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SCHOOL OF PUBLIC HEALTH
COLLEGE OF HEALTH SCIENCES
UNIVERSITY OF GHANA

DEPARTMENT OF HEALTH POLICY PLANNING AND MANAGEMENT

ASSESSMENT OF ROUTINE MEDICAL AND DENTAL EXAMINATION AMONG ADULT IN TEMA, COMMUNITY 20

BY

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DECLARATION

I hereby declare that excluding precise references which have been duly acknowledged, this submission is my own work towards my MPH dissertation and that, to the best of my knowledge, it contains no material previously published by another person nor material which has been accepted for the award of any other degree of the University or elsewhere.

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DEDICATION

This dissertation is dedicated to my husband Mr. Jude Boakye - Ansah and my son Damian Boakye – Ansah and my parents Mr. Godson Danquah and Mrs Comfort Danquah for the care and support given me throughout the course of this programme.

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ABSTRACT

Introduction: Life expectancy and prosperity have risen over the past 5 decades globally, and are expected to continue to rise. The relevance of routine medical and dental examination cannot be overemphasized with an increase in advocacy as individuals are encouraged to undergo these examinations regularly especially among the young adult. This is to increase the prevention of disease rather than curative measures.

Methods: A cross-sectional quantitative study was conducted among adult residents in Community 20, Tema. 216 respondents were randomly sampled using interview administered questionnaire. Determination of routine medical and dental examinations and reasons will be analysed using Chi square test. Weighted mean will be used to determine the level of perceived importance of medical and dental examination.

Results: A total of 68.1% and 31.9% of the respondents have ever undergone medical and dental examination respectively. The respondents who had ever undergone medical and dental examination for personal reasons constituted 35.4% and 55.1% respectively. Physical medical and dental examinations encourage adults to be health conscious was ranked highest with a weighted mean of 3.78.

Discussion: Increased routine medical and dental examinations were seen among respondents above 50 years, males, higher education, high income and unmarried people. Low examinations were associated with health insurance coverage. Majority of the respondents have had medical and dental examinations done a year ago and for personal reasons. Most of the respondents indicated that physical medical and dental examination as very important.**Conclusion:** The significance of routine examinations is to reduce the prevalence of chronic disease

Keywords: routine, medical, dental, examination

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LIST OF ABBREVIATIONS

GHS – Ghana Health Service

MOH – Ministry Of Health

PHE – Periodic Health Examinations

USPSTF - United States Preventive Services Task Force

WHO – World Health Organisation

PCP – Primary Care Provider

WM – Weighted Average

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CHAPTER ONE

1.0 INTRODUCTION

1.1 BACKGROUND OF STUDY

Health is defined by the World Health Organization as the state of physical, mental and social wellbeing, not merely the absence of disease or infirmity (WHO, 1946). Life expectancy and prosperity have risen over the past 5 decades in developed and developing countries and are expected to continue to rise (Lomborg, 2002). Health examinations start as early as the fetus is in the mother"s womb to detect any congenital diseases and at the time of birth, the newborns are examined to identify and correct many newborn diseases. Health should be monitored during childhood through adolescence to adulthood. Most people do not pay much attention to their health, these individual are mostly preoccupied with work and seek little or no attention to their health. It is only when they become chronically ill when they tend to seek medical attention.

Routine[1] medical check-up is a form of preventive medicine involving thorough history, physical examination and screening of asymptomatic persons by physicians on a regular basis as part of a routine health care process (Anderson & Anderson, 1990). A routine examination is defined as health care motivated by the need to assess general health and prevent future illness rather than to attend to symptoms (Sox, 2013). The periodic health examination has two main objective: the prevention of specific disease and health promotion (Siu, White, Sergeant, Moore, & Patterson, 2016). Other terms, such as Periodic Health Examination, PHE, annual physical or preventive health examination, are often used. The American Medical Association initially proposed an annual, routine physical examination (check-up) for healthy individuals. However, questions have always been raised about exactly what to include in routine check-ups (Artkinson

[1] Routine means a sequence of action regularly done.

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& Robinson, n.d.). During routine medical examination some non-communicable diseases such as breast cancer, prostate cancer, cervical cancer, hypertension and diabetes mellitus can be detected and any deviation from good health is identified and managed in the form of preventive or curative treatments thereby decreasing the mortality that are associated with them.

Individuals usually between the ages of 18 and 60 years are expected to have maximum benefits when they undergo routine medical and dental examinations because they are regularly under stress. It is important to have regular medical examination since these non-communicable diseases and chronic diseases have a heavy socioeconomic burden on individuals and has contributed to more than 60% of the overall global burden of diseases (Sun et al., 2014).

1.2 PROBLEM STATEMENT

Disease prevention is of a major public health globally concern likewise routine medical and dental examinations (check-up). Life expectancy can be improved by routine medical and dental examination. Most individuals require a thorough medical examination, and usually its frequency increases with risk of health problem that requires continuing care. Medical examination is determined by age, sex, socioeconomic status, health risk factors, having health insurance, presence of a chronic disease, family history, life style choices among others (Culica, Rohrer, Ward, Hilsenrath, & Pomrehn, 2002).

Most adult often suffer from diseases, specifically chronic diseases such as diabetes, hypertension, high cholesterol levels and dyslipidemia, and such diseases create a heavy economic burden for the elderly (Sun et al., 2014). Regular medical examination helps detect medical conditions early, as their chances for treatment and cure are high. Regular examinations help save lives although there are no specific issues, since the mere absence of disagreeable

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symptoms does not necessarily guarantee that an individual has good health. The main essence of a periodic medical examination is to diagnose treatable asymptomatic diseases (Nakanishi, Tatara, & Fujiwara, 1996).

Ghana is a developing country and has poor health care infrastructure, which are inadequate in number and the distribution of health care personnel are skewed in favour of the urban areas (Bour, 2008). Ghana has a low economy and consequently, the social services provided are far below average. Most people do not go for regular medical and dental check- up, some do this medical examination as a requirement for job offer. There have been accounts of employment contracts and renewal being conditional on medical assessments (Pachman, 2009). Each profession requires a certain medical standard that has to be met in order to pursue the preferred career. There are different fields which require minimum health standards while there are those which implements very strict health standards (Sarmiento et al., 2015). Routine medical and dental examinations play a significant aspect of general health for the early detection and prevention of most diseases. There is a need to design studies to assess and evaluate the essence of medical and dental examination, in order to overcome high morbidity arising from most chronic and non-communicable in a developing like Ghana.

Oral health is essential to the overall wellbeing of an individual. The mouth is seen to be the gateway to the body because eating as well as digestion of food takes place in the mouth. Most individuals tend to neglect their oral health and do not know the importance of obtaining an optimum oral hygiene; hence they do not go for regular dental examinations. There has been an association between periodontal diseases and infective endocarditis and stroke (Cotti & Mercuro, 2015).

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Routine medical examination is considered very helpful in the prevention of illness and promotion of health among the individuals especially the older age (Oboler, Prochazka, Gonzales, Xu, & Anderson, 2002). In developing countries, the practice of regular medical examinations is poor and on the low side, despite the steady increase of the burden of chronic and non-communicable diseases (Ilesanmi, Omotoso, Alele, & Amenkhienan, 2015). The majority of the economically active population in this area is mostly adults. This makes their preventive health behavior a very important key issue of public health concern. The literatures do not show any study that has been conducted on routine medical and dental examinations in Ghana. However, this study seeks to assess routine medical and dental examinations among adult in Tema community 20 which has a population with diverse background. The findings from this study will therefore help in creating interventions and population-specific health programs aimed at improving the preventive health behavior and quality of life of the working class in Ghana and also as an advocacy for adults to start developing the habit for routine medical and dental exams.

