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KNOWLEDGE AND PRACTICE OF PERIODIC MEDICAL CHECK- UP AMONG WORKERS AT KANESHIE MARKET IN ACCRA, GHANA

BY

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DECLARATION

I, HENRY KUSI APPIAH, declare that except for references to other people's investigations which have been duly acknowledged, this dissertation is the result of my own original research undertaken under supervision and that it has neither in whole nor in part been presented for another degree in this university or elsewhere.

..... DATE: 23-10-2019

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DR. PAUL K. BOTWE

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DEDICATION

This dissertation is dedicated to my beloved family for their unparalleled support.

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I am thankful to God for seeing me through this academic milestone and enabling me carry out my study successfully.

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ABSTRACT

Periodic medical check-up (PMC) is important for early detection of risk factors associated with the development of diseases and prompt diagnosis of asymptomatic diseases. In Ghana, the daily activities of workers especially market workers are characterized by constant stress, long working hours, without being particularly mindful of their diet coupled with sedentary work life. This puts them at greater risk of developing several chronic diseases and their complication. However, studies on the practice of PMC among workers in Ghana are rare. Appreciation of the prevailing preventive healthcare behaviour of these workers is necessary for making population-targeted health programmes. Thus, this study sought to assess knowledge and practice of Periodic medical check-up among workers at Kaneshie Market in Accra, Ghana. A cross-sectional design involving structured questionnaire administration to 368 workers was employed. A convenient sampling technique was employed in selecting the participants. Stata software version 15 was used to analyze the data collected. Multiple logistic regression analysis was used to determine factors influencing PMC among these workers. The results showed that the proportion of workers who had knowledge of PMC was 90.8% but the knowledge level did not translate into practice (46.7%). Age (AOR= 4.7; 95% CI=1.92-11.78), sex (AOR= 1.9; 95% CI=1.18-3.13), marital status (AOR 2.7; 95% CI=1.48-5.15), educational level (AOR= 5.2; 95% CI=2.00-16.78) and knowledge (AOR= 6.2; 95% CI=1.72-11.71) were significantly associated with PMC but profession, religion and income were not associated with practice of PMC. This finding suggest that the practice of PMC among workers at Kaneshie market was low. This is of concern because it may lead to late diagnosis and poor management outcome of several infectious and non-communicable diseases among these workers who form the backbone of the nation's economy.

TABLE OF CONTENT

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

PMC	Periodic Medical checkup
PI	Principal Investigator
WHO	World Health organization
PCP	Primary care physician
AMA	American Medical Association
ERC	Ethics Review Committee
NHS	National health Scheme
NHIS	National health Insurance scheme
SSA	Sub-Saharan Africa
NCD	Non communicable disease
CTFPHC	Canadian Task Force on Preventive Health Care USPSTF U.S. Preventive Service Task Force

CHAPTER ONE

INTRODUCTION

1.1 Background

Periodic Medical checkup (PMC) is regarded as an essential and effective approach in the promotion of health and prevention of diseases (Damiani et al., 2012). PMC enables early detection of risk factors for conditions such as diabetes, heart disease and stroke (Dryden, Williams, McCowan, & Themessl-Huber, 2012). This practice has been part of preventive healthcare in some western societies (Krogsbøll, Jørgensen, Grønhøj Larsen, & Gøtzsche, 2012 ; Han, 2015) and Japan (Miyazaki, Sato, Mukohara, Kitamura, & Saito, 2007) for several years, but it is not a common practice in Africa (Dalton, Bottle, Okoro, Majeed, & Millett, 2011), particularly Ghana (Danquah, 2017).

Workers form the backbone of the economic growth of the country. Thus, good health is vital for their effective contribution to the growth of the nation. In Ghana, the daily activities of workers especially market workers are characterized by constant stress, long working hours, without being particularly mindful of their diet coupled with sedentary work life. Additionally, workers are exposed to other hazards including insanitary environmental condition, non-ergonomic workstations and excessive noise (Alfers, 2009). This puts them at greater risk of developing several chronic non-communicable diseases (e.g. Diabetes, hypertension, malignancies) and their complications which include Acute coronary heart disease, stroke and chronic kidney disease (Cheng et al., 2014). Sixty percent of the global burden of diseases are due to chronic diseases (Sun et al., 2014).

In Ghana, burden of chronic infectious and non-communicable diseases is on the rise (Dalal et al., 2011) with most patients seeking late medical attention. This practice results in complications

and poor management outcome (Aikins, Boynton, & Atanga, 2010). Further, it puts heavy socioeconomic burden on individuals and the nation. There is therefore the heightened need to detect these abnormalities early to ensure proper management and prevent complications.

Studies examining the practice of PMC in Africa, including Ghana are rare (Ilesanmi, Omotoso Bridget, Alele faith, 2015). In view of this, it is necessary for new studies to complement previous research effort. Such information is crucial for stakeholders to efficiently plan health-promotion activities.

The study area was Kaneshie Market which is the second largest market in Accra, Ghana. The Kaneshie market was chosen because of the proximity to the research team and their familiarity with the site. In addition, unlike most of the major markets in Accra, it is relatively better departmentalized /structured with well demarcated areas for different categories of workers. This made movement especially within the market complex easier. Lastly, Kaneshie market is very diverse in terms of the categories of shops and offices and the nature of work carried out.

1.2 Problem Statement

In sub-Saharan Africa (SSA) including Ghana, there is a growing epidemic of non-communicable diseases (NCDs) that comprises, cardiovascular disease (CVD), metabolic diseases such as diabetes, obesity and cancer (Dalal et al., 2011). Most of these conditions are detected late when complications have set in and prognosis is poor. For instance, delayed presentation and late diagnosis at health facilities are known to be part of the contributing factors of high breast cancer mortality in Africa (Akuoko et al., 2017). The incidence of breast cancer in Ghana is estimated to be 25 cases per 100,000 population compared to 93 per 100,000 in the USA. However, mortality

is 12 per 100,000 in Ghana compared to 15 per 100,000 in the USA (Worldwide cancer mortality statistics, 2014).

PMC helps with early detection of diseases thereby reducing morbidity and mortality. In developed countries, PMC is a key component of preventive medicine. For instance, in Japan it is mandatory for regular working employees to have a PMC at least once a year, (Miyazaki et al., 2007). However, in developing countries, insufficient attention has been paid to the prevention and control of NCDs, particularly programmes that target formal and informal sector workers. (Twagirumukiza et al., 2011). There is also poor uptake of PMC (Ilesanmi, Omotoso, Alele, & Amenkhienan, 2015).

Furthermore, in developing countries, very few studies have been conducted on PMC, not enough data are available concerning the knowledge and practice of PMC. These countries often rely on data from western countries where the practice has been studied extensively (Si, Moss, Sullivan, Newton, & Stocks, 2014). However, population specific data are required to guide evidence-informed decisions and to advocate for change.

1.3 Justification

Chronic diseases have a serious socioeconomic burden on an individual and accounts for over sixty percent of the overall burden of disease globally (Sun et al., 2014). There is a rising epidemic of non-communicable diseases (NCDs) in sub-Saharan Africa (SSA) including Ghana, that includes cardiovascular disease (CVD), cancer and metabolic diseases such as diabetes and obesity. Workers constitute the major economically active population in Ghana. Their economic activity is an important source of revenue for the government. Their health has to be maintained to help in sustenance of the economy. Thus, their attitude towards preventive health, especially periodic medical checkup needs to be assessed.

Until recently, little information had been published about Periodic medical check-up in Africa and Ghana in particular (Danquah, 2017), Most published accounts of PMC came from developed countries with different working environment and sociodemographic characteristics (Hoebel, Starker, Jordan, Richter, & Lampert, 2014; Cochrane et al., 2012) Furthermore, even in the countries with well-organized PMC, the practice is often confronted with suboptimal compliance. Identifying the factors that deter or stimulate the population to participate in PMC is even more important in Ghana, which does not have a formal policy guideline for PMC.

This research would inform health authorities on the preventive health-seeking activities of the working force in Ghana. Such data is crucial and can be used by Government and other stakeholders in health when formulating population-specific health programs targeted at promoting preventive healthcare.

1.4 Narrative of the Conceptual Framework

The framework below (Figure 1) depicts association between Sociodemographic factors including sex, age, Educational level, level of income, religion, and ethnicity and the knowledge and practice of periodic medical check-up.

Educational level of an individual can significantly influence the person's ability to receive information and practice. For instance individuals who have some formal education are expected to have knowledge that influences them to take up periodic medical check-up more compared to those with no formal education (Si et al., 2014).

Gender has also been associated with knowledge and practice of periodic medical check-up in most studies. Females usually go for periodic medical checkups compared to their male counterparts probably due to the fact that females are prone to more infections, undergo menstrual

cycle, pregnancy, general female body physiology, monitoring diseases more common in females such as breast and cervical cancers among others (Eke et al., 2012).

The age of an individual may also be associated with knowledge and practice of periodic medical check-up. The effect of age on the practice could be attributed to the increasing levels of medical illnesses as an individual advance in age and there is a rise in the income level of those at these older age brackets. The low practice in younger age groups may be attributed to relatively lower levels of medical illnesses in such age group. As most illness increases as ones age also increases (Kahl et al., 2016).

High perception of the relevance of periodic check-up might not necessarily translate into practice. Certain personal factors including the fear of being diagnosed with a disease, guilt, stigma, inadequate time, and the possible psychological trauma might engender reluctance in regular check-up (Shinsho, 2015).

