.

**Table 4.13: Association between demographic factors and knowledge of screening methods for prostate cancer**

| Variable          | $\chi^2$ | Df | p-value |
|-------------------|----------|----|---------|
| Age               | 4.500    | 6  | .609    |
| Marital status    | 6.312    | 6  | .389    |
| Rank              | 7.506    | 3  | .057    |
| Educational level | 17.071   | 9  | .048    |
| Religion          | 2.290    | 6  | .891    |

**Item 15: Attitude towards early screening**

In finding respondents attitude towards early screening respondents were asked if they had been screened before. The study showed that about 95% of the respondents have not been screened for prostate cancer at the time of the interview, whilst about 5% of the respondents did indicate that they had been screened for prostate cancer; *see Figure 4.6 below for details.*



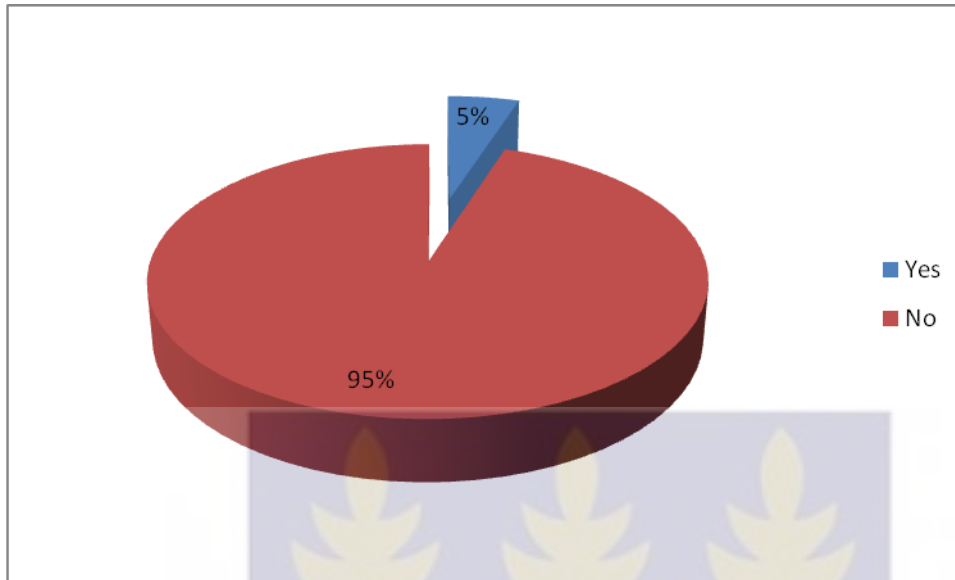


Figure 4.6 Respondents screened for Prostate cancer

**Item 16: Opting for screening with reasons**

Respondents were asked if they will opt for screening when giving the opportunity. The results showed that 63% of the respondents did indicate that they will opt for prostate cancer screening only to know their status, whilst about 12% of the respondents said they will opt for prostate cancer screening so that they can have early treatment if diagnosed, and about 26% of respondents had other reasons why they will opt for prostate cancer screening, *see Figure 4.7 for details.*

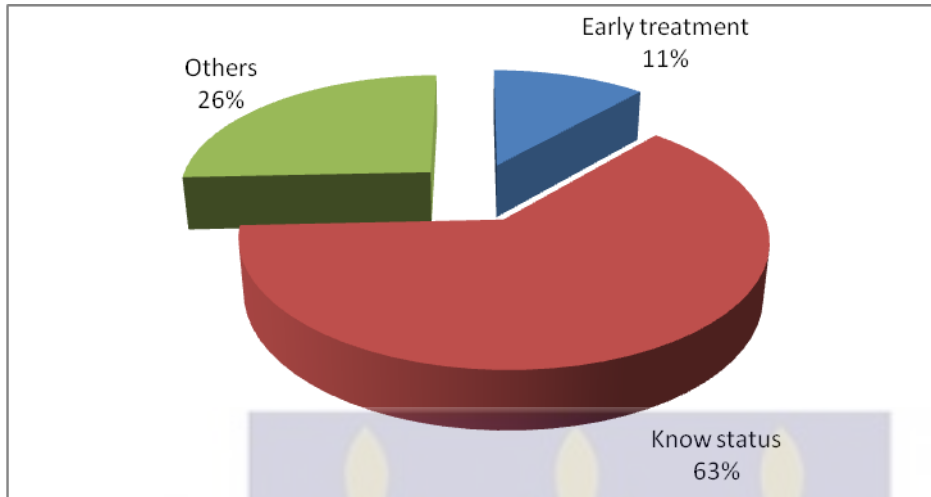


Figure 4.7: Respondents opting for screening with reasons.