1.3 CONCEPTUAL FRAME WORK OF ROUTINE MEDICAL AND DENTAL EXAMINATION

Routine medical and dental examination is a form of preventive medicine which involves history taking, physical examination and screening of asymptomatic persons by physicians on a regular basis as part of a routine health care process. These routine examinations are motivated by the need to assess general health and prevent future illness rather than to treat symptomatic patients. Figure 1 illustrates the conceptual framework of routine medical and dental examinations. As individual adults undergo routine medical and dental examinations, the health care provider

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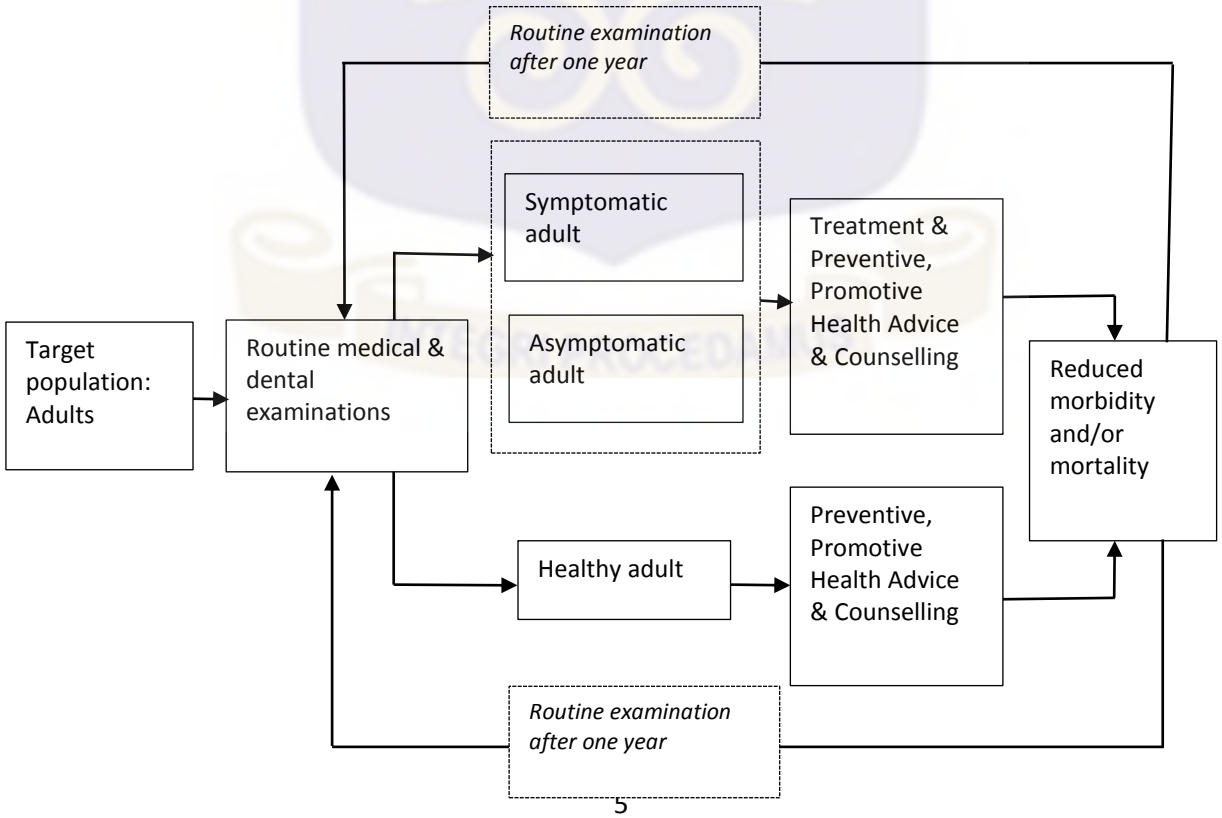
examines and screens them. At the end of the examination, those who are healthy do not show symptoms of any disease are taken through the two main goals of the examination. These include the disease prevention and health promotion. Counseling on healthy life habit such as smoking is given to those who go for routine medical examinations. These individuals are also given health advice on good eating habit, safe sex, healthy life choices among others. During routine medical and dental examinations, adults with disease and are asymptomatic are identified, likewise those who are symptomatic of the disease. Symptomatic adults are given treatment early enough when the disease is diagnosed and is at its treatable stage. Both asymptomatic and symptomatic adults are taken through prevention, health promotion, counseling and health advice on healthy life style and safe sex. Consequently, this will result in reduced morbidity and mortality since the diseases will be identified early at its preventable and treatable stage. Individuals are advised to go for routine medical exams after one year to ensure good health.

Figure 1: Conceptual framework of routine medical and dental examination



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1.4 Justification

There is limited evidence on the assessment of routine medical and dental examination in Africa and Ghana in particular. As a result, the country is unable to strategically organise and plan national and community preventive health intervention programs that can effectively address the health needs of communities in order to reduce the morbidity and mortality and enhance human resources and productivity.

This study will be carried out to assess routine medical and dental examination among adult in Tema, Community 20. This is to highlight the relevance of undergoing routine medical and dental examination and to influence stakeholders to take more preventive than curative measures towards health conditions in Ghana.

1.5 OBJECTIVE

1.5.1 GENERAL OBJECTIVE

The general objective of this study is to assess the routine medical and dental examination among adult living in Tema Community 20 in the last one year.

1.5.2 SPECIFIC OBJECTIVE

The specific objectives are:

1. To determine the proportion of adult who have undergone routine medical examination.
2. To determine the proportion of adult who have undergone routine dental examination.
3. To determine the reasons for undergoing routine medical examination.
4. To determine the reasons for undergoing routine dental examination.

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5. To determine the perceived importance of routine medical and dental examinations to adult residents.

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CHAPTER TWO

2.0 LITERATURE REVIEW

People schedule medical appointments to see their physicians or primary care providers for many various reasons. Some of people only go to the doctor when they are experiencing a new illness or sickness and are looking for some specific diagnosis or treatment. Others seek medical attention at more regular intervals for ongoing follow-up of a chronic disease. However, for many of the populace the frequency of the doctor‟s visit for a regular health maintenance checkup is not clear or they are not even aware. The requirements are different for annual medical check-ups, childhood checkups, prescription drug follow-ups, prenatal and woman examinations. Some individual expect to have an annual examination, and others are of the view that an examination done once every two to three years is appropriate.

In the early 1920s the American Medical Association suggested that an annual, routine medical examination (check-up) be done for healthy individual. Many medical groups also advocated for annual medical examinations. However, questions have been raised as to what to include exactly in routine medical check-ups. In recent times, the American Medical Association and other similar associations and unions have shifted away from the annual exam. The medics currently propose that medical checkups be called to as Periodic Health Assessments or Examinations and that these are to be done every five years (for adults above 18 years) until age 40 and every one to three years thereafter (American Medical Association, n.d.).

With dental examination, the general rule of thumb is to visit the dentist twice a year. Whether there is presence of any dental disease or not, having scaling and polishing done every six months can help maintain optimum oral hygiene and prevent many future dental diseases.

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However, as the American Dental Association explains, every person is different, and some teeth may require more or less frequent care than others („American Dental Association", n.d.). How often should one go to the dentist, has no fixed answer. It is important for individuals to discuss treatment with their dentist and determine just how often they will need to visit the dentist to properly care for their teeth. The frequency of your visits can also change throughout a person"s life depending on his or her overall health and other factors, such as pregnancy and life style behaviours such as smoking (American Dental Association, n.d.). Nuttall, Bradnock, White, Morris, & Nunn, (2001) suggested that every individual should have oral examination done at least once a year as the maximum period between dental check-ups, irrespective of dental condition or age.

The health of people should be maintained to help in sustenance of the national economy. It has been observed that extremely long hours of working increase the risk of sudden death from too much occupational stress (Cheng et al., 2014 and Kawada, 2014) . A case-control study carried out in Taiwan shows that long hours of working and inadequate sleep duration contribute independently to the risk of cardiovascular diseases among men (Cheng et al., 2014), thus a need for improved level of medical checkup among the working population. The provision of preventive health services and measures would reduce the demand of health resources by the aged and result in a more effective use of these health resources. Persons not participating in routine health examinations during middle age include a group with high future health care expenditure (Kinjo, Myoga, & Osaki, 2014).

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2.1 History of routine medical and dental examination

The roots of routine medical and dental examination are not entirely clear. A British physician Horace Dobell, is considered to be the father of mass screening in the United Kingdom. In the 19th century, he adduced an argument for the need for periodic medical examination of healthy persons. He proposed that Periodic Health Examinations could be a means of identifying "these earliest evasive periods of defect in the physiological state, and to adopt measures for their remedy"(Virgini, Meindl-Fridez, Battegay, & Zimmerli, 2015). However, there were new developments beyond medical practice which proved to have more influence in promoting PHEs. In fact, life insurance companies were suddenly interested in using the subscribers" medical history records and diagnoses to assess their financial risk (Bronsema, Brouwer, de Boer, & Groothoff, 2015).

The profit motives of the insurance companies influenced the conceptions of PHE by focusing the examination on physical defects of subscribers and policyholders. It was recommended to take a thorough medical history together with an extensive physical examination from head to toe, multiple urine and blood tests, electrocardiogram and medical imaging. In 1921,it was reported that an uncontrolled study by the Metropolitan Life Insurance Company stated that policyholders undergoing a PHE had a 28% decreased in suspected mortality within the following 5 years (Virgini et al., 2015).