Organizational factors including access to health care, long waiting time, high cost and embarrassment from healthcare staff are related to the knowledge and practice of periodic medical check-up. There are some individuals who might want to have periodic medical checkup, however, all these above factors might hinder them. Workers with known medical condition are also more likely to go for periodic review compared to those without known medical condition (Sambamoorhti et al., 2012).

1.5 Conceptual framework

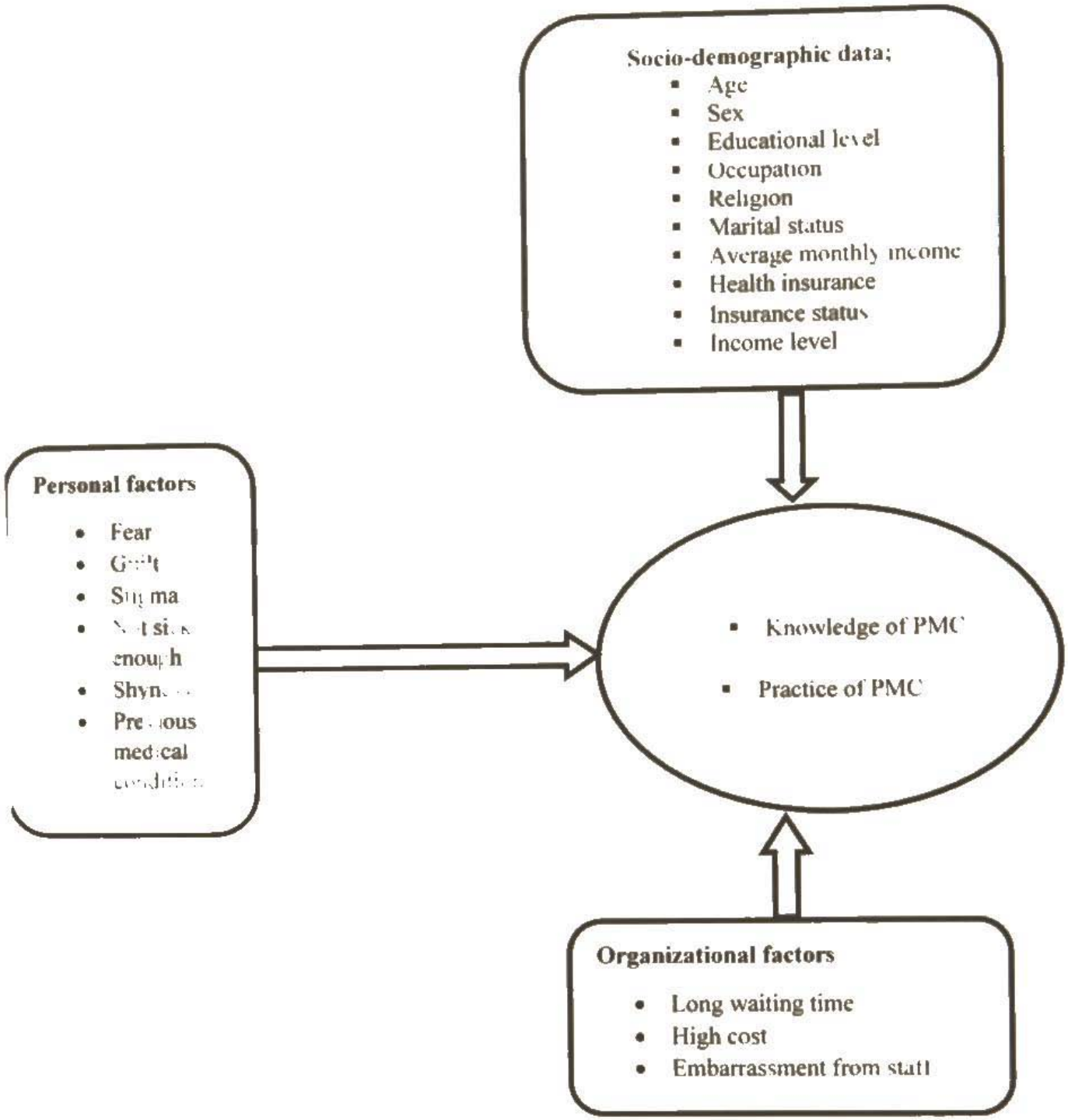

Fig 1: Conceptual framework of knowledge and practice of periodic medical check-up

1.6 Research Questions

1. What is the level of knowledge of workers at Kaneshie market about periodic medical check-up?
2. What proportion of workers at Kaneshie market practice periodic medical check-up?
3. What factors influence the practice of periodic medical check-up among workers at Kaneshie market place?

1.7 Objective of the study

1.7.1 General objective

To assess the knowledge and practice of periodic medical checkup among workers at Kaneshie market in Accra, Ghana

1.7.2 Specific objectives

1. To assess knowledge of workers on periodic medical check up
2. To estimate the proportion of workers who practice periodic medical checkup.
3. To determine the factors that influence the practice of periodic medical checkup among workers at the market

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Periodic medical check- up (PMC) is a key component of Preventive health care (WHO, 2009) . Public health places more emphasis on prevention of medical diseases and health promotion instead of the diagnosis and treatment of diseases. Preventive health care is 'any activity carried out by a person who believes himself to be healthy for the aim of preventing or detecting illness in an asymptomatic state' (Matejic, Vukovic, Pekmezovic, Kesic, & Markovic, 2011). Preventive health care has increasingly been seen as a means by which the growing numbers of people living with chronic diseases and its complication may be addressed.

PMC is widely practiced in advanced countries (Krogsbøll et al., 2012) , however in Africa, in spite of the increasing burden of infectious and non-communicable chronic diseases (Dalal et al., 2011), its practice of PMC is low (Ilesanmi S., Omotoso Bridget, Alele faith, 2015). Moreover not enough studies have been done in Africa regarding the knowledge, practices among the populace especially the working class (Eke et al, 2012).

This review highlights the meaning and essence of periodic medical check-up, the historical development, the knowledge and practice in different sections of the world, as well as the factors that influence the practice of PMC.

2.2 The Historical development of periodic medical check-up

The exact origin of Periodic medical checkup is not clear, but it is believed that the intellectual beginnings were as a result of the advocacy, in the late 19th century by of an eminent London physician, Horace Dobell. He was an author and expert on tuberculosis and diseases of the chest.

He proposed the periodic health examination as a way to identify " earliest invasive periods of defect in the physiological state and to adopt measures for their remedy"(Virgini et al., 2015)

In the early part of the 20th century, Life insurance companies influenced the popularity of the practice. Although medical checks were carried out as a way of setting premiums, they started recommending periodic medical checkup for their policy holders. Their main aim was financial risk avoidance. The data collected from these companies also demonstrated lower than expected mortality rate among those who consistently underwent these health evaluation exercise. (Han, 2015).

Employers followed the insurance companies and began to adopt routine medical examination for their workforce. The objectives were partly to promote welfare for their workers and improve efficiency and productivity, and partly to protect the employer against injury compensation claims. The company's top executives underwent more comprehensive evaluation.

In 1922 the American Medical Association (AMA) formally endorsed Periodic medical checkup and began a campaign to spread its practice in 1923. For several years Periodic medical checkup was also done in Canada, Germany, Ireland, Israel, Italy, Japan, New Zealand, Norway, France, Scotland, Australia, and South Africa. This culture of health care was rife until the1970s, when the evidence-based approaches toward preventive health practices, including periodic medical checkup, begun to be change the paradigm (Frame and Carlson, 1975).

The Canadian Task Force in 1979 conducted research on the strength of existing evidence for the effectiveness of screening methods in decreasing disease-specific morbidity and mortality (Virgini et al., 2015). The body announced rules of evidence to evaluate the quality of reported data and subsequently updated its recommendations. Finally, in 1980's, a panel formed by the USA

government called the US Preventive Service Task Force (USPSTF) evaluated Periodic medical check-up and published their first recommendations in 1989 and have issued several updates since then .With the passage of years, the ever-increasing technological advancement and understanding of pathogenesis of disease has led to several modifications, both in content and aims behind its promotion. (Virgini et al., 2015).

2.3 What is periodic medical check-up?

Periodic medical check-up is often used interchangeably with General health check, Preventive health examination Periodic Health Examination (PHE) or annual physical (Si et al., 2014). There is no universally accepted definition for periodic medical checkup, and most doctors simply consider as" health care motivated by the need to assess general health and prevent future illness rather than to attend to symptoms"(Sox, 2013). Medical check-up commences before birth by periodically assessing pregnant women to ascertain fetal viability or detect fetal disorders (Marek, Tomek, Škovránek, Povýšilová, & Šamánek, 2011). This is followed up with thorough assessment at birth to detect congenital abnormalities. In the early years of life, newborns are sent to scheduled postnatal clinics for health evaluation and immunization. Periodic medical check-up is supposed to continue in adulthood, especially those with underlying medical condition and workers.

It comprises one or more visits with a qualified health care practitioner to evaluate patient's overall health and risk factors for avoidable disease, and it leads to the delivery of clinical preventive services that are apt for a patient's age, sex, and clinical risk factors.

The possible components of the PMC comprise history taking, specific screening questions aimed at revealing undetected diseases or risk factors such as alcoholism, counseling to address those risk factors, a full physical exam, ordering of relevant preventive services, and tailored

investigations in asymptomatic patients(Mehrotra & Prochazka . AJournal. 2015). The screening tests should adhere to the WHO guidelines which says "First, the condition should be a relevant health issue and include a latent phase where validated tests can be performed .The screening tests have to be not only economically acceptable but also in terms of balance of benefits and harms for the population. Finally, there should be an available and validated treatment for the diagnosed condition".