**Item 17: Cure for prostate cancer**

The study further shows that about 46% of the respondents agreed that prostate cancer was curable when detected early, whilst about 3% of the respondents did not agree that prostate cancer was curable when detected early and about 51% of the respondents did not know whether prostate cancer was curable or not, *see Figure 4.8 for details*

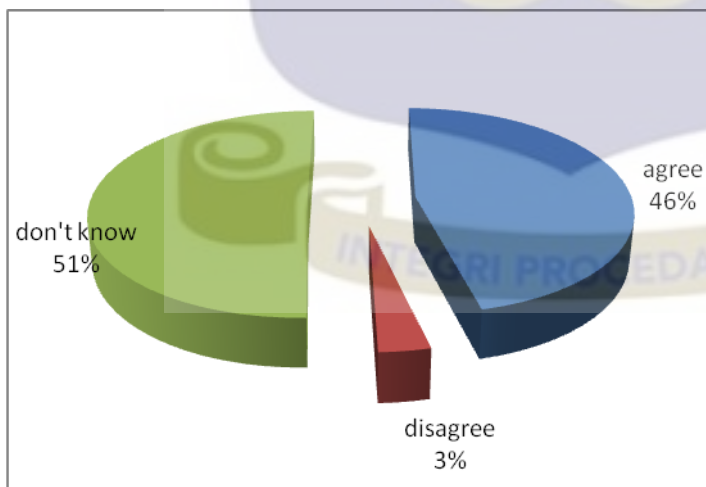


Figure 4.8: Cure for prostate cancer

## **CHAPTER FIVE**

### **DISCUSSION**

#### **5.1 INTRODUCTION**

This chapter relates the results obtained in the previous chapter to the previous findings in the area as discussed in the literature review of the present study. The results of analysed data have been discussed under the following headings which reflect the objectives of the present study: level of awareness among soldier about prostate cancer; knowledge of the soldiers on prostate cancer, attitudes of soldiers towards early detection of prostate cancer. Summary and Conclusion, Recommendations and Limitations are also discussed in this chapter.

#### **5.2 LEVEL OF AWARENESS OF PROSTATE CANCER**

The first research question to be answered was to identify the level of awareness among soldier about prostate cancer. This research question was formulated in order to assess the general awareness of prostate cancer among male soldiers of the Ghana Armed Forces. This was necessary because no research has been conducted to find out the awareness level of men who are at risk of developing the cancer especially when the ageing population of Ghana is increasing.

To answer the research question respondents were asked whether they have heard of prostate cancer. The majority of the respondents (68%) who took part in the study said they have heard of prostate cancer, whilst 32% of the respondents said they have not heard of prostate cancer. This finding is contrarily to the study conducted by Schulman, et al (2003) which found that with respect to the awareness of prostate cancer, only 39% of men and 28% of women spontaneously mentioned prostate cancer when asked what types of cancer they were aware of. Also the finding is equally contrarily to the study done by Jandorf et al (2006) which showed that medically underserved ethnic minorities have, in general, low awareness and knowledge about cancer than do whites.

The differences in the results may be due to the some education made by health educators and workers about the problems associated with the cancer. Also since the educational backgrounds of the respondents of the study are considerably high, they might have heard of the disease or have read about it. Considering the source of hearing about prostate cancer the first three sources (radio, television and newspapers) seem to suggest that the participants are people who keep themselves informed and this might be the reason they are informed about prostate cancer.

Age is associated with the awareness of prostate cancer, 80% of the ages of 52 to 62 years said they were aware of prostate cancer, 73% of the respondents within the 41 to 51 age group indicated that they have heard of prostate cancer while 61% of the respondents within the 30 to 40 age bracket said they had heard of prostate cancer. A Pearson Chi-square was computed to determine whether there is an association between ages of respondents and if they have ever heard of prostate cancer. The results shows that there was a significant association ( $\chi^2 = 8.250, p < .05$ ) between respondents age and whether they have ever heard about prostate cancer. This

suggests that the older one is the more likely the person seems to be aware of prostate cancer. This finding may also explain why people present with late stages of prostate cancer at health institutions such as 37 Military Hospital and Korle-bu Teaching Hospital. The results shows that there was a significant association ( $p < .05$ ) between marital status, educational level, rank and hearing about prostate cancer. This result seems to suggest that longer stay in marriage; higher education and long service seem to be associated with the awareness of prostate cancer.

One of the most worrying findings from this study is that less than only 41% of the respondents were able to indicate the particular gender that is affected by prostate cancer (i.e. men), whilst about 19% of the respondents indicated that Prostate cancer affected both men and women. This implies that this percentage of the respondents were not well informed about the disease, quite a sizable percentage (39%) of the respondents did not even know the particular sex that that the cancer affects, and about 1% of the respondents said that prostate cancer affected women. The result indicates that although majority of the respondents had heard about prostate cancer, their awareness of the cancer was unsatisfactory. This finding is supported by of the findings of Fitzpatrick et al, 2009. The researchers in their study on 'Awareness of Prostate cancer among patients and the general public: an international survey' had questions on the gender that prostate cancer affects. Overall, 1 in 10 respondents (10%) said Prostate cancer affects both men and women. It was higher in North America, which was 16%. In Europe, 7% said it affects men and women but 2% said 'Don't know' and 0.5% compared to 1% in this study said it affects women only.