With an initial proposal of an annual, routine physical examination (check-up) for healthy patients, the American medical association in the 1920s however, have always been questioned about exactly what to include in routine check-ups, and whether they are of any benefits. A significant ethical principle of clinical medicine is to "do no harm." This is of great concern

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when considering testing and counseling in healthy and well persons. In 1976, the Canadian Task Force on the Periodic Health Examination was constituted to provide a systematic evaluation and recommendations about periodic health exams. The United States Preventive Services Task Force (USPSTF) was formed in 1984 to provide similar evaluation and recommendation guidelines in the United States. The most current recommendations of the USPSTF for evaluation, screening, and counseling interventions were published in 1996. Suggestions and input were provided by the U.S. Public Health Service, primary-care medical societies and the Canadian Task Force on the Periodic Health Examination. These recommendations are based on available evidence of safety and efficacy, and are engineered for patients based upon their individual gender, age and risk-factor characteristics (Artkinson & Robinson, n.d.).

The American Cancer Society recommends an annual cancer-related health check-up among women and men above 40 years of age, and every three years for those above 20 years (Harmon et al., 2014). A review by Cochrane did not find any benefit with respect to poor outcomes related to disease or the risk of death in those who received them. People who undergo annual medical exams however are more susceptible to be diagnosed with medical problem. General health checks are unlikely to be beneficial (Krogsboll, Jorgensen, Larsen, & Gotzche, 2012). There is evidence supports or rejects periodic health examination in asymptomatic adults. Evidence supports routine medical examination and screening for hypertension, body weight (obesity), cervical cancer, hyperlipidemia, colorectal cancer and breast cancer. Screening for lung, pancreatic and ovarian cancer has no effect on outcome and should not be performed. Controversial preventive interventions include general screening for diabetes mellitus in the young adult, thyroid disorders and prostate cancer (Hunziker, Hengstler, Zimmerli, Battegay, & Battegay, 2006).

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2.2 The need for routine medical and dental examinations

Most individual know of routine medical and dental examination but do not undergo these examinations (Ilesanmi et al., 2015 and Eke, Eke, Joe-Ikechebelu, & Okoye, 2012). Periodic medical examination is considered effective in preventing illness and promoting health and reducing morbidity and mortality ((Damiani et al., 2011and Virgini et al., 2015). Most adult often suffer from diseases, especially chronic diseases such as hypertension, diabetes, high cholesterol levels and dyslipidemia, and these diseases are a heavy economic burden for the elderly (Sun et al., 2014). All adults should regularly visit their health care provider, even if they are healthy. The essence of such visits is to screen for diseases, assess risk of future medical problem, encourage a healthy lifestyle, update vaccinations and maintain a relationship with a provider in case of an illness (Vorvick, 2015). A further goal of the routine medical and dental examination is to educate patients about behavioral patterns or environmental exposures that pose risks for future diseases. Examples include counseling about smoking prevention and cessation to prevent lung cancer and emphysema, seat belt use to prevent motor-vehicle injuries, or modifying sexual practices to prevent the spread of sexually transmitted disease (Artkinson & Robinson, n.d.). Routine physical examination is recommended to ensure the maintenance of a healthy diet and exercise routinely as well as build a relationship with Primary Care Provider (PCP) (Krans & Wu, 2017). A research done in the Kingdom of Saudi Arabia, reveals that health expenditures may be reduced by routine medical and dental examinations and detecting chronic conditions at early stages (El Bcheraoui et al., 2015). The result in a study among maritime students shows that the students considered medical examinations as very important to determine if the student is capable of pursuing the course and has the highest rank with a weighted mean of 3.84. Having a good health condition and staying physically fit is one of the requirements needed

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to pursue this course and with this kind of result, the findings of the study concluded that passing the required medical examinations are very important to pursue their chosen profession (Sarmiento et al., 2015).

2.3 Frequency of medical and dental examination

Only very few people practice periodic medical examination. About 29.4% of males and 39.4% of females practiced periodic medical examination (Eke et al., 2012). Men are significantly less likely than women to receive certain preventive services, and younger men even more so. In younger age groups, men were particularly less likely than women to have received these services (Viera, Thorpe, & Garrett, 2006). However, more women are noted to go for routine medical and examination compared to men (Hunt, Adamson, Hewitt, & Nazareth, 2011). Age,

gender and educational status were not found to affect the practice of periodic medical check-up significantly (Eke et al., 2012). Occupational status and income each had independent effects on check-up participation, while educational level was not found to have any independent effect (Ilesanmi et al., 2015). Contrarily, a study in Germany, shows more 50.8% of the men and 49.8% of the women surveyed had had a check-up in the two years before the survey (Hoebel, Richter, & Lampert, 2013). Higher health check attendance was associated with a higher age, higher

socioeconomic status, being married, stronger social support, physical activity, non-smoking, greater fruit and vegetable consumption (Hoebel, Starker, Jordan, Richter, & Lampert, 2014). A study of traders in the South East Nigeria revealed a high level of awareness of routine medical examination, but a very low level of practice of routine medical examination among this group (Eke et al., 2012).

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Extent of dental care sought is associated with need for treatment rather than preventive reasons (Pavi, Karampli, Zavras, Dardavesis, & Kyriopoulos, 2010). Men of all ages were less likely to go for dental check-ups than women, except among those aged over 75 years. Those least likely to go for regular dental check-ups were young men; fewer than a half of men aged below 34 said they went for regular dental check-ups (Nuttall et al., 2001). Age, race ethnicity, sex, income, self-reported dental health, health insurance coverage, and dental coverage were significantly associated with dental visits in the past year (McDonald, 2013).

In Sweden, the use of dental care are most marked in older (45-64 years) adults, but are significant in young adults (Hjern, Grindefjord, Sundberg, & Rośen, 2001). Seventy-seven percent of the women and sixty – seven percent of the men reported a dental visit within the previous 2 years. The odds of dental service use were greater if the respondent had education at or beyond the secondary level, were students, were in the upper or highest income adequacy levels, held dental insurance and engaged in preventive health behaviours such as general medical examination (Kosteniuk & D‟ Arcy, 2006). An estimated 1.5 million (11.5%) Saudi Arabian people, above 15 years of age, had visited a dental clinic for a routine dental check-up, however oral hygiene practices are not common among Saudi Arabian people, and use of health care for prevention of oral disease is limited (El Bcheraoui et al., 2016). Gender and education were ranked highest when considering preventive and routine dental examinations and dental services, as well as dental insurance coverage also had an association with regular dental examinations, however preventive dental care was low in those who are disadvantaged socioeconomically (Kadaluru, Kempraj, & Muddaiah, 2012). The main predictors for a routine dental visit were higher economic status and higher educational level(Camargo et al., 2012). The

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relationship between dental visits and marital status in the past one year was significant, about 60% of those who visited the dentist were married (McDonald, 2013).

In a study carried out in Germany, the occupational status and income each had independent effects on check-up participation, while educational level was not found to have any independent effect (Hoebel et al., 2013). The findings of a study generally supported the presence of social gradients in periodic medical examinations among the Korean elderly. The likelihood of using the service becomes progressively higher with social position. Educational level, income, and self-rated living status were significantly associated with increased medical checkups and cancer checks (Abdulraheem, 2007, Chun & Kim, 2007 and Brunner-Ziegler et al., 2013). An increased likelihood of recent routine medical examinations was associated with married people, highest household income, health insurance, fair and poor health status (Culica et al., 2002 and (Hoebel et al., 2014). The frequent medical examination usually done are general examination and blood pressure (Ilesanmi et al., 2015).

2.4 Socio economic impact on routine medical and dental examination.

Healthy lifestyles was found to have a significant relationship with participation in health checkups in the higher-income group (Tsukishima, Takahashi, Yano, & Mori, 2012). There is a likely increase in routine medical examination among highest household income earners (Culica et al., 2002a). A direct relationship is seen among individuals with higher the socioeconomic status and periodic health examinations. The socioeconomic relative inequalities not only the absolute differences between socioeconomic groups influence health (Zagozdzon & Zaborski, 2002). There is inequality differences in medical check-up between various social classes (Thorslund & Lundberg, 1994). The likelihood of using the service becomes progressively

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higher with higher social position. Educational level, income, and self-rated living status were significantly associated with increased medical checkups and cancer checks (Chun & Kim, 2007). A study demonstrated strong and consistent associations between various socioeconomic status and routine medical examinations among the elderly (Chun & Kim, 2007). Low social economic status was associated with a lower rate of check-ups for both sexes (Hoebel et al., 2013b). The prevalence of dental care needs is higher among adults with low socio-economic status. Education level and income level (Trohel, Bertaud-Gounot, Soler, Chauvin, & Grimaud, 2016).