It is done on a routine or scheduled basis. The appropriate features of this evaluation depends on the person's gender, age, and sometimes family history, health history or employment status. During such visits, Physical examination and specific laboratory investigations may be done.

Some countries have guidelines recommended by state funded agencies. For instance, the Canadian Task Force on Preventive Health Care (CTFPHC) in 1984 came out with their first evidence-based clinical practice guidelines (Milone & Milone, 2006). The U.S. Preventive Service Task Force (USPSTF) also offers periodic recommendations on content and frequency of diverse preventive care measures (The US Preventive Services, 2014; Virgini, Meindl-Fridez, Battegay, & Zimmerli, 2015). However, available literature suggest that the experts' guidelines are not being fully implemented into ordinary primary care practice in both USA and Canada. The content and frequency recommendation varies for different countries.

2.4 Advantages and disadvantages of periodic medical check-up

The effect of PMC that justifies its practice has been much debated in the medical fraternity for a while now (Mehrotra & Prochazka, 2015).Systematic review by Si et al.(2014) which concentrated on general practice based health evaluation benefits concluded that it was a good practice. One advantage of PMC is that it reduces the incidence of several chronic diseases by

reducing significant risk factors for the aim of primary prevention at the population level (Cochrane et al., 2012).

It serves as primary approach of disease prevention which involves putting in place measures before disease arise, through interventions such as vaccinations, modifying risky behaviour (poor eating habits, sedentary lifestyle, tobacco use, alcohol abuse), and outlawing substances identified to be linked to a medical condition (Pigeot, Henauw, Foraita, Jahn, & Ahrens, 2010). The evidence base to validate PMC rests predominantly on the known efficacy of the specific screening constituents listed within them. For instance, recent National Institute for Health and Clinical Excellence (NICE) guideline on the prevention of cardiovascular disease talks about the known effectiveness of interventions within medical checks in relation to physical activity, smoking and risk assessment. Also work done by Lauritzen, Sandbaek, & Borch-Johnsen (2014) concluded that PMC is effective in cardiovascular and diabetes mellitus risk control.

In addition PMC helps with secondary prevention of diseases due to the inherent ability to recognize medical disorders early and offer cost-effective intervention to reduce morbidity and mortality (Virgini et al., 2015). It identifies common diseases in an early or asymptomatic state so as to prevent the worsening of the disease (Hoebel, Richter, & Lampert, 2013). For instance, early diagnosis of chronic kidney disease (CKD) on account of the presence of protein in urine or reduced estimated glomerular filtration rate could allow early intervention to decrease the risks of kidney failure, cardiovascular events and death that are related to chronic kidney disease (James, Hemmelgarn, & Tonelli, 2010). Also there is evidence to support dramatic declines in new cases of invasive cervical cancer and a 20–60% fall in death from cervical cancer due to structured preventive programmes , including PMC in North America and Europe (Matejic et al., 2011) .

There are substantial evidence for early diagnosis of diseases through periodic medical checks (Kermott, Kuhle, Faubion, Johnson, & Hensrud, 2012). Some investigations may discover precursors to malignancy, for example dysplasia at the cervix, the treatment of which may prevent cervical malignancy from developing. A systematic review of studies on the value of PMC found that it was consistently associated with an improved delivery of pap smear tests, faecal occult blood testing and cholesterol screening (Boulware, Marinopoulos, Phillips, & Hwang, 2007).

From literature there are some arguments against PMC. It is acknowledged that several health interventions can cause harm. Possible harms from medical checks are over diagnosis, overtreatment, injury or distress from invasive follow-up tests, false reassurance due to false negative test results, distress due to false positive test results, possible perpetuation of bad health behaviour due to negative test results, adverse psychosocial effects due to stigmatization, and difficulties with getting insurance (Krogsbøll et al., 2012). Challengers of PMC argue that time required to do a PMC is twice the time used for a regular medical consultation. They criticize that unnecessary investigations, which are not based on evidence, are ordered for healthy individuals (Howard-Tripp, 2011). Some also believe that, organized medical check-ups could be expensive and this may result in lost opportunities to improve other areas of healthcare.

Some previous studies concluded that preventive measures do not reduce morbidity or mortality from disease, although the number of new diagnoses has increased. Most of those systematic reviews against PMC had methodological problems and most of the trials were old the oldest study was from the 1960s and the most recent was from the 2000s. Within this time span, there have been many changes in medical practice. Therefore, the transferability of the results to current settings might be limited(Krogsbøll et al., 2012).

2.5 Knowledge of periodic medical check up

A good appreciation of the existing knowledge as well as preventive health practice of a community is critical for developing population-specific health programmes (Eke et al., 2012). Knowledge of periodic medical check- up was found to be high (89.6%) in a study among traders in Nigeria (Eke et al., 2012). Lorant et al., (2000) reported that knowledge on periodic medical check- up is an important factor that determines the ability to seek health care. However, it was discovered that knowledge does not always lead to practice. In a study by (Eke et al., 2014), it was observed that 78.7% of traders were found to be knowledgeable on medical check- up however few (43.2%) practiced PMC. This was attributed to long waiting time at health facilities and also they feeling of not ill to go for medical check-up. It is therefore more important for traders to have time for their health to contribute significantly to societal development.

Awareness on periodic medical check-up was found to be high among respondents. In Ethiopia, above 90% of traders had good knowledge about periodic medical check in across sectional study (Vouking, Evina, & Tadenfok, 2014).

McDonald, (2013) reported that age, race ethnicity, sex, income, self-reported dental health, health insurance coverage was significantly associated with dental visits among traders in Sweden, however irrespective of all this factors, knowledge about medical examination and health is paramount as it is an indicator to inform once choice either to go for periodic medical check-up or not. He also reported that, people with known history of medical condition irrespective of their knowledge are more likely to go for periodic medical check-up compared to those with unknown history of any medical condition.

Camargo et al., (2012) reported that the main predictors for a routine medical check-up were knowledge, higher economic status and higher educational level. In a study carried out in Germany among traders on how frequent they go for routine medical check-up, it was observed that knowledge was a significant factor for periodic medical reviews. Among 272 respondents, 240 had adequate knowledge with a knowledge score of 88.2% (Hoebel et al., 2014). The likelihood of using a service becomes progressively higher when an individual has some kind of knowledge on it.

2.6 Practice of periodic medical check up

In numerous developed countries PMC are performed for prevention of several chronic diseases (Dryden et al., 2012). In Germany, every individual who has statutory health insurance and is aged 35 years and above qualifies to have a biennial medical check- up (Hoebel et al., 2014) . In addition, since 2009, the United Kingdom has been practicing NHS Health Check programme New medical check-up programmes have also been suggested or commenced in the Denmark, Holland and Australia in the past few years (Si et al., 2014). In Japan, employees working in public entities are required by law to undergo an annual medical check-up which often consist of an overall history, physical examination, blood and urine investigations, electrocardiogram and radiography of the chest (Miyazaki et al., 2007). Additionally, screening tests for hepatitis B and C, cervical cancer, endometrial malignancy, colon carcinoma, breast cancer and gastric cancer are also widely validated by numerous public health experts in the country. Medical check-ups are also done by some general practitioners outside structured programmes and by commercial clinics (Krogsboll, Jørgensen, & Gøtzsche, 2013).

In North America, PMC has been practiced ritualistically for several decades. About a third of adult population in the USA receive an annual periodic evaluation in any given year (Mehrotra & Prochazka , 2015).

In developing countries, there is poor practice of PMC (Usman et al., 2016 ; Eke et al., 2012;Ilesanmi, Omotoso, Alele, & Amenkhienan, 2015). Most Africans including Ghanaians are curative minded .They accord little attention to issues of health and give little or no priority to medical check-up. A research on the knowledge and practice of PMC among traders in a community in South East Nigeria reported that only 39.4% of females and 29.4% of male respondents practiced PMC (Eke et al., 2012). A similar study by Ilesanmi et al. (2015) which looked at knowledge and practice of PMC among adult members in a community in South West Nigeria reported that about 62% of participants had ever heard of periodic medical check-up, 79% of those who had heard had ever done it and only 48.2% among those who had ever done it had frequent medical check-up.

2.7 Factors influencing practice of periodic medical check up

According to Butto & Mburu, 2015; Akafuah & Sossou, (2008), sociodemographic factors such as gender, marital status, and age were significant factors identified to be associated with periodic medical check-up. Higher medical check-up attendance has been found to be associated with increasing age, higher socioeconomic status, being married, stronger social support, physical activity, non-smoking, greater fruit and vegetable consumption (Hoebel et al., 2014). However, Eke et al., (2012) in a study on the knowledge and practice of periodic medical checkup by traders in South East of Nigeria did not discover any significant associations between age, gender, educational status and periodic medical checkup

Some studies reported that females have increased odds of utilizing health care services compared to males due to the various kinds of diseases that affect them. Hunt et al., (2011) reported that women consult on their health status generally more than men, however, no difference was noted in the proportion of female and male with regards to frequency of medical check-up in a similar study in Nigeria. With respect to education, Abdulraheem, (2014) did not find a significant association between education and frequent medical check-up in a study conducted among elderly Nigerians who assessed their health needs and determinants of health-seeking behavior. This is in contrast to the argument that those with higher level of education should have higher levels of health seeking behaviour (Eke et al., 2012). Their results stressed that the practice of PMC was not associated with educational levels among the population under research. Health education directed at improving practice of medical check-up should not only be limited to individuals with low educational levels.