Only 19% of the respondents were able to indicate the correct location of the prostate gland (i.e. upper part of the urethral), 9% of the respondents said the prostate gland can be found in the

abdomen, whilst a similar percentage (9%) of the respondents said the gland can be located in the scrotum, about 17% of the respondents said the gland can be located in the bladder, and about 48% of the respondents did not know where the gland is located in the human body but it is worth to note that, all divorced men and about 79% of officers knew the correct location of the prostate gland. This result further supports the notion that the awareness level of respondents was low although they had heard of Prostate cancer.

This finding is supported by Schulman et al (2003) study which found a low awareness of prostate cancer among men and women. Also the finding is supported by the study done by Jandorf et al (2006) which showed that medically underserved ethnic minorities have, in general, low awareness and knowledge about cancer than do whites but contrarily to the findings of Fitapatrik et al, 2009 which found that there was an improvement in awareness of prostate cancer in Europe.

#### **5.4 CAUSES AND SYMPTOMS OF PROSTATE CANCER**

The second research question was to examine the knowledge of the soldiers on prostate cancer. This research question was used to assess the basic knowledge the participants had about prostate cancer. This question was formulated on the basis that for one to be able to prevent developing the cancer one should be knowledgeable in order to take certain actions to minimise the risk of having the cancer. The knowledge base was divided into four parts namely; risk factors of prostate cancer, signs and symptoms of prostate cancer, treatment of prostate cancer and causes of prostate cancer.

The results of the study showed that about 22% of the respondents had a fair idea about knowledge of the risk factors of prostate cancer, 12% of the respondents had good knowledge about risk factors that an individual to develop prostate cancer, whilst 3% of the respondents had a very good knowledge of the risk factors that causes an individual to develop prostate cancer and about 62% of the respondents had a very poor knowledge about the risk factors of prostate cancer. The study shows that about 84% of the sample selected for the study did not have a good knowledge about the risk factors that is associated with developing the cancer. Since less than 15% of the respondents had good to very good knowledge of the risk of prostate cancer, the likely explanation for this is that people who are at risk of developing the cancer are not well informed about the potential factors that can contribute to the development of the cancer. Knowledge of risk factors for prostate cancer was significantly associated with age, religious affiliation, marital status and rank of the respondents.

Arnold-Reed, Hince, Bulsara, Ngo, Eaton et al (2008) study supports the findings of the study with respect to the low level of knowledge the participants had on the knowledge of risk factors. Fitzpatrick, et al (2009) study reported that the awareness of the major risk factors for prostate cancer (age and family history) was good, but respondents were less clear about the role of other potential factors, such as smoking and drinking alcohol, in contrast the majority of the present study did not know about the risk factors associated with prostate cancer.

With regards to the signs and symptoms of prostate cancer, about 22% of the respondents had a very good knowledge about the signs and symptoms of prostate cancer, whilst a similar percentage (22%) had a fair knowledge about the sign and symptoms of prostates, 2% of the respondents had a very good knowledge about the signs and symptoms of prostate cancer, and

about 53% of the respondents had a poor knowledge about the sign and symptoms of prostate cancer. Similarly to the risk factors knowledge on signs and symptoms was low, with about 75% of the respondents scoring fair to poor knowledge. Only about 24% of the respondents had a good to very good knowledge of the signs and symptoms of prostate cancer. Knowledge about the signs and symptoms of prostate cancer was significantly associated with marital status and rank of respondents. This also implies that the participants were not very knowledgeable about the signs and symptoms of prostate cancer. Arnold-Reed, Hince, Bulsara, Ngo, Eaton et al (2008) study supports the finding of the study with respect to the low level of knowledge the participants had on the knowledge of signs and symptoms.

With regards to the treatment of prostate cancer, about 50% of the respondents had a fair knowledge about the treatment of prostate cancer, 27% of the respondents had good knowledge about the treatment, whilst about 23% of the respondents had a very good knowledge about the treatment of prostate cancer, and less than 1% of the respondents had poor knowledge about the treatment of prostate cancer. The implication of the finding is that there is not much difference between those who know about the treatment of prostate cancer and those who do not know, although knowledge about the treatment of prostate cancer was significantly associated with age, educational level and rank of respondents. Although there appears to be a slight majority observed for respondents who do not know (about 51%) about the treatment of prostate cancer, the situation about the increase in the number who know about the treatment (about 50%) may be that since people have some knowledge about the treatment of other cancers, they transferred that knowledge to answer the questions and thereby a significant difference was not observed. Arnold-Reed, Hince, Bulsara, Ngo, Eaton et al (2008) study supports the finding of the study

with respect to the low level of knowledge the participants had on the knowledge of treatment of prostate cancer.