2.5 Effect of health insurance on routine medical and dental examination.

life insurance companies have suddenly become interested in using the subscribers‟ medical history records and diagnoses in assessing their financial risk (Bronsema et al., 2015 and Jauho, 2015) Life insurance companies were interested in both one-time examinations for applicants and routine examinations for existing subscribers with the aim of reducing their risk for death (Virgini et al., 2015). Health insurance coverage has also played a significant role in promoting routine medical examination, since the insurance company will bear the cost of the medical check-up. In a study, 75% of those who seek medical examinations had private insurance (Viera et al., 2006). A study in China shows a disparity in dental check-up, and dental insurance coverage, and have an appreciable impact on the use of available dental services by Chinese elders (Wu, 2007). However, another study , (Blackwell, Martinez, Gentleman, Sanmartin, & Berthelot, 2009) showed that socioeconomic status played no explanatory role in seeking routine

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medical examination. Dental insurance coverage has a strong association with higher income level, and this peaked among male and females aged 30-49 years (Kosteniuk & D‟ Arcy, 2006).

2.6 Conclusion

Whiles in the early 19th century, American Medical Association and many medical groups proposed for a yearly, routine examination for healthy patients. They now propose that Periodic Health Assessments or Examinations be performed every five years (among adults who are above 18 year) until age 40 and every one to three years thereafter. However, there have always been controversies about exactly what examinations to include or be carried out in routine check-ups and to which specific group of people. American Dental Association explains, every person is different, and some individuals may require more or less frequent dental care and visit than others. (Ilesanmi et al., 2015) has identified the practice of periodic medical examinations being poor in developing countries, despite the steady increase of the burden of the non-communicable and chronic disease. The relevance of routine medical and dental examination in individuals cannot be overemphasized as most current literature encourage and advocate the need for these examinations especially among the young adult. It is essential to have periodic medical examination since these chronic diseases have a heavy socioeconomic burden on individuals and account for more than 60% of the overall global burden of diseases (Sun et al., 2014). Most adult constitute the major economically active ones in the population. As recommended by (Eke et al., 2012), effort should be made by the government and other health agencies to educate people on the various types of medical examinations, their indications and benefits as well as its practice encouraged. A significant feature of the Canadian Task Force report is the emphasis on the need for more critical studies research and of the routine health examination.

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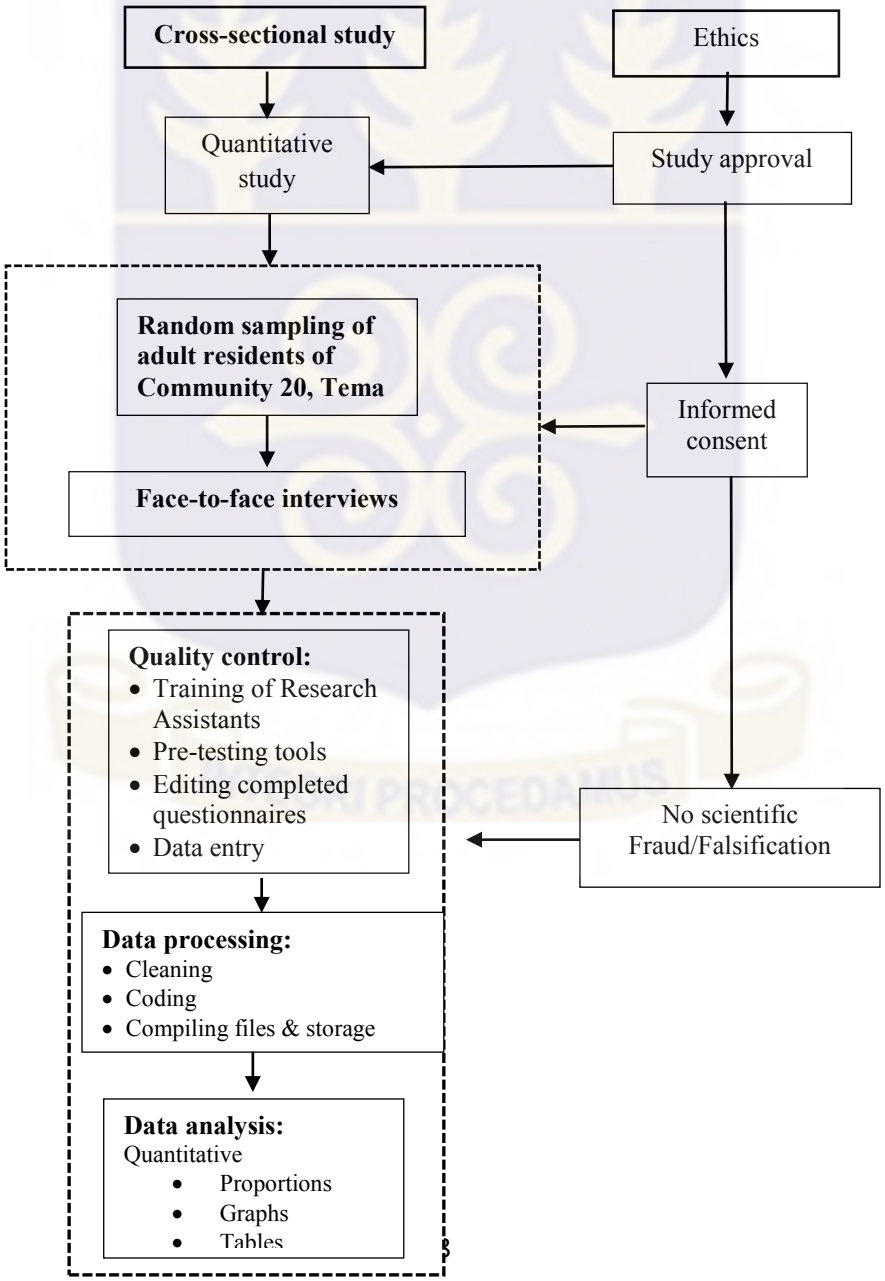
CHAPTER THREE

3.0METHODS

3.1 Study design

This was a cross-sectional quantitative study of routine medical and dental examination in Tema community 20. The study was undertaken within the month of June. Figure 1 provides a diagrammatical design of the study on routine medical and dental examinations.

Figure 2: Study design of routine medical and dental examinations



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3.2 Study area

The study was conducted in Community 20 located at the Tema West Constituency, one of the newly developed communities by the Tema Development Cooperation, in the Greater Accra region of Ghana. It has a serene and beautiful atmosphere and serves as an area of residence for most individuals and families working in both Tema and Accra and its environs. Community 20 lies about 2.5 km south of the Accra-Tema motorway. It encompasses 310 acres of panoramic landscape with beautiful contours. Community 20 has been developed by different real estate developers and has been well planned to have networks of tarred roads, electricity, drains and gutters and water supply. There is a mixer of high, middle and low socio economic status living the community. The average number of buildings in Community 20 is about 1284, The Community is bordered on the north by the Accra-Tema motorway, on the south by the Community 18, on the west by the Kotobabi residential area and the Community 19 residential area serves as the eastern border. The area is well planned and developed to include churches schools, commercial area and other institutional sites such as police station and abatoir.

3.3 Study variables

The outcome variables analyzed in this study include routine medical examination and routine dental examination among adult residing in Community 20, Tema. The independent variables analysed in the study include socio-demographic variables such as age, sex, occupation, educational status, income, marital status, health insurance status, routine medical and dental examinations, reasons for undergoing medical and dental examination (employment, health insurance coverage, travel, marriage, personal).

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3.4 Study population

The study population was made up of adults residing in Community 20, Tema.

3.5 Sample size determination

The sample size (n) was calculated using the Cochrane Formula (Israel, 2016).

$$n = \frac{z^2\, p\, q}{d^2}$$

Where z = 1.96, p = 0.482, (prevalence of 48.2% is assumed since the prevalence of assessing routine medical and dental examination in Ghana is not known), q = (1-p) = (1-0.5) = 0.5. Therefore, q = 0.5, d (precision) = 5% (0.05).

Therefore,

$$n = \frac{(1.96)^2(0.482)(0.518)}{(0.05)^2}$$

$$n = 384$$

This formula only takes into consideration the precision and not the size of the population therefore the sample size of 384 was obtained regardless of the size of the population.

It will be estimated that about 350 participants will be interviewed during the period of the study. The finite population correction factor was used to adjust for the finite population (N). The sample size was calculated to be

$$n = \frac{n_0}{1 + \frac{(n_0 - 1)}{N}}$$

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Where n=sample size, n_0 = 384, N=population=350

$$n = \frac{384}{1 + \frac{(384-1)}{350}}$$

$$n = \frac{384}{(1+1.09429)}$$

$$n = 183.3$$

Adjusting for 18% non-response rate,

$$= 183.3 \times \frac{18}{100}$$

= 32.99 approximately 33

Sample size n = Adjusted sample size +18% non-response rate

=183.3+33= 216

Therefore, the sample size determined for this study was 216.