Hoebel et al., (2014) indicated in their studies the reasons contributing to low practice of periodic medical check-up and found out that, high cost of service and inadequate time were the challenges that influence them not to have regular medical check-up. Religion, fear of being diagnosed wrongly was found not to be significantly associated with periodic medical check-up. Hoebel et al., (2014) reported that education has much influence on the practice of periodic medical check-up. They reported that periodic medical check-up increases even among couples when husband or wife had attained some level of education. Literacy is therefore identified as a very significant element that affects the frequency of medical check-up especially among population in Sub-Saharan Africa.

A study by Lorant et al., (2000) showed that people who had regular salaried jobs or have above average monthly income mostly participate periodic medical check-up. However, Hoebel et al.,

(2014) did not find any significant association between income level and periodic medical check-up in a study conducted among traders in Bangladesh.

The main reasons for people poor patronage when it comes to medical check- up in Sub-Saharan Africa is their perception that health facilities will misdiagnose them. This decision therefore prevents them from accessing periodic health care until they show symptoms of a particular disease before they begin to be active (Lorant et al., 2000). In a study undertaken in Nigeria, Abdulraheem (2014) reported that client mistrust of service providers was a major barrier to accessing periodic medical check-up. The sensitivity of the machines used in medical examination is also another source of worry why most people do not go for periodic medical check-up (Hunt et al., 2011).

A research by Hoebel et al (2014) in Germany concluded that health check attendance was associated with higher age, higher socioeconomic status, being married, stronger social support, physical activity, non-smoking, greater fruit and vegetable consumption, and higher outpatient care use in men and women after mutual adjustment.

CHAPTER THREE

METHODS

3.1 Study Design

A cross-sectional quantitative study of Periodic medical check-up among workers at Kaneshie market, in Accra, Ghana was conducted.

3.2 Study Area

This study was done in one of the major markets in Accra which is the Kaneshie market. It is situated in Okaikoi-South Sub Metropolitan Assembly (5.5664° N, 0.2357° W) figure 2. It has a big market complex building which comprises three floors with about 2500 stalls, shops and offices. There are also a lot of stalls around the market complex building who are operating under the permit of the Accra Market Authorities.

The market was selected because it is characterized by a heterogeneous group of workers: formal and informal workers, sedentary and non-sedentary workers who by the nature of their working life styles might not be practicing PMC. The workers include traders, skilled and unskilled manual workers, clerics, health professionals and bankers. Moreover, it is among the few relatively well organized markets in Accra with well demarcated stores, stalls and offices within the market.

Figure 2: Map showing the location of Kaneshie market

Figure 3: Kaneshie market showing the complex building with various activities outside the building

3.3 Study variables

3.3.1 Outcome variable

The outcome variables were Knowledge of Periodic Medical Check-up and Practice of Periodic Medical Check-up. Practice of PMC was measured by initially asking respondents whether they had ever gone for medical checkup. This resulted in two initial classification of Yes (periodic) and No (non- periodic). The participants who responded yes were further asked about how frequent they went for medical checkup. They were asked to select from the following answers: once a year, twice a year, more than two times in a year, and others (≥2 years). Respondents who went for medical checkup once a year, twice a year and more than two times within a year were given a score of 1 and classified as having "Periodic" medical checkup. Those who underwent medical checkup once every two years and more were given a score of 0 and classified as having "Non-periodic" medical checkup. Those who had earlier answered NO were by default, added to those who were given a score of zero (0) for the frequency.

3.3.2 Measurement of knowledge of Periodic Medical Check-up

Knowledge was assessed by using a 9 item Likert scale (Ministry of Health. Ethiopia, 2011) with 5 point ratings; "strongly agree", "Agree", "neutral", "Disagree" and "strongly disagree". With respect to the degree of ratings, strongly agree was given the highest score of 1, followed by Agree (2), neutral (3), disagree (4) and strongly disagree (5). Depending on the summative score of the questions, an individual score would fall between 9 and 45 with a median score of 27. Workers who obtained a sum of knowledge score below (<27) were classified as having high knowledge whilst those with summation score >27 were classified as having low knowledge, respondents with

scores just equal to the median however were classified as having average knowledge (Ministry of Health. Ethiopia, 2011).

3.3.3 Independent variables

The independent variables encompassed Sociodemographic variables such as age, sex, occupation, educational level of respondents, average monthly income, marital status, health insurance status.

3.4 Study Population

The study population targeted for this study were adult workers at Kaneshie market. They included traders, skilled and unskilled manual workers, bankers, insurers, artisans, drivers,
Health workers.

3.4.1 Inclusion Criteria

Persons who were above 18years and involved in any type of approved work at the Kaneshie market during the research period were included in the study.

3.4.2 Exclusion criteria

People who were workers somewhere but happened to be present at the Kaneshie market during the time of the study were excluded in the study. Additionally, workers especially squatters who were operating illegally in and around the Kaneshie market complex building were excluded.

3.5 Sampling

3.5.1 Sample size

The sample size (n) was derived using the Cochran's formula (Israel, 2018). It was determined based on proportion of respondents who had practiced medical checkup in a previous study done in community 20, Tema , Ghana (Danquah, 2017).

$$n = \frac{Z^2_{1-\frac{\alpha}{2}} P(1-P)}{e^2} * (1+r)$$

n - The sample size

p = 0.681, (prevalence of 68.1% is assumed because a study done in Tema in 2017 reported 68.1% prevalence of assessing routine medical checkup. The overall prevalence in Ghana is not known).

e - The desired level of precision or level of acceptable error = 0.05

z = 95% confidence interval (standard value 1.96).

r - Non-response rate of 10% to deal with uncompleted and unreturned questionnaires

$$n = \frac{1.96^2[0.681(1-0.681)]}{0.05^2} * (1+0.1)$$

n = 367.19

n = 368

Therefore, the sample size for this study was 368 with the assumptions of 95% confidence level and 5% precision.

3.5.2 Sampling Technique

The respondents were initially categorized into four groups. Each floor within the three storey market complex was regarded as a group and the 4_{th} group was the workers outside the building. Each group was further divided into subgroups based on the category of work they were involved in. Subsequently, convenient sampling technique was used to select ninety- two (92) respondents from each of the groups. A convenient sampling rather than random sampling was used because

the respondents were business oriented people who had little or no time to spare for an interview. Thus, the four groups were shared among the principal investigator and the three research assistants such that each research team member had one group of respondents to interview. In each group or floors, a team member went to different subgroups to ensure fair representation of various categories of workers. In instances where the research team member visited a particular office, shop or stall and found more than one person who were available and willing to participate in the interview, there was balloting done with the ballot papers having yes and no written on them. The person who picked yes was included in the study.

Each individual participating in the study was given a code to note that he/she had been interviewed. This procedure was repeated on the subsequent days until the desired sample size of 368 was achieved.

3.6 Data collection technique and tools

A standardized questionnaire (Appendix 3) was used in collecting the data. The questionnaire comprised closed ended questions. Three Research assistants were recruited and trained to help expedite the process of data collection. The well-structured questionnaire was explained and interpreted to respondents who did not understand the English language.

3.7 Quality Control

Several mechanisms were put in place to ensure and guarantee data accuracy and quality devoid of biases. These included careful training of research assistants, pre-testing of questionnaires and supervision of data entry and processing.

The questionnaires were pre-tested at Odorkor market before the actual study was done. All necessary corrections including clarity of questions, responses and vagueness of the tools as revealed by the pre-testing were effected.

Three research assistants with health background who are fluent in Ga, Twi, Ewe and English were recruited and trained for the study. The training involved the explanation of questionnaires, ethics, how to seek informed consent from participants and how to administer the questionnaire to the participants who consented to participate in the study. They were also monitored on daily basis.

Data collected were validated, serialized and coded. Microsoft Excel 2016 database was used to enter data from each respondent and appropriate label name were assigned to each variable. Data were cross-checked for errors on hard copies to ensure correct entry of the variables. Completed questionnaires were entered daily after which data were cleaned.

The data were collected from every respondent and series of checks were conducted after daily collection to ensure that questionnaires were well completed and appropriately filled with accurate information before final analysis.

3.8 Data analysis

Raw data were entered into Microsoft Excel 2017 spreadsheet, cleaned and imported onto Stata software version 15 (Statacorp. College Station, Tx.USA) for statistical analysis. All non-responses were regarded as missing data.

Univariate analysis and descriptive statistics including frequencies, cross tabulations and percentages were obtained on variables and the results were presented in the form of tables and bar chart.

Bivariate analyses using Chi square were performed to test the associations between periodic medical check-up and the independent variables. However, where one of the expected frequencies in a cell was less than 5, Fisher's exact test was used.

Multiple logistic regression was carried out on the dependent and each of the independent variables that were statistically significant at the bivariate level. Statistical significance was accepted at 5% level of significance ($p \leq 0.05$).

3.9 Ethical considerations

Ethical clearance was gotten from the Ghana Health Service Ethics review Board. Permission was sought from the management of the Kaneshie market and informed consent was also sought from the participants before the study was carried out.

3.9.1 Access and approval of study area

The principal investigator visited the study area personally to notify the management of the Kaneshie market about the plan to conduct the study. A letter of introduction was acquired from the Head of Department, School of Public Health, College of Health Sciences, and University of Ghana and submitted to the in charge. Subsequently, the Ghana Health Service Ethics Review Committee's approval letter was also submitted to the authorities.

3.9.2 Privacy and confidentiality

Privacy and confidentiality were ensured by using initials rather than the names of respondents in filling out the questionnaire. Interview with the individual respondents was also conducted in an isolated area so as to guarantee their privacy. Participants' initials or names were also not

mentioned in the report of the study and information obtained on participants was kept confidential between the principal investigator and the study participants.