The last set of questions with regards to knowledge about prostate cancer was on the causes of prostate cancer. As many as 202 of the respondents (48%) had a very good knowledge about the causes of prostate cancer, about 29% of the respondents had good knowledge on the causes of prostate cancer, whilst about 18% of the respondents had a fair idea about what causes prostate cancer, and 5% of the respondent had a poor understanding of what causes prostate cancer. This findings is also significant in that although the respondents have low knowledge about the previous components of knowledge (risk factors, signs and symptoms, and treatment) the participants demonstrated a general good knowledge about the causes of prostate cancer. The good knowledge here may still be attributed to transference of knowledge from other cancer, since no particular cause is known. It is worth noting that knowledge about the cause of prostate cancer was significantly associated with age, educational level and rank of respondents.

## **5.5 ATTITUDE TOWARDS SCREENING AND EARLY DETECTION OF PROSTATE CANCER**

The third research question to be answered was to assess the attitudes of soldiers towards early detection of prostate cancer. This research question was formulated in order to assess the promotion of healthy behaviours by participants especially with regards to prevention of the cancer. This was important because people who are at risk need to be assessed on their means for detecting the cancer early enough to warrant a probable treatment option.

About 10% of the respondents had a fair knowledge about the screening for prostate cancer, 6% of the respondents had good knowledge about screening for prostate cancer, 3% of the respondents had a very good knowledge about screening for prostate cancer, and about 80% of the respondents had poor knowledge about the screening for prostate cancer. The result shows that the majority of the respondents did not know about the screening processes for prostate cancer, this further put them at risk of presenting with late stages of prostate cancer. The finding further implies that the participants of the study lack health promotion behaviours. The screening of prostate cancer was significantly associated with age, rank, and educational level. The present finding is supported by the study Taghipour, Vydelingum and Faithfull (2010) which found that there was a lack of information regarding screening and early detection of prostate cancer. Sarma and Schottenfeld (2002) study showed that Black men in the same age group were tested less often than Whites. Furthermore, an investigation of health beliefs and practices of Black men about prostate cancer screening showed that knowledge of prostate cancer was fairly high; this is contrarily to the finding of the present study.

The study also revealed that about 95% of the respondents have not been screened for prostate cancer at the time of the interview, whilst about 5% of the respondents did indicate that they have been screened for prostate cancer. This also shows that the people who are at risk of developing the cancer are not knowledgeable enough and have poor attitude towards early detection to help prevent them from developing the cancer. This finding is supported by Sarma and Schottenfeld (2002) study which found that Black men in the same age group were tested less often than Whites.

The results further showed that 63% of the respondents did indicate that they will opt for prostate cancer screening only to know their status, whilst about 12% of the respondents said they will opt for prostate cancer screening so that they can have early treatment if diagnosed, and about 26% of respondents had other reasons why they will opt for prostate cancer screening. This finding is consistent with the study conducted by Modest Curtis and Cort (2003) which found that the majority (82%) believed that prostate cancer can be cured if detected early and 83% believed that screening is effective in finding the cancer early.

## **5.6 MAJOR FINDINGS OF THE STUDY**

The study found that whilst the majority had heard about prostate cancer, most of the respondents were not aware of the basic information (e.g. the gender prostate cancer affects) about prostate cancer.

All the officers who took part in the study have heard of prostate cancer as compared to 66% of the others ranks.

Respondents who were married (71%) and those who were divorced (85%) have heard about prostate cancer than the respondents who were single (46%).

Another finding was that respondents who were advanced in age (50-59) had better awareness and knowledge compared to the younger age groups. They also had a better attitude towards the early detection of prostate cancer than the younger age group.

The source of information of respondents on prostate cancer was mostly through radio and television.

It was also revealed in the study that the general knowledge base of the respondents was relatively poor, in terms of knowledge of risks factors and signs and symptoms except with the knowledge about the causes and treatment of prostate cancer which showed a slight improvement even though below average.

The study also found that most of the respondents (80%) had a poor knowledge on screening methods and bad attitude towards the early detection of prostate cancer as 95% of the respondents had never been screened for prostate cancer. They also had a better attitude towards the early detection of prostate cancer than the younger age group.

Most respondents expressed the willingness to be screened for prostate screening should the need arise.