3.6 Sampling

3.6.1. Sampling procedure/approach

The participants for the study in community 20 Tema were selected randomly; using the map of the community, the first house selected was the house in the middle of the community. A coin was tossed to select the direction of the subsequent houses to be selected. A head represented right direction and a tail for the left. The side of the coin that appeared after the toss gave the direction to go and all houses on that side were included in the study. The researchers followed the same direction until they came to the end of the street and turned in the same direction until the required number was achieved. Only one adult was selected to participate in each household.

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In a house where there are more than one household, there was balloting done with the ballot papers having only one "yes" and several "no" written on them. The person who picked "yes" was included in the study. The individuals participating in the study were given a code to note that they have been interviewed. Consent was sought from those who satisfy the inclusion criteria to participate in the study and was interviewed. This procedure was repeated every day until the desired sample size of 216 was achieved.

Inclusion Criteria

Consented persons who are 18years and above and resided within the community who did not have chronic disease and who self-reported to be of good health during the study period were included in the study.

Exclusion criteria

Persons who did not consent and are 18years and above with chronic disease or were too sick and did not reside in the community during the study period were excluded from the study.

3.7 Data collection techniques

Data was collected by the Principal Investigator and four research assistant each recruiting approximately four study participants daily. This resulted in the recruitment of approximately 20 study participants in a day.

3.8 Data collection tools

Data was collected by interviewer administered structured questionnaires. It consisted of open and closed ended questions on the respondents‟ demographic information, employment status insurance status and socio – economic status. The questionnaire also contained questions on

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whether the participant had gone for medical or dental examination, reasons for routine medical and dental examinations and the perceived importance of medical and dental examination.

3.9 Data Analysis

3.9.1: Background characteristics of respondents

The socio-demographic information was described with frequency tables. This included age, sex, marital status and employment status.

3.9.2 Determination of routine medical examination

Determination of routine medical examination was analysed using the responses obtained from the male and female participants divided by the sample size. A Chi square test was used to determine the level of routine medical examination.

3.9.3 Determination of routine dental examination

Determination of routine dental examination was analysed using the responses obtained from the male and female participants divided by the sample size. A Chi square test was used to determine the level of routine dental examination.

3.9.4 Reasons of routine medical examination

The reasons for routine medical examination was analysed using the responses given for undertaking the examination from male and female participants divided by the sample size in order to calculate the proportions.

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3.9.5 Reasons of routine dental examination

The reasons for routine dental examination was analysed using the responses given for undertaking the examination from male and female participants divided by the sample size I order to calculate the proportions.

3.9.6 Perceived importance of routine medical and dental examination

Weighted mean was used to determine the level of perceived importance of medical and dental examination responses obtained from the male and female participants. The various responses to the perceived importance was summed up and then divided by the total number of respondents to the question (mean), this was then multiplied by the quotient of the number of respondents to a particular importance and the grand total (sum of all the respondents to the various importance). The responses were then ranked as to which response had the highest weighted mean similar to Sarmiento et al (2015) approach.

3.10 Quality control

In order to ensure that complete and accurate data were obtained, some measures were instituted during training of research assistants, pre-testing tools, editing of completed questionnaires and data entry.

3.10.1 Training of research assistants

Four individuals who are eloquent and are fluent in English and two of the common local languages (Twi and Ga) spoken in the study area were recruited to serve as research assistants for the study. The research assistant were trained for a day, in the explanation and administration of the questionnaire, ethical issues such as the need to obtain informed consent before

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interviewing the study participants to ensure that he recruited and related with the participants in the appropriate manner.

3.10.2 Pretesting of questionnaire

The questionnaire was pretested on residents who live in Community 18, Tema. This was performed by the Principal Investigator and the trained research assistant. The questionnaire was pretested to identify ambiguity and other difficulties that the participants may encounter in responding to the questions and the questionnaire was revised and restructured accordingly. The pretesting was also done to assess the research assistant‟s administration of the questionnaires in order to prevent interviewer bias.

3.10.3 Editing of completed questionnaires

The principal investigator and researchers edited completed questionnaires before data entry.

3.10.4 Data entry and processing

Data entry controls were put in place to serve as checks in order to prevent wrong entries and other errors. Completed questionnaires were coded and double entered into EPI INFO. Data was entered by the Principal Investigator. Data was cross checked for errors, cleaned and exported to Microsoft Excel 2010 and STATA Version 14 for analyses.

3.11 Study limitations

The limitation of this study is as follows;

1. Some participants were not willing to disclose their monthly income readily and this may not represent the true reflection of income levels of the respondents. If a respondent do not indicate his right income it places him in a wrong income category.

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3.12 Ethical considerations

The following were observed during the study.

3.13 Ethical clearance

Ethical clearance for the study was obtained from Ethical Review Committee of the Research and Development Division of the Ghana Health Service.

3.14 Permission from study site

Permission was obtained from the Tema Metropolitan Assembly before the research is conducted.

3.15 Description of subjects involved in the study

The study population was made up of adult residing in Community 20, Tema.

3.16 Informed consent

The participants were allowed to give their informed consent by either signing or thumb-printing the consent form after the information required for their consent was read and duly explained to them before they were recruited to participate in the study.

3.17 Voluntary consent /withdrawal

No individual was forced or coerced to take part in the study. The residents were made to know that participation was voluntary. The participants were also informed that they had the right to refuse or withdraw from the study anytime they want to. A written consent was sought from study participants before data was collected from them.

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3.18 Privacy/Confidentiality

The study was conducted in a manner that ensured the privacy of the respondents. All participants who gave consent were assured of anonymity. Data was also reported in a manner that ensured confidentiality of information collected from participants. The information given was not assessed by any unauthorized persons.

3.19 Potential Risks and Benefits

The study population, the Ghana Health Service and Ministry of Health benefitted from this study. In the study population, the study assessed routine medical and dental examinations among adult in Tema Community 20 and it identified the proportion of adult who undergo routine medical and dental examinations and reasons for medical and dental examination so that Ministry of Health and the Ghana Health Service were informed to take more preventive than curative measures towards managing health care in Ghana. There were no risks associated with the study.

3.20 Data storage and usage

The questionnaires were coded and kept under lock and key in a cupboard, and the key was kept by the Principal Investigator. Data collected were coded and entered within 24 hours of collection, and saved under a password known to only to the principal investigator. The soft copy of data was stored on a CD-ROM and external hard drive as well.

3.21 Compensation

There was no compensation for the participants in the study.

3.22 Proposal and funding information

This research was self-financed.

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3.23 Conflict of interest

I declare no competing interest.

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CHAPTER FOUR

RESULTS

4.1 Background characteristics of respondents

A total of 216 questionnaires were administered to adult residents living in Community 20, Tema, with 100% response rate. The highest age of the respondents was 64 years and the lowest age of respondents was 18 years with the mean age being 36.4 years. There were 53.7% (116) male respondents and 46.3% (100) female respondents. Majority 65.7% (142) of the respondents had tertiary education while the rest had secondary education 25.5% (55) and 8.8% (19) had primary education.

About 49.1% (106) of the respondents were married while 50.9% (110) were single. The employment status of the respondents showed 49.5% (107) were professionals or technical or managerial, 15.3% (33) were sales and services, 13.4% (29) were skilled manual, with 10.7% (23) being unemployed. Majority of the respondents 44% (95) were insured with the National Health Insurance Scheme (NHIS) and the rest were either insured with a private health insurance 24.1% (52) or uninsured 39.4% (69). About 43.1% (93) of the study population had monthly income below GHS 1,000. 00 whiles 56.9% (123) had monthly income above GHS 1,000.00 with a mean income of GHS 3,681.05 (95%CI 3,047.32 – 4,314.79). The background characteristics of the respondents are shown in Table 1.

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Table 1: Socio-demographic characteristics of respondents

Characteristic	Number (%)
Sex	
Male	116 (53.7%)
Female	100 (46.3%)
Age	
< 29	78 (36.1%)
30-49	99 (45.8%)
>50	39 (18.1%)
Marital Status	
Married	106 (49.1%)
Unmarried	110 (50.9%)
Educational Level	
Primary	19 (8.8%)
Secondary	55 (25.5%)
Tertiary	142 (65.7%)
Employment Status	
Clerical	12 (5.6%)
technical / managerial	107 (49.5%)
Sales and Services	33 (15.3%)
Skilled Manual	29 (13.4%)
Unemployed	23 (10.7%)
Unskilled Manual	12 (5.6%)
Monthly income	
< GHS 1000	93 (43.06%)
> GHS 1000	123 (56.94%)
Health insurance status	
Insured (NHIS)	95 (44.0%)
Insured (Private Health Insurance)	52 (24.1%)
Uninsured	69 (31.9%)
Total	**216**

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4.2 Proportion of medical and dental examination.