3.9.3 Compensation

Study participants were not given any compensation for participating in the study. This was made known to participants before they chose to take part in the study or not.

3.9.4 Risks and Benefits

Beside the time lost by study subjects in responding to the questionnaires and responses to questions about their ages and marital status which could make them a bit uncomfortable, no risk or cost was associated with participating in the study. Participants would not gain any direct benefits. However, it was expected that the findings of this research would contribute to improving policy and promotion of Periodic medical check-up

3.9.5 Voluntary withdrawal

Participation in the study was completely voluntary and participants had the option of choosing not to answer any of the questions. Participants had the option of withdrawing from the study at any time. However, participants were admonished and encouraged to fully participate to ensure that findings from the study would be a true reflection of Periodic medical check- up among market workers

3.9.6 Informed Consent and Consenting process

Informed consent was obtained from participants before commencement of the study. The objectives of the study was explained to respondents individually before consent was sought Where appropriate, the content and purpose of the research was thoroughly interpreted into the

language understood by the respondent. The decision to take part in the study was absolutely voluntary. They were made to understand that refusal to take part was not going to affect the relationship between the participant(s) and the researcher. In addition, a written consent form was signed by respondents before they could participate in the study.

3.9.7 Data storage and usage

The entire data collected in this study was strictly for research purposes. The data was stored in a safe and secured manner in safely locked boxes and password protected electronic media. Anonymity was ensured in dissemination of findings from this study since participants were not to be identified by their names.

3.9.8 Declaration of conflict of interest

As the principal investigator, I hereby declare no conflict of interest in relation to the study.

CHAPTER FOUR

RESULTS

4.1 Socio-demographic characteristics of respondents

A total of 368 participants were interviewed and recruited for this study. Out of this 211 (57.3%) were females and 157 (42.7%) were males. The results showed that majority (32.3%) were between 26 to 35 years. 195(53%) were married. Concerning educational background, 38% had attained primary school and 30.2% had tertiary level education. Majority of the workers, 118 (49.2%) were traders. With regard to religion, the respondents were predominantly Christians (90.2%). Majority (43.5%) of respondents earned an average monthly income of GH¢301-600 and only 16.9% earned above GH¢1000. Ninety one percent had either National Health Insurance Scheme (NHIS) or private health insurance. The background characteristics of the respondents are shown in Table 1.

Table 1: Sociodemographic characteristics of respondents

Variable	Frequency	Percentage (%)
Age(Yrs.) (N=368)		
18-25	76	20.7
26-35	119	32.3
36-45	78	21.2
45+	95	25.8
Sex (N= 368)		
Male	157	42.7
Female	211	57.3
Marital Status (N=368)		
Single	146	39.7
Married	195	53.0
Separated	19	5.2
Divorced	6	1.6
Widowed	2	0.5
Educational level of respondents (N=368)		
No Formal education	35	9.5
Primary	140	38.0

Secondary	82	22.3
Tertiary	111	30.2
Employment status of respondents (N=368)		
Professional/Technical	50	13.6
Clerical	18	4.9
Trading	181	49.2
Skilled manual	75	20.4
Unskilled manual	13	3.5
Civil servant	31	8.4
Religion (N=368)		
Christianity	332	90.2
Moslem	31	8.4
Traditional	1	0.3
Others	4	1.1
Average monthly Income (N=368)		
GH¢50-300	80	21.7
GH¢301-600	160	43.5
GH¢601-1000	66	17.9
GH¢ -1000	62	16.9
Health Insurance status (N=368)		
Insured (NHIS)	298	80.9
Insured (Private Health Insurance)	37	10.1
Uninsured	33	9.0

4.2 Knowledge on Periodic medical check-up among workers at Kaneshie market

The results showed that the proportion of respondents with high knowledge about medical check-up was 90.8%, 5.9% had average knowledge and 3.3% had low knowledge. Table 2

Table 2: knowledge score on Periodic medical check-up among workers at Kaneshie market*

	Frequency	Percentage (%)
Low	12	3.3
Average	22	5.9
High	334	90.8

*Derived from Likert Scale(Ministry of Health. Ethiopia, 2011)

Majority (48.1%) strongly agreed to the assertion that PMC is important for asymptomatic person while 38.6% had knowledge on the claim that PMC are to screen for diseases and get educated by the doctor about healthy lifestyle. Most respondents had knowledge about the significance or importance of PMC and 61.4% agreed to the statement that PMC is a routine test performed to check the overall health of an individual.

Most respondents (66.6%) had knowledge and agreed to the assertion that PMC is necessary to establish a health baseline. Additionally, 64.1 % also agreed that PMC encourages workers to be health conscious. Knowledge assessment table is shown in Table 3.

Table 3: Knowledge of Periodic medical check-up among workers at Kaneshie market

Variable	Frequency	Percentage
Periodic medical checkup is important for asymptomatic person		
Strongly agree	177	48.1
Agree	162	44.0
Neutral	24	6.5
Disagree	1	0.3
Strongly disagree	4	1.1
Periodic medical checkup are to screen for diseases and get educated by the doctor about healthy lifestyle.		
Strongly agree	142	38.6
Agree	209	25.6
Neutral	10	2.7
Disagree	5	1.4
Strongly disagree	2	0.5
Periodic medical checkup is used to promote doctor-patient relationship		
Strongly agree	87	23.6

Agree	169	45.9
Neutral	59	16.0
Disagree	47	12.8
Strongly disagree	6	1.7
Periodic medical checkup is a routine test performed to check your overall health.		
Strongly agree	129	35.1
Agree	226	61.4
Neutral	10	2.7
Disagree	3	0.8
Strongly disagree	0	0.0
Periodic medical checkup is necessary to establish a health baseline		
Strongly agree	108	29.4
Agree	245	66.6
Neutral	12	3.3
Disagree	2	0.5
Strongly disagree	1	0.2
Periodic medical checkups encourage workers to be health conscious		
Strongly agree	113	30.7
Agree	236	64.1
Neutral	10	2.7
Disagree	6	1.6
Strongly disagree	3	0.8
Periodic medical checkup in workers should always ask questions about exercise, diet and drug or alcohol use.		
Strongly agree	31	8.4
Agree	19	5.2
Neutral	20	5.4
Disagree	209	56.8
Strongly disagree	89	24.0
Periodic medical checkup should always cover the patient's heart, lungs, and the pulse and blood pressure, and blood and urine tests.		
Strongly agree	25	6.8
Agree	18	4.9
Neutral	15	4.0
Disagree	175	47.6
Strongly disagree	135	35.7

Annual physical medical examinations is covered under the National Health Insurance Scheme.		
Strongly agree	34	9.2
Agree	12	3.3
Neutral	10	2.7
Disagree	90	24.5
Strongly disagree	222	60.3

4.3 Proportion of respondents who practiced Periodic medical check-up and their reasons

The results showed that the proportion of workers who had periodic medical check-up at Kaneshie market was 46.7% (Table 4).

About 24.7% of respondents went for medical check-up once a year, 10.9 % went twice a year, more than twice a year (11.2%), 9.8% went for medical check-up once every two years ,whilst 43.5% went for check-up once for a period more than two years and they formed the majority. General examination (52.5%) was the well-known type of periodic medical checkup. Out of the 255 respondents who had undergone medical checkup, 225 (88.2%) sought for health care in a hospital (Appendix 2).

Out of the respondents who had never gone for medical check-up, High cost of service (41.6%), not having time (40.7%) and not sick enough (39.8%) were the predominant reasons perceived to have influenced them not to go for PMC. Respondents reasons are shown in (Figure 4).

Table 4: Proportion of workers who practiced Periodic medical check-up

Variable	Frequency	Percentage
Ever undergone medical checkup (N= 368)		
Yes	255	69.3
No	113	30.7
Frequency of medical checkup (N=368)		
Once a year	91	24.7
Twice a year	40	10.9
More than twice a year	41	11.2
Once every two years	36	9.8
>Two years or never	160	43.5
Outcome		
Periodic	172	46.7
Non-periodic	196	53.3

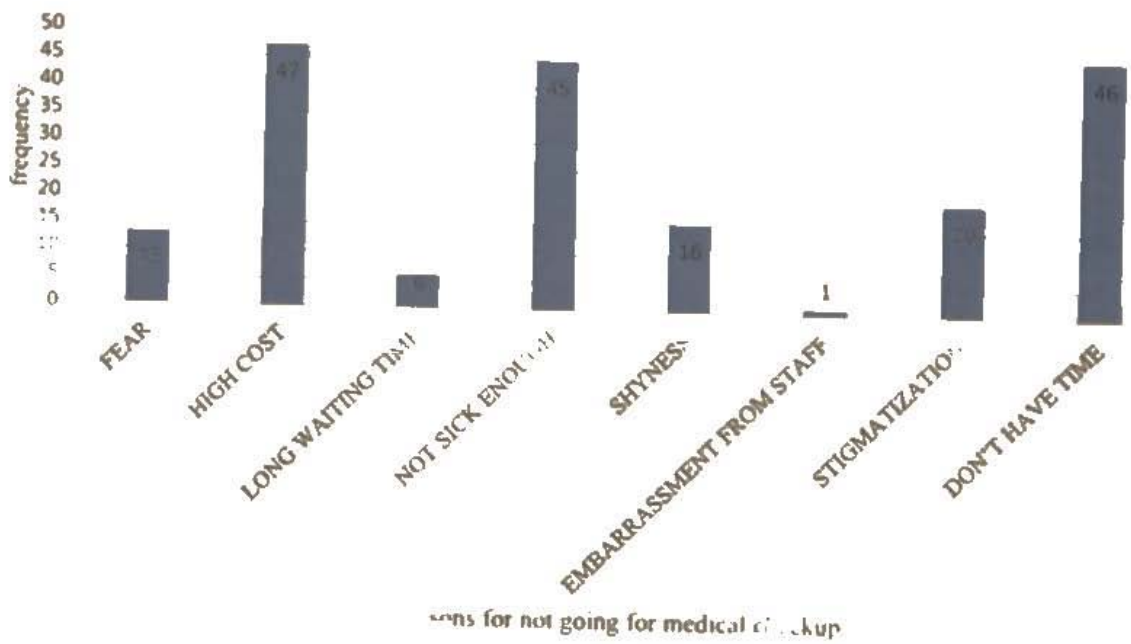

Figure 4: Participants reasons for not having Periodic Medical check-up (*Multiple response)