## **5.7 LIMITATIONS OF THE STUDY**

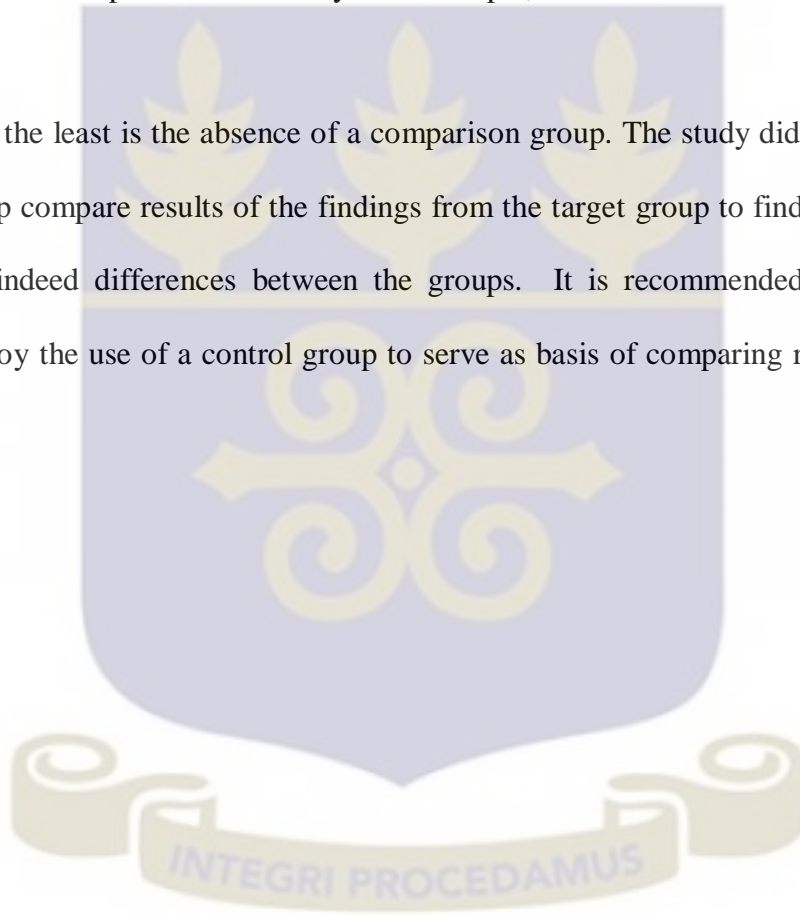
This study is not without its limitations. In the present study, there was a sole dependence on self-report measures to gather data, self-report measures can result in bias due to social desirability and, in the case of reported behaviours, selective recall. Consequently, the results must be interpreted with this in mind.

The second limitation is generalization of the research findings. Since the study only involved 5 Garrison soldiers the results of the study cannot be generalized to all the population of men in the country. Besides that, at the time of collection of data a particular group of people might

have been studied, which does not reflect the entire population of soldiers in the Ghana Armed Forces. Furthermore the sampling method used to select the sample might not be give the true representative of the population of the study. This caution must be taken for generalizing the results to the population.

Thirdly, due to the restrictive nature of the Ghana Armed Forces certain information's could not be gathered and interpreted in the study. For example, the researcher wanted to do a focus group study.

Last but not the least is the absence of a comparison group. The study did not employ a control group to help compare results of the findings from the target group to find out whether or not if there were indeed differences between the groups. It is recommended that future research should employ the use of a control group to serve as basis of comparing results from the target group.



## CHAPTER SIX

### CONCLUSION AND RECOMMENDATIONS

#### 6.1 CONCLUSION

Prostate cancer is a significant public health problem. According to Ferlay et al (2006) it is the most frequently diagnosed cancer in men, it is diagnosed in almost 2000 men each day worldwide, and one man is estimated to die from the disease every 2 minutes. According to the American Cancer Society (2004), in fact, a man is 35% more likely to be diagnosed with prostate cancer.

The study population for this research involved senior commissioned officers (Officers) and senior non-commissioned officers (Other ranks) who were 30 years and above in 5 Garrison. A convenience sampling technique was used to select 424 respondents from 10 units within five Garrison.

The study determined the awareness level of soldiers on prostate cancer, their knowledge of the disease and also their attitude toward the disease and its early detection. The results of the study have revealed that in spite of the fact that about 68% have heard about prostate cancer majority of them do not know the basic facts about where the prostate gland is located and for some prostate cancer affects both men and women. Respondents generally have poor knowledge especially on the risk factors and signs and symptoms. Only a few were knowledgeable in the area of signs and symptoms and risk factors which play a very crucial role in the development of prostate cancer.

The knowledge of screening test is equally important but only 3% had very good knowledge on the various screening test with about 80% having very poor knowledge on the subject.

Knowledge is very crucial for understanding of issues which do affect an individual's attitude because the knowledge base of the respondents was poor it had a negative effect on their attitude towards early detection of prostate cancer patient.

On screening practices though more than half of respondents have heard about prostate cancer only 5% have ever been screened for prostate cancer. Most of the respondents agreed that they will opt do to prostate cancer screening when giving the opportunity to do so that they will know their status.

This gives a clear understanding of the level of awareness among male soldiers of the Ghana Armed forces. There should therefore be a clear strategy to tackle this poor awareness level so that through intensive educational programs to get men generally informed about the disease and also to know that a simple blood test can aid in the early detection of the disease as it may at times be asymptomatic. This will help in early detection of the disease and therefore early treatment which will lead to curing the disease. In all late presentation of prostate cancer which is silently killing the men will be avoided.

The findings of the study should help especially the Ghana Health Services to design the appropriate educative programs and campaigns to address the problem of lack of awareness and knowledge of prostate cancer.

## **6.2 RECCOMENDATIONS**

It is recommended that the Public health department of the Ghana Armed Forces Medical Service should be empowered to mount up campaigns to create awareness of prostate cancer among troops.