About 68.1% (147) of the respondents have ever undergone medical examination with 72.4% (84) of them being males and 63% (63) females, whereas 31.9% (69) have ever had dental examination done of which majority are males 36.2% (42) and 27% (27) females. Less than half of respondents 31% (67) have ever undergone both medical and dental examination.

Majority of the respondents who are above 50 years, 79.5% (31) have ever had medical examinations done of which 51.6% (16) are males and 48.4 (15) females, whiles 41% (16) of them have ever undergone dental examination with 56.3% (9) being males and 43.8 (7) females. About 75.5% (80) and 30.2% (32) of the respondents who are married have had medical and dental examination respectively, with 62.1% (64) and 33.6% (37) of the respondent who are not married undergoing medical and dental examination respectively.

As demonstrated in Table 1, most of the respondents, 65.7% (142) had tertiary education, among these group 85.9% (122) of them have ever undergone medical examination with 59.8% (73) being males and 40.2% (49) being females (Chi square = 0.75, p = 0.39). Respondents who have had tertiary education had 42.3% (60) of them undergoing dental examination. Of these, majority are females 63.3% (38) and 36.7 (22) males. (Chi square = 0.19, p = 0.67). About 41.5% (59) have ever undergone both medical and dental examinations (Chi square = 13.2, p = 0.00).

Out of the 56.9% (123) respondents who earn above GHS 1,000.00 as monthly income, 70.7% (104) of them have ever undergone medical examination of which 59.6% (62) are males and 40.4% (42) are females (Chi square = 0.1, p = 0.8). However 72.5% (50) of respondents who earn above GHS 1,000.00 have ever had dental examination done which includes 66% (33) as males and 34% (17) as females (Chi square = 1.19, p = 0.27). About 40.7% (50) of those who earn more than GHS 1,000.00 have ever had both medical and dental examinations (Chi square =

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15.3, p = 0.00). Among 43.1% (93) who earn less GHS 1,000.00, 29.3% (43) have ever had medical examination with 51.2% (22) and (48.8%) 21 being females (Chi square = 1.16, p = 0.28). On the other hand, 27.5% (19) of the respondents who earn less than GHS1,000.00 have ever undergone dental examination, which comprises of 47.4% (9) males and 52.6% (10) females (Chi square = 0.04, p = 0.82).

Majority of the respondents, 80.3% (118) who have health insurance (private and public) have ever undergone medical examination with 55.1% (65) being males and 44.9% (53) females. About 39.5% (58) of them ever had dental examination of which 58.6% (34) are males and 41.4% (24) are females.

4.3. Routine of medical and dental examination

Out of the 147 respondent who have undergone medical examination 38.8% (57) had medical examination done a year ago, 29.9% (44) two years ago, 23.1% (34) five or more years and 8.2% (12) do not remember when they had medical examination as shown in figure 3.

Of the 69 respondent who have ever undergone dental examination, 39.1% (27) had the dental examination a year ago, with 30.4% (21) had dental examination done two years ago, 17.4% (12) six years ago, 10.2 % (7) have had dental examination done five or more years ago and 2.9% (2) do not remember when they had the dental examination done. Majority of the respondents 86.1% (186) agree that annual medical and dental examinations should be done regularly, with 54.3% (101) being males and 45.7% (85) females.

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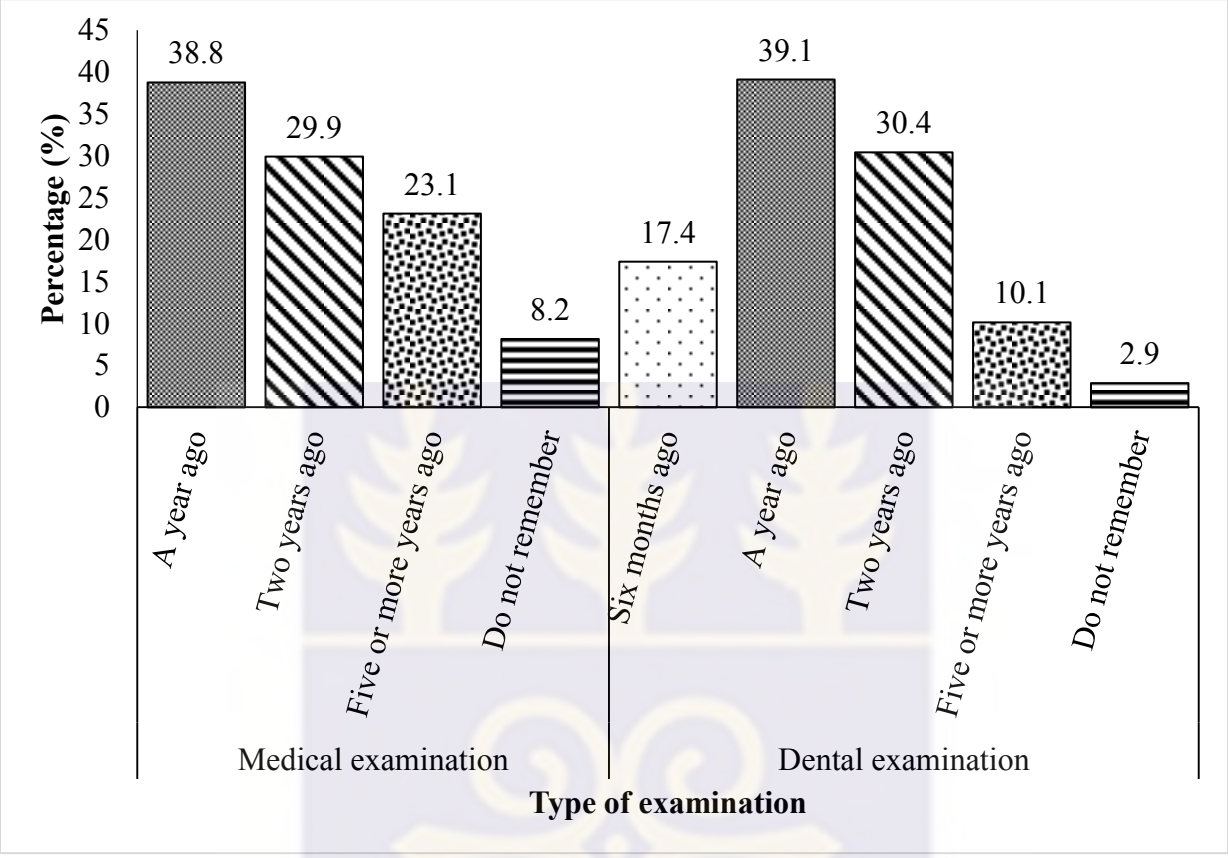
Figure 3: Percentage distribution of years of undergoing medical and dental examination



4.4 Reasons for routine medical and dental examination

Of the 147 who undergone medical examination, 35.4% (52) went for personal reasons, 24.5% (36) due to employment, 24.5% (36) were also due to school requirements and 2% (3) had medical examination because of insurance coverage. 8.8% (13) of the respondents indicated that they had the medical examination done due to travel and 4.8% (7) as a result of marriage.

Most of the respondent, 55.1% (37) have undergone dental examination for personal reasons whiles 24.6% (17) of them had the examination because of employment. 14.5% (10) of the 69 respondent who have had dental examination went because it was required by school with 1.4%

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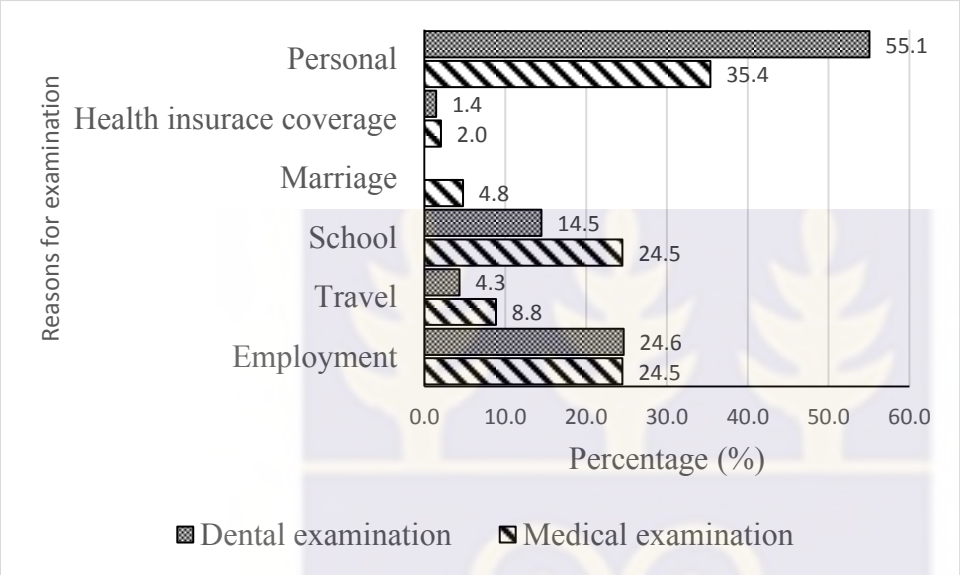
(1) due to insurance coverage. Figure 4 shows details of the reasons for routine medical and dental examinations.