4.4 Association between socio-demographic characteristics and practice of periodic medical check up

A bivariate analysis using Chi-square was used to determine if there existed significant association between independent variables (socio-demographic characteristics and knowledge) and dependent variable (periodic medical checkup). The results revealed that, age (p = 0.001), sex (p = 0.001), marital status (p = 0.001), educational level (p = 0.013), average monthly income (p = 0.048), health insurance status (p = 0.037) and knowledge (p = 0.003) were the factors found to be significantly associated with periodic medical checkup at 5% level of significance ($p \leq 0.05$). Other demographic variables such as employment status (p=0.316) and religion (p=0.140) were assessed but were found not to be significantly associated with periodic medical check-up (Table 5).

Table 5: Association between socio-demographic characteristics and periodic medical Check-up

Variable	Periodic medical checkup			X2 p-value
	Periodic (%) n (%)	Non-periodic n (%)	Total N (%)	
Age group				< 0.001*
18-25	19 (25)	57 (75)	76 (100.0)	
26-35	49 (41.2)	70 (58.6)	119 (100.0)	
36-45	41 (52.6)	37 (47.4)	78 (100.0)	
45+	63 (66.3)	32(33.7)	95 (100.0)	
Sex				< 0.001*
Male	54 (34.4)	103(65.6)	157(100.0)	
Female	118(55.9)	93(44.1)	211(100.0)	
Marital status				< 0.001*
Single	43 (29.5)	103 (70.5)	146 (100.0)	
Married	113(57.9)	82 (42.1)	195 (100.0)	
Separated	10 (52.6)	9 (47.4)	19 (100.0)	
Divorced	6 (100.0)	0 (0.0)	6 (100.0)	
Widowed	0 (0.0)	2(100.0)	2 (100.0)	
Educational level				0.013*
No formal education	11(31.4)	24 (68.6)	35 (100.0)	

Primary	57 (40.7)	83 (59.3)	140 (100.0	
Secondary	40(48.8)	42 (51.2)	82 (100.0)	
Tertiary	64 (57.7)	47(42.3)	111(100.0)	
Employment status				0.316
Professional Technical	26 (52.0)	24 (48.0)	50 (100.0)	
Clerical	8 (44.4)	10 (55.6)	18 (100.0)	
Trading	85 (46.9)	96 (53.1)	181(100.0)	
Skilled manual	28 (37.3)	47 (62.7)	75 (100.0)	
Unskilled manual	6 (46.2)	7 (53.8)	13 (100.0)	
Civil servant	19 (61.3)	12 (38.7)	31(100.0)	
Religion				0.140
Christianity	160(48.2)	172 (51.8)	332 (100.0)	
Moslem	12(38.7)	19 (61.3)	31 (100.0)	
Traditional	0 (0.0)	1 (100.0)	1 (100.0)	
Others	0 (0.0)	4 (100.0)	4 (100.0)	
Average monthly Income				0.048*
GH¢50-300	29 (36.3)	51(63.7)	80 (100.0)	
GH¢301-600	72 (45.0)	88 (55.0)	160 (100.0)	
GH¢601-1000	38 (57.6)	28 (42.4)	66 (100.0)	
GH¢ >1000	33 (53.2)	29 (46.8)	62 (100.0)	
Health insurance status				0.037*
Insured (NHIS)	142 (47.7)	156 (52.3)	298 (100.0)	
Insured (Private Health Insurance)	21(56.8)	16 (43.2)	37 (100.0)	
Uninsured	9 (27.3)	24 (72.7)	33 (100.0)	
Knowledge of periodic medical check up				0.003*
Low	1(8.3)	11(91.7)	12 (100.0)	
Average	6 (27.3)	16 (72.7)	22 (100.0)	
High	165 (49.4)	169 (50.6)	334 (100.0)	

*Significant ($p \leq 0.05$)

4.5 Multiple Logistic regression analysis of factors associated with PMC

Age, sex, marital status and educational level were the factors found to be statistically significant when multiple logistic regression was conducted on factors that significantly influenced PMC at the bivariate level (Table 6).

The results showed that workers who were above 45 years were 4.7 times more likely to have periodic medical check-up compared to those between 18-25 years (AOR= 4.7; 95% CI=1.92-

11.78) Also, workers who are between 36-46 years had increased odds of practicing periodic medical check-up compared to those between 18-25 years (AOR=3.3; 95% CI=1.32-4.7.96). Female workers were 1.9 times more likely to have periodic medical check- up compared to their male counterparts (AOR= 1.9; 95% CI=1.18-3.13). With regards to marital status, workers who were married were 2.7 times more likely to have periodic medical check- up relative to those who are single (AOR= 2.7; 95% CI= 1.48-5.15).

Workers who had attained tertiary education were 5.8 times more likely to have periodic medical check- up compared to those with no formal education (AOR= 5.8n ; 95% CI=2.00-16.78).

Workers who have high knowledge on medical check had 6.2 times the odds of practicing periodic medical check- up compared to those with low knowledge (AOR= 6.2 ; 95% CI=1.72-11.71).

Average monthly income and health insurance status which was significant at the bivariate logistic regression level were found not to be statistically significant in the multiple logistic regression level and were therefore not included in the model (Table 6).

Table 6: Multiple Logistics regression of the factors associated with periodic medical check-up

Variable	Medical check up			
	Periodic n (%)	Non-periodic	cOR (95%CI)	AOR(95%C
Age				
18-25	19 (25)	57 (75)	ref	ref
26-35	49 (41.2)	70 (58.6)	**2.1 (1.11-3.96)**	1.8 (0.85-3.8
36-45	41 (52.6)	37 (47.4)	**3.3 (1.67-6.58)**	**3.3 (1.32-7.9**
45+	63 (66.3)	32(33.7)	**5.9 (3.02-11.56)**	**4.7(1.92-11.**
Sex				
Male	54 (34.4)	103 (65.6)	ref	ref
Female	118 (55.9)	93 (44.1)	**2.42 (1.57-3.71)**	**1.93 (1.18-3.**
Marital status				
Single	43 (29.5)	103 (70.5)	ref	ref
Married	113(57.9)	82 (42.1)	**3.3 (2.09-5.21)**	**2.7 (1.48-5.1**
Separated	10 (52.6)	9 (47.4)	**2.7 (1.01-7.01)**	3.1(0.95-10.3
Divorced	6 (100.0)	0 (0.0)	0.0	
Widowed	0 (0.0)	2(100.0)	0.0	
Educational level				
No formal education	11(31.4)	24 (68.6)	ref	ref
Primary	57 (40.7)	83 (59.3)	1.49 (0.68-3.29)	1.4 (0.55-3.7
Secondary	40(48.8)	42 (51.2)	2.08 (0.90-4.79)	2.1 (0.77-5.7
Tertiary	64 (57.7)	47(42.3)	**2.97(1.33-6.65)**	**5.8 (2.00-16.**
Monthly income				
GH¢50-300	29 (36.3)	51(63.7)	ref	ref
GH¢301-600	72 (45.0)	88 (55.0)	1.44 (0.82-2.49)	0.96(0.47-1.9
GH¢601-1000	38 (57.6)	28 (42.4)	**2.38 (1.22-4.65)**	1.8 (0.81-3.9
GH¢ >1000	33 (53.2)	29 (46.8)	**2.01(1.02-3.93)**	0.74 (0.32-1.7
Health insurance status				
Insured (NHIS)	142 (47.7)	156 (52.3)	ref	ref
Insured (Private)	21(56.8)	16 (43.2)	1.44 (0.72-2.87)	0.9 (0.42-2.28
Knowledge				

Low	1(8.3)	11(91.7)	ref	ref
Average	6 (27.3)	16 (72.7)	4.1 (0.43-9.21)	3.2 (0.85-3.8
High	165 (49.4)	169 (50.6)	**10.7 (1.37-18.4)**	**6.2 (1.72-11**

n (%) represents frequency (percentage), cOR represents Crude Odds Ratio, AOR represents Adjusted Odds Ratio and CI represents confidence interval

CHAPTER FIVE

DISCUSSIONS

5.1 Knowledge of workers at Kaneshie market on periodic medical check up

A good knowledge and understanding of the attitude and preventive health seeking behaviour of a community is needed when designing population-specific health programmes (Eke, Joe-Ikechebelu & Okoye, 2012). In this study the proportion of workers with adequate knowledge of periodic medical check-up was 90.8%. This finding is consistent with the work of Eke et al., (2012) who conducted a study on knowledge of periodic medical check-up among traders in South East Nigeria and found the proportion with high knowledge to be 89.6%. The reason for this high knowledge in my study may be due to the daily health educational programmes about periodic medical check-up on mass media in Ghana. Most of the radio station have daily health discussions in different languages. Additionally, a lot of marketing has been done by health facilities especially herbal and homeopathic clinics encouraging the public to go for thorough medical check-up. Further, most of the respondents might have their education on PMC at their places of worship since most of them were either Christians or Muslims. In recent times, most religious bodies have been actively engaged in public health awareness creation.