Screening for prostate cancer should be added to the yearly medical examinations that Military personnel are made to undergo for men within the risk age group or those who are highly at risk. As it is not part of the routine test now.

It is also recommended that more research be done in the area of prostate cancer within the Ghana Armed Forces and the nation.

The Government through the Ghana Health service should focus on this menace that is killing men silently in order to create awareness.



## REFERENCES

- Abayie H. (2009). *Prostate Awareness Foundation*, press release on prostate cancer.  
Online:[http://prostateghana.org/press\\_2.html/](http://prostateghana.org/press_2.html/) (assessed 12 March 2010)
- Abramson J H & Abramson Z H. (2000). *Survey Methods in Community Medicine*. 5th edition.  
Edinburgh & London: Livingstone
- American Cancer Society (2004). *Cancer facts and figure*. Atlanta, GA. Online:<http://www.cancer.org/>; (accessed 10 March 2010)
- Arnold-Reed D E, Hince D A, Bulsara M K, Ngo H, Eaton M, Wright A R, Jones F R, Kaczmarczyk W, Marangou A G & Brett T D (2008). Knowledge and attitudes of men about prostate cancer. *Medical Journal of Australia* 2008; 189 (6): 312-314.
- Badoe E A, Archampong E Q, da Rocha & Afodu J T. (2000). *Principles and Practice of Surgery including Pathology in the Tropics*. 3<sup>rd</sup> edition, Tema, Ghana Publishing Corporation. pp. 850-871.
- Besada H & Ermakov V. (2008). *Cancer: Africa's silent killer*.  
online:<http://www.mg.co.za/article/2008-09-10-cancer-africas-silent-killer/> (Accessed 10 March 2010).
- Ferlay J, Autier P, Boniol M, Heanue M, Colombet M, & Boyle P. (2006). Estimates of the cancer incidence and mortality in Europe. *Annual Oncology* 2007; 18: 581–592.
- Fitzpatrick J M, Kirby R S, Brough C L, & Saggerson, A L. (2009). “Awareness of prostate cancer among patients and the general public: results of an international survey”. *Prostate Cancer and Prostatic Diseases*, 12, 347–354.
- Gall M D, Borg W R, & Gall J P. (2003). *Educational Research: An introduction*. 7<sup>th</sup> edition  
White Plains, New York Longman.
- Globocan 2002 database. Online:[http://www-dep.iarc.fr/GLOBOCAN/Table2\\_sel.htm](http://www-dep.iarc.fr/GLOBOCAN/Table2_sel.htm) (accessed 11 April 2010)

- Gomella L. (2005). Chemoprevention using dutasteride: the REDUCE trial. *Current Opinion of Urology*; 15: 29–32.
- Hoffman-Goetz L, Friedman D B. (2006). A systematic review of culturally sensitive cancer prevention resources for ethnic minorities. *Ethnicity & Disease*, 16(4), 971-977.
- Hunter, Laura and Erin Leahey. (2008). "Collaborative Research in Sociology: Trends and Contributing Factors". *American Sociologist* 39:290–306.
- Jandorf L, Fatone A, Borker P V, Levin M, Esmond W A, & Brenner B. (2006). Creating alliances to improve cancer prevention and detection among urban medically underserved minority groups. The East Harlem Partnership for Cancer Awareness. *Cancer*, 107:2043–2051.
- Jemal A, Siegel R, Ward E, Murray T, Xu J, & Thun M J. (2007). Cancer statistics. *Cancer Journal for Clinicians*, 57: 43–6.
- Johns L E, & Houlston R S. (2003). A systematic review and meta-analysis of familial prostate cancer risk. *British Journal of Urology International*; 91: 789–794.
- Klufio C A. (2003). *An introduction to Medical Statistics and Methodology*. Accra Woeli Publishing Services.
- Klufio G O. (2004). A review of genitourinary cancer at Korle-Bu Teaching Hospital Accra, Ghana. *West African Journal of Medicine* 23, 231-237.
- Kyei, M. Prostate Awareness Foundation: Ghana exceeds global prostate limits, online:[http://prostateghana.org/press\\_2.html](http://prostateghana.org/press_2.html) (accessed on 4 June 2010)
- Modeste N N, Fox C & Cort M (2003). Early detection of prostate cancer among Black And White men. *Californian Journal of Health Promotion*; 1(3): 149-155.
- Nelen V. (2007). Epidemiology of prostate cancer. *Rec Res Cancer Res*, 175, 1-8.
- Parkin D M, Bray F, Ferlay J, Pisani P (2002). Global cancer statistics. *Cancer Journal of Clinical* 2005; 55: 74–108.

Prostate Cancer Foundation (2009), "An introduction to prostate cancer". Word Press.com (August 31, 2008), "Prostate Cancer in Ghana: an Overview".

Online:<http://pcafrica.wordpress.com/site-map/ghana/overview/> (accessed 9 March 2010)

Sarma A V, & Schottenfeld D. (2002). Prostate cancer incidence, mortality, and survival trends in the United States: 1981-2001. *Seminars in Urologic Oncology*, 20(1), 3-9.