Figure 4: Reason for routine medical and dental examination



4.5 Importance of medical and dental examination

The result in Table 2 shows that physical medical and dental examinations encourage adults to be health conscious had the highest rank with a weighted mean of 3.78 and interpreted as "Very Important". This was followed by physical medical and dental examinations are to screen for diseases and get educated by the doctor about healthy lifestyle choices and had a weighted mean of 3.75 which was ranked 2nd.dental examination encourages the individual to maintain healthy teeth and gums was ranked 3rd with a weighted mean of 3.73. On the other hand, physical medical examination motivates adults acquire unhealthy habit such as smoking and irresponsible alcohol intake got the lowest rank with a weighted mean of 1.07, with physical medical and

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dental examinations are used to promote doctor – patient relationship ranking 7th with a weighted mean of 3.31.

Table 2: importance of medical and dental examinations

Importance indicators	WM	Scale	Rank
Do you think routine medical and dental examination is important for asymptomatic adult?	3.66	Very Important	6
Physical medical and dental examinations are to screen for diseases and get educated by the doctor about healthy lifestyle choices.	3.75	Very Important	2
Physical medical examination is a routine test performed to check your overall health.	3.71	Very Important	4
Dental examination encourages the individual to maintain healthy teeth and gums	3.73	Very Important	3
Physical medical and dental examinations is used to promote doctor-patient relationship	3.31	Important	7
Physical medical and dental examinations are necessary to establish a health baseline to compare a patient's present health to assess any changes in health.	3.67	Very Important	5
Physical medical examination motivates adults acquire unhealthy habit such as smoking and irresponsible alcohol intake.	1.07	Not Important	8
Physical medical and dental examinations encourage adults to be health conscious.	3.78	Very Important	1
Composite mean	**3.34**	**Important**	
Scale: Very Important: 3.5-4.00; Important:2.50-3.49; Less Important: 1.50-2.49; Not Important:1.00-1.49			
WM=weighted mean			

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4.6 Future coverage of medical and dental examination

Respondents observed that future medical and dental examinations should cover life style issues, vital signs and investigations as well as health financing. A total of 97.7% (211) of the respondents agree that medical and dental examinations should ask questions about exercise, diet, drug or alcohol which includes 96.5% (112) males and 98% (98) females. Of these 98% (144) of them have ever undergone medical examination and 95.7% (66) have ever undergone dental treatment.

Majority of the respondents, 96.3% (208) agree that medical and dental examinations in adult should always cover the patient‟s hearts, lung, the pulse, blood pressure, blood and urine, which comprises of 96.5% (112) males and 96% (96) females. About 96.6% (142) of those who agreed have ever had medical examination done whereas 94.2% (65) have ever undergone dental examination.

Out of the 84.7% (183) of the respondents who agree that bi-annual medical and dental examinations should be covered under the national health insurance, 80.3% (118) have ever undergone medical examination whilst 78.3% (54) have ever had dental examination done. About 82.7% (96) and 87% (87) of the male and female respondents respectively, agree that bi-annual medical and dental examinations should be covered under the national health insurance.

In summary, the findings of this study reveal that more male undergone medical and dental examinations. Increased routine medical and dental examinations were seen among respondents above 50 years, high educational level, high income and unmarried people. Low medical and dental examinations were seen among respondents with health insurance coverage. Majority of the respondents have had medical and dental examinations done a year ago and giving reasons

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for the examination as personal. Most of the respondents indicated that physical medical and dental examination as very important.

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CHAPTER FIVE

5.0 DISCUSSION

A total of 68.1% (147) of the respondents have ever undergone medical examination. About 31.9% (69) have ever had dental examination. The respondents who had ever undergone medical examination for personal reasons constituted 35.4% (52). The percentage of respondents who had dental examination for personal reasons was 55.1% (37). Physical medical and dental examinations encourage adults to be health conscious had the highest rank with a weighted mean of 3.78 and interpreted as "very important".

5.1 Determination of routine medical examination

This study reveals that more than half of the respondents, 68.1% (147) have ever undergone medical examinations which are comparable to some studies in other countries. This findings is similar to a study conducted in Nigeria (Ilesanmi et al., 2015) which shows that about 79.2% ever had a routine medical examination. However, This study is contrary to the study by Eke et al., (2012), who found that only very few respondents practiced periodic medical examination. About 29.4%of males and 39.4%of females practiced periodic medical examination. Some important contributors to the number of respondents that have had medical examination is the free serial screening done in various churches in the community, high health education and awareness. Most of the people who live in the community have a high literacy level and therefore are health conscious.

There were more males 72.4% (84) males than females 63% (63) who have ever undergone medical examination in this study. This confirms findings from a study by (Hoebel et al., 2013), which shows more 50.8% of the men and 49.8% of the women surveyed had had a check-up in

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the two years before the survey. Contrarily, Viera et al., (2006) and Hunt et al., (2011) reported that men are significantly less likely than women to receive certain preventive services, However, more women are noted to go for routine medical and examination compared to men. Findings from Eke et al., (2012) and Ilesanmi et al., (2015), revealed no difference seen in the proportion of male and female with regards to frequency of medical examination. Deductions that can be made for high turn-out of men for routine medical examination is that they have become more conscious of their health. In addition to this most of the men are employed and their employers may require them to have regular examinations.

Findings from Ilesanmi et al., (2015), Hoebel et al., (2014) and Viera et al., (2006) is consistent with findings in this study respondents who were 50 years and above had an increased likelihood of having frequent medical examinations compared to those of the younger age group. This finding could be explained by the fact that there is a high risk of getting chronic diseases and other medical illnesses with increasing age, perhaps they want to get examined and get treated or take preventive measures. Furthermore, there is increased level of income for those of higher ages to enable them access and afford health care routinely.

Findings are consistent with previous studies by Hoebel et al., (2014) and Culica et al.,(2002), which showed that married people 75.5% (80) are more likely undergo medical examinations than those who are unmarried. A possible deduction could be that spouses living together with their partners are associated with a mutual health monitoring which could have resulted in increased health or symptoms attention, and a higher patronage in prevention examination.

Previous studies by Trohel et al., (2016), Chun & Kim, (2007) has suggested that higher educational level is associated with increased medical check – up. This is consistent with findings from this study, about 85.9% (122) of the respondents who have had tertiary education

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have ever undergone medical examination. There was no significant difference among male and female who have had tertiary education and have had medical examination (p = 0.39). However, results from Ilesanmi et al., (2015) and Hoebel et al., (2013) shows that no effect of education on frequency of medical examination. This can be attributed to the fact that high educational level is obviously associated with high health literacy, which enlightens subjects about their healthy life styles. Also higher education can be associated higher income level if employed, therefore such group can afford regular medical examination.

This study revealed that 70.7% (104) of the respondents who earn above GHS 1,000.00 as monthly income have ever undergone medical examination with no significant difference between male and female (p = 0.77). This is confirmed by findings from studies by Culica et al., (2002) Chun & Kim, (2007), Brunner-Ziegler et al., (2013) and Hoebel et al., (2013). High income does not only bring about financial security, but also facilitates the devotion of a person‟s time and resources to health-influencing benefits and to satisfy health requirements. More over persons with a high monthly income are more likely to pay attention to a healthy diet and healthy life style.

The present study demonstrates that 80.3% (118) who have health insurance have ever undergone medical examination. This is similar to findings from Viera et al., (2006) which shows 75% of those who seek medical examinations had insurance. These high figures are possible since insurance companies will bear the cost of health examination and health care in general, also premiums have already been paid to the insurance companies whether or not the individual undergo the medical examination.