5.2 Proportion of workers who practiced periodic medical check up

In this study, the estimated proportion of workers who practice PMC at the Kaneshie market was 46.7%. This finding agrees with the work by Eke et al., (2012) on the practice of periodic medical checkup among traders in South East Nigeria where the proportion of traders who practiced periodic medical check-up was 45.4 %. This finding however is contrary to a similar cross sectional study on periodic medical check-up conducted among residents in a community in south

Western Nigeria where the proportion of period medical check-up was estimated to be 79.2% (Ilesanmi., Omotoso Bridget, Alele, 2015). Furthermore, the results of the present study are contrary to findings from (Danquah, 2017) who studied routine medical and dental examination among adult in Tema, Community 20. In that research, periodic medical check-up among the residents was found to be 68.1%. However, it must be noted that the two latter studies did not focus on workers but the whole community. Workers are a peculiar group with their own social challenges that cannot be generalized for the whole population.

The findings of this study regarding those who practiced PMC was surprisingly low considering the extent of knowledge of the respondents and preventive health campaign in Ghana at the moment by both the government and Non-Governmental organizations, media and some religious bodies. Furthermore, with the presence of health facilities including hospitals, pharmacies and herbal centres in the building, it was expected that the practice will be high because of the proximity to these health facilities.

The reason for the lower level of periodic medical check-up among workers who participated in this current study might be drawn from the reasons given by the respondents who had never gone for check-up. The excuse of not having time was very prominent. The busy engagement of these workers made it difficult for them to leave their work place. Their business module often was not structured well enough to allow them to comfortably leave their stores or stall.

Additionally, majority felt they were overtly healthy and did not need to seek any medical assessment. They also complained that the financial cost of going for such evaluation discouraged most of them from going for periodic medical check-up.

This finding was of concern as Sub-Sahara Africans including Ghanaians have high rates of diagnosed and undiagnosed chronic diseases (Dalal et al., 2011). Indeed, preventive services including PMC are urgently needed to curb the burden of chronic diseases in Ghana.

5.3 The influence of sociodemographic factors and knowledge on the practice of periodic medical check up

The results of this study revealed association between the practice of Periodic medical check-up and some of the independent variables. The practice of PMC was found to be associated with sex, older age, being married, higher educational level and knowledge. However, average monthly income, profession, religion and insurance status of the respondents were not significantly associated with the practice of PMC. This findings are consistent with those of some previous studies which found age, gender, educational level, and marital status to be significantly associated with periodic medical check- up (Butto & Mburu, 2015; Mwangi & Mangeni, 2012). Additionally, Camargo et al. (2012) reported that the main predictors for a routine medical check up were knowledge, higher economic status and higher educational level.

In the present research, sex of the market worker significantly influenced practice of PMC. Female workers at Kaneshie market had increased odds of having periodic medical check-up compared to their male counterparts. This finding is consistent with the study by Miyazaki et al. (2007) that reported that adult females in China practiced PMC more than males. It is generally thought that females suffer from more diseases and are more sensitive to their health status. This could also be attributed to indifferent attitude of most males regarding health care.

The age of a worker at Kaneshie market was significantly associated with practice of PMC. As the age increased the odds of practicing periodic medical check-up also increased. Workers who are above 45 years were more likely to have periodic medical check-up compared to younger workers

between 18-25 years. This result is consistent with the work of Eke et al. (2016) who found that practice of PMC among traders in the South -Eastern part of Nigeria increased with increasing age. Additionally, the finding of this study is in congruence with previous studies which surveyed adults in Germany and showed that younger people were less likely to participate in health checks than older people (Hoebel et al., 2014). The impact of age on the practice could be due to the fact that physiological changes as one ages are often associated with increased potential illnesses (Miyazaki et al., 2007). Furthermore, younger workers might think they were not sick enough to go for health evaluation.

With regards to marital status, workers who were married were more likely to have periodic medical check- up compared to those who were single. This is consistent with previous studies in the UK, by Dryden, et.al (2012) which found that non-attendees of PMC were more likely to be single. Again, Akafuah & Sossou (2008), discovered that marital status played a major role in periodic medical check-up among Ghanaians. This finding may be due to the fact that living together with a partner is associated with a mutual "health monitoring", which could result in increased attention to medical status or symptoms, and a greater involvement in preventive health actions. In addition constant sharing of information between partners could lead to the one who is more informed advising the other.

The association between educational level and PMC which showed that there was a likely increase in routine medical examination among market workers with higher education level is not surprising. It is consistent with study by Hoebel et al. (2014) who found significant association between educational level and practice of PMC among adults in Germany. However , it is contrary to a study done by Eke et al., (2012) who reported that level of education did not affect uptake of medical check-up . The reason for the association in this may be due to the fact that educated

individuals were more likely to read, acquire health information and understand the importance of preventive health services and take action to protect their health before they fell sick.

The association between level of knowledge of PMC and practice of periodic medical check-up among participants of the study was found to be statistically significant. Workers at Kaneshie market who have high knowledge on medical check had 6.2 times the odds of practicing periodic medical check-up compared to those with low knowledge. This is possibly due to the fact that individuals with high knowledge have better access to information in medical care compared to those with low knowledge. This finding however does not agree with a study by Ilesanmi et al. (2015) . In this study, average monthly income, profession, religion and insurance status of the respondents were not significantly associated with PMC The results for income and profession were unanticipated. It is contrary to what is expected that low earners would tend to worry mainly about their financial security, rather than about future health problems, thus, might not be going for PMC. Moreover, it contrasts the belief that individuals with higher income earnings can better afford medical care compared to the low income groups. These results, however, contradicts those of a study in Germany by Hoebel et al (2014) that found income and occupational status (profession) to be strongly associated with PMC among both men and women .Likewise, Kura et al (2013) reported that people who had above average monthly income mostly had increased access to medical check-up.

The finding of no association between profession and PMC practice among workers at Kaneshie market is different from the results of similar study by Sun et al. (2014) in China, as well as related study by Hoebel et al (2014).This could be due to the fact that, regardless of the profession or occupation, all workers at Kaneshie market have busy work schedule which prevented them from

going for PMC. Moreover, occupational health standards which encourages workers to go for regular health evaluation is not prioritized in most formal and informal workplaces in Ghana.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

The knowledge level about PMC was high (90.8%), however, this did not translate into practice of PMC among workers at Kaneshie market which was low (46.7%).

The study also found that the practice of PMC among workers at Kaneshie market was associated with sex, higher age, being married, higher educational level and knowledge. On the other hand, average monthly income, profession, religion and health insurance status of the participants were not significantly associated with the practice of PMC. This low practice of periodic medical check-up among the workers needs to be addressed because it has the potential of affecting early detection, management and prognosis of chronic diseases among these workers.

6.1 Recommendations

- The Government and other stakeholders in health should organize medical outreach programmes in the market and other workplaces since the work schedule of majority of the workers at the Kaneshie Market discourages them from going to health facilities for it.
- Workers at the Kaneshie Market should be encouraged to place more emphasis on their health irrespective of their busy schedules since high number of respondents had knowledge of PMC but that did not translate into practice.
- Whereas this study focused on knowledge and practice of PMC among workers at Kaneshie market, future research should also investigate PMC in other work places. Additionally, the influence of the practice of PMC on morbidity and mortality can be studied.

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APPENDICES

APPENDIX 1: PARTICIPANTS INFORMATION SHEET

PARTICIPANTS INFORMATION SHEET FOR WORKERS AT KANESHIE MARKET, ACCRA

STUDY TITLE: PERIODIC MEDICAL CHECKUP AMONG WORKERS AT KANESHIE MARKET IN ACCRA, GHANA.

INTRODUCTION: I am HENRY KUSI APPIAH, an MPH student at the School of Public Health University of Ghana Legon. I am conducting a research on the topic. "Periodic medical checkup among workers at Kaneshie market in Accra, Ghana .This is in partial fulfillment of the award of a Master's Degree.

BACKGROUND AND PURPOSE OF RESEARCH: Periodic medical checkup (PMC) has been proven to help in early detection of several asymptomatic infectious and non-infectious diseases including Hypertension, Diabetes mellitus, Breast and prostatic malignancy. This invariably affect the morbidity and mortality rate of patients.

The aim of this study is to assess Periodic medical checkup among workers at Kaneshie Market in Accra, Ghana. This will shed light on the knowledge and prevalence of the practice among workers in the market and the reasons associated with this practice among this section of Ghanaians. It will also inform health authorities in Ghana on the preventive health-seeking behavior of the working force in the population

NATURE OF RESEARCH: This is a cross sectional and quantitative study involving a total of 368 workers at Kaneshie market.

PARTICIPANTS INVOLVEMENT: If you agree to participate in this study, you may be required to answer some questions on the knowledge and practice of periodic medical checkup. The questions will require approximately 20-25 minutes for completion.

POTENTIAL RISK: There is minimal risk involved in this study as you may be uncomfortable with answering some of the questions. If such a situation happens, you can skip those questions or withdraw from the study without penalty and without having to give any reasons.

BENEFITS AND COMPENSATION: There is no compensation or direct benefit from your participation in this study. However, the information obtained from this study will inform the Government and other stakeholders of Health in formulating and implementing policies regarding Preventive Health care including Periodic medical checkup. This will invariably affect the national and global burden of communicable and non-communicable diseases.