Schulman C, Kirby R, & Fitzpatrick J. (2003). Awareness of prostate cancer among the general public: findings of an independent international survey. *European Urology*, 44: 294–302.

Shields, Patricia & Hassan T. (2006). Intermediate Theory: The Missing Link in Successful Student Scholarship. *Journal of Public Affairs Education*; 12(3): 313-334.

Tabachnick B G & Fidell L S. (2007). *Using Multivariate Statistics*. 5<sup>th</sup> edition Bortson, Pearson education Inc.

Taghipour A, Vydelingum V & Faithfull S. (2010). Men's Perceptions and Experiences of the Early Detection of Prostate Cancer: A Qualitative Study using Grounded Theory Approach. *European Journal of Scientific Research*; 42 (1) 59-70.

Thompson I M. (2003). The influence of finasteride on the development of prostate cancer. *New England Journal of Medicine*, 2003; 349: 215–224.

Trochim W M K. (2006). Research Methods Knowledge Base. Online: <http://www.socialresearchmethods.net/kb/sampling.php> (accessed on line, June 14, 2010).

Ukoli F, Osime U, Akereyeni F, Okunzuwa O, Kittles R, & Adams-Campbell L. (2003). Prevalence of elevated serum prostate-specific antigen in rural Nigeria. *International journal of Urology* (6):315-22.

Wiredu E K & Armah H A. (2006). Cancer mortality patterns in Ghana: a 10-year review of autopsies and hospital mortality. *BMC Public Health*; 6: 159.

**APPENDIX 1**  
**PROSTATE CANCER QUESTIONNAIRE**

**AWARENESS OF PROSTATE CANCER AMONG MALE SOLDIERS IN THE GHANA  
ARMED FORCES**

CODE:

**SECTION A: SOCIO- DEMO GRAPHICAL CHARACTERISTICS**

1. Age:.....

2. Marital Status:

(i) Married [ ]

(ii) Single [ ]

(iii) Divorced [ ]

3. Rank in the Military:

(i) Officers [ ]

(ii) Other ranks [ ]

4. Educational Attainment:

(i) Middle School/ Junior High school [ ]

(ii) Senior High School /O'Level / A' Level [ ]

(iii) Technical /vocational [ ]

(iv) Others – specify.....

5. Religious Affiliation:

(i) Christianity [ ]

(ii) Islam [ ]

(iii) Traditionalist [ ]

**SECTION B: AWARENESS / KNOWLEDGE ABOUT PROSTATE CANER**

6. Have you ever heard about prostate cancer?
- (i) Yes  (ii) No
7. If yes, where did you hear it?
- (i) On the radio
- (ii) Television
- (iii) Newspaper
- (iv) From friends
- (v) Family members
- (vi) Others – specify .....
8. Prostate cancer affects
- (i) Only men
- (ii) Only women
- (iii) Both
- (iv) Don't know
9. Prostate gland is located in the
- i Abdomen
- ii Scrotum
- iii Upper part of the urethral
- iv. In the bladder
10. Prostate cancer is the commonest cancer among men in Ghana.
- Agree  Disagree  Don't know

### RISK FACTORS

11. A man's risk/ chance of developing prostate cancer increase as he grows older.

Agree  Disagree  Don't know

12. Excessive alcohol intake/consumption can predispose a man to prostate cancer.

Agree  Disagree  Don't know

13. Eating a lot of fatty foods may increase a man,s chances of developing prostate cancer.

Agree  Disagree  Don't know

14. Smoking increases a man's risk/ chance of developing prostate cancer.

Agree  Disagree  Don't know

15. Black men have a high risk of developing prostate cancer compared to white men

Agree  Disagree  Don't know

16. If one's father, uncle or grandfather had/has prostate cancer, it increases one's risk of developing the disease.

Agree  Disagree  Don't know

17. Sexually transmitted infections increase one's risk of developing the disease.

Agree  Disagree  Don't know

18. Stress can predispose a man to prostate cancer

Agree  Disagree  Don't know

19. Vasectomy may increase a man's risk/chances of developing prostate cancer

Agree  Disagree  Don't know

20. A man with multiple sexual partners has a higher risk/chance of developing prostate cancer

Agree  Disagree  Don't know

**SIGNS/SYMPTOMS**

21. Prostate cancer may manifest as poor urinary stream  
Agree  Disagree  Don't know
22. Waking up too many times in the night to pass urine may be a sign of prostate cancer.  
Agree  Disagree  Don't know
23. Impotence may be a warning sign of prostate cancer.  
Agree  Disagree  Don't know
24. Straining in the process of passing urine may be a warning sign for prostate cancer.  
Agree  Disagree  Don't know
25. Frequency of urination is a warning sign of prostate cancer.  
Agree  Disagree  Don't know
26. Passing bloody urine may be a warning sign of prostate.  
Agree  Disagree  Don't know
27. Prostate cancer may manifest as waist pain  
Agree  Disagree  Don't know
28. Sudden inability to pass urine despite the urge to do so may be a warning sign of prostate cancer.  
Agree  Disagree  Don't know
29. Urgency of urination may be warning sign of prostate cancer  
Agree  Disagree  Don't know
30. Gradual weakness in the lower limbs and inability to walk properly may be a warning sign of prostate cancer.  
Agree  Disagree  Don't know
31. Stomach cramps is a symptom of prostate cancer.

Agree [ ] Disagree [ ] Don't know [ ]

32. There are no apparent symptoms for prostate cancer

Agree [ ] Disagree [ ] Don't know [ ]

### TREATMENT

33. Surgery (operation) is one of the ways of treating prostate cancer

Agree [ ] Disagree [ ] Don't know [ ]

34. Prostate cancer can be treated with herbal (traditional) medicine

Agree [ ] Disagree [ ] Don't know [ ]

35. Drugs can be used to treat prostate cancer

Agree [ ] Disagree [ ] Don't know [ ]

### CAUSES

36. Prostate cancer is caused by bacteria

Agree [ ] Disagree [ ] Don't know [ ]

37. Putting mobile phone in pocket can lead to prostate cancer

Agree [ ] Disagree [ ] Don't know [ ]

38. The cause of Prostate cancer can be spiritual

Agree [ ] Disagree [ ] Don't know [ ]

39. The cause of prostate cancer is unknown

Agree [ ] Disagree [ ] Don't know [ ]

**SECTION C: SCREENING PROCESSES AND ATTITUDE TOWARDS EARLY DETECTION.**

40. There is no test that identifies Prostate cancer

Agree [ ] Disagree [ ] Don't know [ ]

41. A simple blood test can be used to screen for prostate cancer

Agree [ ] Disagree [ ] Don't know [ ]

42. A digital rectal examination can be used to screen for prostate cancer.

Agree [ ] Disagree [ ] Don't know [ ]

43. Sperm analysis is a screening tool for prostate cancer

Agree [ ] Disagree [ ] Don't know [ ]

44. Stool test can be used to identify prostate cancer

Agree [ ] Disagree [ ] Don't know [ ]

45. Urine test can be used to identify prostate cancer

Agree [ ] Disagree [ ] Don't know [ ]

46. What is the recommended age at which a man should start screening for prostate cancer?

25 – 29 years [ ] 30 – 39 years [ ] 40 years and above [ ]

60 years and above [ ] don't know [ ]

47. Would you shake or touch someone with prostate cancer.

Yes [ ] No [ ] Don't know [ ]

48. Have you been screened for prostate cancer?

Yes [ ] No [ ]

49 Will you opt for prostate cancer screening?

a. Yes, Why ?

.....  
.....  
.....

.....  
.....

b. No, Why ?

.....  
.....  
.....  
.....

50. Prostate cancer is curable when detected early.

Agree  Disagree  Don't know



**APPENDIX 2**  
**INFORMED CONSENT FORM**

**AWARENESS OF PROSTATE CANCER AMONG MALE SOLDIERS IN THE GHANA ARMED FORCES.**

I am Vida Otoo a student of school of Public health. This study is a partial fulfillment for the degree of Masters of Public health. You are invited to participate in the study. The purpose is to assess the level of awareness, the knowledge and attitudes towards prostate cancer. This study being conducted because active and reserve military personnel are reporting with advanced stages of prostate cancer which shows that awareness level may be low.

Studies have shown that early detection through screening practices increases survival rate of patients. Your participation in this study will help provide very useful information to enable higher command come out with policies to help those at risk.

Your participation will involve filling out questionnaires if you so wish. All your answers will be anonymous. There is no way the answers will be identified with any individual participant. These consent forms will be available only to the researcher. You may ask questions at any time during the study, and you are free to contact me on 0244 386459 should you have any questions about the study.

Although there are no anticipated risks to the study participants, the questionnaire may arouse some uncomfortable and upsetting feelings. You are obliged to opt out from the study at anytime you feel like.

The benefit from the study may help in the formulation of policies and awareness among male soldiers in the Ghana Armed Forces.

All information obtained in the study is private. That is, the privacy of the individual will be protected, by withholding the names and any other personal information connected with the study. Although the information in this study is private, it may be revealed in certain rare circumstance. Confidentiality will be broken if information obtained revealed that you want to harm yourself.

Taking part in the study is completely voluntary. You may refuse to answer any specific question.

**PARTICIPANT CONSENT:** I have read the forgoing information and had the purpose of the study explained to me. I had the opportunity to ask questions about it and all questions have been answered to my satisfaction. I consent voluntarily to participate as a subject in this study and understand that I have the right to withdraw from the study at anytime without any penalty or prejudice. My signature shows my willingness to take part in the study under the stated condition.

**I agree to participate in the study dated this day.....in the year of our Lord 2010**



Signature of participant:..... Rank.....

Signature of witness:..... Rank.....