COSTS: Participation in this study will be at no cost to you since questionnaires will administered to participants at the market.

CONFIDENTIALITY: All the information collected from the study participants will be kept confidential and will not be traceable to the participants. Data will be under lock and key and electronic versions will be password protected with only the PI having access to them. You will not be identified by name in any dissemination reports or publications resulting from this study.

VOLUNTARY PARTICIPATION OR WITHDRAWAL: Participation in this study is voluntary and decision to participate, stay or withdraw from study is at the discretion of the participant and will be of no consequence.

OUTCOME AND FEEDBACK: Findings from this research will be published in a peer reviewed journal. A report will also be sent to the Ethics Review Committee.

FUNDING: This study is self-sponsored.

SHARING OF PARTICIPANTS INFORMATION/DATA: The data will be used only by the Principal Investigator (PI) solely for research and academic purposes. Data will not be shared with any individual or organization and will be destroyed by burning questionnaires after five (5) years. Ethical clearance will be sought again should the need arise for reuse of the data by the PI.

PROVISION OF INFORMATION AND CONSENT FORM: You will be given a copy of the information sheet and Consent form after it has been signed to keep.

Any questions or additional information should be directed to the Principal Investigator (PI) Henry kusi Appiah, Department of Biological, Environmental and Occupational Health, School of Public Health, University of Ghana,

Phone contact: 0244991986, Email: uckpee *a* yahoo.com

Dr. Paul Kingsely Botwe, Department of Biological, Environmental and Occupational Health, School of Public Health, University of Ghana,

Phone contact: 0205944689, Email: pual.botwe@utas.edu.au

Or

Miss Hannah Frimpong, of the Ethics Review Committee (ERC) of the Ghana Health Service (GHS),

Phone Contact: 0507041223, Email: hannah.frimpong@ghsmail.org or ghserc@gmail.com

APPENDIX 2: CONSENT FORM FOR WORKERS AT KANESHIE MARKET, ACCRA

STUDY TITLE: PERIODIC MEDICAL CHECKUP AMONG WORKERS AT KANESHIE MARKET IN ACCRA, GHANA.

PARTICIPANT'S STATEMENT

I acknowledge that I have read or have had the purpose and contents of the Participants' information sheet read and all questions have been satisfactorily explained to me in a language I understand (Twi..... Ga..... Ewe.....Hausa. I understand the nature, risk and benefits of this study and that I may withdraw at any time from the study without any consequence. I have also received a copy of this informed consent document. I hereby consent to be included in this study. I voluntarily agree to be part of this research.

Name or initials of Participant .....ID CODE.....

Signature ..... Date.....

INTERPRETER'S STATEMENT (where applicable)

I interpreted the content and purpose of the participant information of the afore named participant to the best of my knowledge in Twi..... Ga..... Ewe.....Hausa..... to his proper understanding. All questions and appropriate clarification sought by the participant and answers were also duly interpreted to his /her satisfaction.

Name of interpreter.....

Signature of interpreter..... Date.....

STATEMENT OF WITNESS (where applicable)

I was present when the purpose and contents of the Participant Information Sheet was read and explained satisfactorily to the participant in the language he/she understood (Twi. .Ga.....Ewe....Hausa.....)

I confirm that he/she was given the opportunity to ask questions seek clarifications and same were duly answered to his/her satisfaction before voluntarily agreeing to be part of the research.

Name/initial: .....

Signature..... ..... OR Thumb Print .....

Date: .... Contact details.....

INVESTIGATOR STATEMENT AND SIGNATURE

I have adequately informed the participant and I certify that the purpose, procedures, potential risks and benefits associated with this research have been explained to the above individual to the best of my ability.

Researcher's Name..... .....

Signature.....Date..... .....

Participants ID code..... ....

APPENDIX 3: QUESTIONAIRE

Dear participant.

The aim of this research is to assess routine medical examination among workers at Kaneshie market. The questions will require approximately 20-30 minutes to complete. The findings of this research will contribute to improving policy and promotion regarding Periodic medical checkup.

Thank you.

A STUDY ON ASSESSMENT OF PERIODIC MEDICAL CHECK UP AMONG WORKERS AT KANESHIE MARKET.

Please provide the appropriate responses to the questions below.

Respondents ID.....

SECTION ONE (DEMOGRAPHIC INFORMATION)

QUESTIONS		RESPONSE
1.Age		
2.Sex	1.Male 2.Female	
3. What is your marital status?	1. Single 2. Married 3. Separated 4. Divorced 5.Widowed	
4. What is your educational level?	1. No formal education 2. Primary 3. Secondary 4. Tertiary	
5. What is your occupation?	1. Professional / technical / managerial 2. Clerical 3. Trading 4. Skilled Manual	

	5. Unskilled Manual 6. Civil Servant	
6. What is your current health insurance status	1. Insured (NHIS) 2. Insured (Private Health Insurance) 3. Uninsured	
7. What is your average monthly income?	1) 50-300 [ ] 2)301-600 [ ] 3) 601-1000 [ ] 4)1001 above [ ]	
8. What is your religion?	1.Christian 2.Muslim 3.Traditional believer 4.other	

SECTION TWO (PRACTICE AND REASONS FOR MEDICAL CHECK UP)

9. Have you ever undergone a medical check -up?	1. Yes 2. No (skip to Q.16)	
10. Why did you go for medical check-up?	1.Was sick 2.Previous medical condition 3.To know health status 4.Others (Specify.....	
11. What type of medical check-up do you go for?	1.General examination 2. Check Blood pressure 3. Dental 4. Ear/eye and throat 5. Others.....	
12. When did you go for the medical check- up?	1.Less than a year 2. A year ago 3. Two years ago 4. Five or more years ago 5. Do not remember	

13. Which category of health facility did you go for the check up	1. Private 2. Public	
14. Which type of facility was the check-up done?	1.Hospital 2. Pharmacy 3.Homeopathic hospital 4.Herbal clinic 5.Outreach 6.Others Specify.....	
15. How frequent do you go for medical check up	1.Once a Year 2.Twice a year 3. More than two times in a year 4. Once every two years 5. Others(more than two years)	
16. What is your reason for not doing medical checkup?(Tick as many as applied)	1.Fear 2.High cost 3.Long waiting time at facility 4. Not sick enough 5.Shyness 6. Embarrassment from staff 7. Stigmatization 8. Don't have time	

SECTION THREE (KNOWLEDGE OF MEDICAL CHECK UP)

17. Periodic medical checkup is important for asymptomatic person?	1.Strongly Agree 2. Agree 3. Not sure 4. Disagree 5.Strongly disagree	
18. Periodic medical checkup are to screen for diseases and get educated by the doctor about healthy lifestyle choices.	1. Strongly Agree 2. Agree 3. Not sure 4. Disagree 5.Strongly disagree	
19. Periodic medical checkup is used to promote doctor-patient relationship	1.Strongly agree 2.Agree 3.Not sure 4. Disagree	

	5.Strongly disagree	
20. Periodic medical checkup is a routine test performed to check your overall health.	1.Strongly agree 2.Agree 3.Not sure 4. Disagree 5.Strongly disagree	
21. Periodic medical checkup is necessary to establish a health baseline.	1.Strongly agree 2.Agree 3.Not sure 4. Disagree 5.Strongly disagree	
22. Periodic medical checkups encourage workers to be health conscious.	1.Strongly agree 2.Agree 3.Not sure 4. Disagree 5.Strongly disagree	
23. Periodic medical checkup in workers should always ask questions about exercise, diet and drug or alcohol use.	1. Strongly agree 2.Agree 3.Not sure 4. Disagree 5.Strongly disagree	
24. Periodic medical checkup should always cover the patient's heart, lungs, and the pulse and blood pressure, and blood and urine tests.	1. Strongly agree 2.Agree 3.Not sure 4. Disagree 5.Strongly disagree	
25. Annual physical medical examinations is covered under the National Health Insurance Scheme.	1. Strongly agree 2.Agree 3.Not sure 4. Disagree 5.Strongly disagree	

THANK YOU

GHANA HEALTH SERVICE ETHICS REVIEW COMMITTEE

In case of reply the number and date of this letter should be quoted.

MyRef. GHS/RDD/ERC/Admin/App /
Your Ref. No.

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8th July, 2019

Henry Kusi Appiah
School of Public Health
University of Ghana
Legon

The Ghana Health Service Ethics Revie[redacted]mittee has reviewed and given approval for the implementation of your Study Protocol.

GHS-ERC Number	GHS-ERC [redacted]
Project Title	Periodic Che[redacted]mong Workers at Kaneshie Market in Accra, Ghana
Approval Date	8th July, 201[redacted]
Expiry Date	7th July, 2020
GHS-ERC Decision	**Approved**

This approval requires the following from the Principal Investigator

- Submission of yearly progress report of the study to the Ethics Review Committee (ERC)
- Renewal of ethical approval if the study lasts for more than 12 months.
- Reporting of all serious adverse events related to this study to the ERC within three days verbally and seven days in writing.
- Submission of a final report after completion of the study
- Informing ERC if study cannot be implemented or is discontinued and reasons why
- Informing the ERC and your sponsor (where applicable) before any publication of the research findings.
- Please note that any modification of the study without ERC approval of the amendment is invalid.

The ERC may observe or cause to be observed procedures and records of the study during and after implementation.

Kindly quote the protocol identification number in all future correspondence in relation to this approved protocol

SIGNED: .....

DR. CYNTHIA BANNERMAN
(GHS-ERC CHAIRPERSON)

Cc: The Director, Research & Development Division, Ghana Health Service, Accra