Findings from this study reveals that 38.8% (57) of the respondents who had medical examination done a year ago. Majority of the respondents 86.1% (186) agree that annual medical

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and dental examinations should be done regularly. This corresponds with earlier proposal made by the American Medical Association that routine physical examination should be done yearly for healthy patients. Although they now suggest medical examinations be performed every five years (for adults over 18) until 40 years and every one to three years thereafter (American Medical Association, n.d.). It can be concluded that individual are aware and have knowledge of routine medical examination, however, routine medical examination practices are not common and the use of preventive care is limited.

5.2 Determination of routine dental examination

Less than half, 31.9% (69) of the participants have ever had dental examination, this finding is consistent with findings from El Bcheraoui et al., (2016) and Pavi et al., (2010) which shows that the extent of dental treatment sought is associated with need for treatment rather than preventive reasons. This has come about as a result of lack of awareness about dental treatment and the need to achieve optimum oral health care. Most people seem not to attach much importance to their dental care. However cost can be a contributing factor to the low figures recorded, since dental visits are quite expensive relative to medical examinations.

Contrary to previous studies by Nuttall et al., (2001) and Kosteniuk & D‟ Arcy, (2006) which suggest that men are less likely to go for regular dental examination, findings from this study reveals that majority of the respondents, 36.2% (42) who have ever undergone dental examination are males. This finding could be explained by the fact that more men are changing their attendance behavior and are becoming more conscious of their oral health. Probably, because most of them are employed it may be a requirement by their employers. Affordability for dental examination may be a contributing factor.

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Results from this study shows that more respondents above 50 years 41% (16), have ever had dental examination. This finding confirms the study by Hjern et al., (2001) and Nuttall et al., (2001) which states that the use of dental care are most marked in older adults. One reason may be that as people age, they change their behaviour, possibly in response to greater perceived need of dental care or through having more disposable income in general than the young. However it may not be the change in their behavior, as they get older, they tend to lose their teeth by so doing dropping out of the dentate population so these older adult want to maintain good dental habit.

This study shows 33.6% (37) of the respondent who are not married have ever undergone dental examination. This finding is contrary to findings from (McDonald, 2013) which demonstrated that about 60% of those who visited the dentist were married and the relationship between marital status and dental visits in the past 12 months was statistically significant ($p = 0.001$). One factor for this finding could be married people may not see the need or point for dental examination unless they have to, therefore some spouses may not encourage their partners to go for routine dental examination.

About 42.3% (60) of those who have had tertiary education have ever had dental examination with no significant difference between the female and male respondent who have had tertiary education and have ever had dental examination ($p = 0.67$). This finding is consistent with studies by Kosteniuk & D‟ Arcy, (2006), Kadaluru et al., (2012) and McDonald, (2013) stating that there is a likely increased in routine dental examination among subjects with higher education level. Subjects with higher education have more knowledge about dental care, high education is associated with higher income thus affordability of regular dental visit. This may be possible reasons for the above findings.

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Previous research has suggested that high income levels Kosteniuk & D‟ Arcy, (2006) and McDonald, (2013) are associated with increased routine dental examinations. This is similar to the finding in this study, 72.5% (50) of the respondent who earn above GHS 1,000.00 have ever had dental examination. There was no significant difference between male and female who have ever undergone dental examination (p = 0.27).

Less than half of respondents, 39.5% (58) who have health insurance have ever undergone dental examination from this current study. This is in contrast with findings by Kosteniuk & D‟ Arcy, (2006), Wu, 2007, Kadaluru et al., (2012) and McDonald, (2013) which associates dental insurance coverage to increased regular dental examination. This finding could be explained by the fact that there is lack of awareness on dental care, even though people may have insurance on some dental services (consultation, restorations, scaling and polishing, minor oral surgery among others. Perhaps subjects do not see the need to go for routine dental examinations.

This study shows a contrary attendance pattern to what the American Dental Association deem as a rule of thumb to visit the dentist twice in a year (American Dental Association, n.d.). Findings from this study show that 17.4% (12) have ever had dental examination six months ago whereas majority of them 39.1% (27) had dental examination a year ago. Lack of knowledge and awareness of dental examination and care can be attributed to the inconsistency in the findings.

The study also reveals that 41.5% (59) of those who have had tertiary education have undergone both medical and dental examinations. There was a significant difference between both medical and dental examinations among those have had tertiary education (p = 0.00). These findings can be attributed to the fact that highly educated people value the importance and benefits of routine medical and dental examinations. It can also be associated to the fact that higher educational levels if employed may result in high income levels of the subjects hence their ability to afford

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medical and dental examinations. In addition to this, some of them may have health insurance scheme which will cover all their expenses.

It can also be concluded from the study that about 40.7% (50) of those who earn more than 1,000.00 have ever had both medical and dental examinations. There was a significant difference between medical and dental examinations among those who earn more than GHS 1000.00 (p = 0.00).This finding could be explained by the fact that brings about financial security as well as enhances individuals devotion to health related benefits to promote healthy living and lifestyle.

5.3 Reasons for medical examinations.

Some of the respondent about 35.4% had medical examination done for personal reasons. The purpose of these visits is to screen for diseases, assess risk of future medical problem, encourage a healthy life style, update vaccinations and maintained a relationship with a provider in case of an illness as confirmed by Vorvick, (2015). Other reason for undergoing medical examination is employments which had about 24.5% (36) of respondents indicating that in the study. This is confirmed by Pachman, (2009) who stated that some people do medical examination as a requirement for job offer or placement. Certain employers will require an applicant or employee to undergo medical examination to ascertain the health status of the employee before job placement. There have been accounts of employment contracts and renewal being conditional on medical assessments. Others also ensure that the employees have regular or annual medical examinations.

About 24.5% (36) of the respondents indicated that they had medical examination because it was a requirement for admission into school as agreed by School Health Check-UP, n.d. which suggest medical examination prior to admission enhances early detection of disease /

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abnormalities, which when treated in time, allows the child to lead a normal life. It is also serve as a preventive check-up data which becomes the baseline for future reference. In Ghana, most tertiary institutions require medical examination. This accounts for the percentage seen in this study.

Health insurance coverage recorded the least reason for medical examination 2% (3). This is contrary to findings by Viera et al., (2006) which shows that 75% of those who seek medical examination had insurance.

5.4 Reasons for dental examinations.

The current study shows that majority of the respondents, 55.1% (31) have undergone dental examination for personal reasons. One contributing factor is that they have high level of dental care awareness and are highly motivated to practice it. Subjects who undergo dental examination possibly have high income so they can afford dental services.

Results from this study reveal that 24.6% (17) of the respondents had dental examinations because of employment. This is in line with suggestions made by Pachman, (2009) who stated that some people do medical examination as a requirement for job offer or placement. Certain employers will require an applicant or employee to undergo medical examination to ascertain the health status of the employee before job placement. Some companies such the food and beverage companies ensure that the employees have regular or annual dental examinations to prevent dental infections in order to avoid cross infections and contaminations when handling the products.

Contrary to findings from studies by Kosteniuk & D‟ Arcy, (2006), Wu, (2007), Kadaluru et al., (2012) and McDonald, (2013) which associates dental insurance coverage to increased regular

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dental examination, having health insurance coverage had the least response, 1.4% (1) for undergoing dental examination in this study. This difference is due to the lack of awareness on dental care and low oral health literacy, even though people have insurance on dental services and the insurance company will pay for any cost incurred. Perhaps subjects do not see the need to go for routine dental examinations.

5.5 Importance of medical and dental examination.

It can be inferred from the results that the respondents considered the following medical examination procedures as important with a weighted mean of 3.34. The result shows that the respondents considered physical medical and dental examinations encourage adults to be health conscious as very important to promote health and reduce morbidity and mortality and prevent illness and has the highest rank with a weighted mean of 3.78. Living a healthy life style, the respondents concluded on how important it is for physical medical and dental examinations to screen for diseases and get educated by doctor about healthy lifestyle choices was ranked 2nd with a weighted mean of 3.75. Regular medical examination helps the doctor to interact with patients and the point out certain health hazards and help them to take precaution. Furthermore, from the perspective of the respondents, dental examinations encourages the individual to maintain healthy teeth and gums as very important and ranked third. This perceived importance by the respondents does not correspond to their practice of routine dental examination as the findings revealed low patronage level in dental examination. Following this is the importance of physical and dental examinations is a routine test performed to check your overall health and was ranked 4th. It can be deduced that respondents have knowledge on what physical examination is. However, from the findings of the study it can be concluded that physical medical and dental

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examinations is used to promote doctor- patient relationship is important but was ranked 7th with a weighted mean of 3.31. Contrary to findings by Vorvick, (2015) that routine medical examination maintain a relationship with health provider, some of the respondents do not to see routine physical examination as a means of promoting doctor – patient relationship. The difference can be attributed the fact that there is long waiting time when they have to see the doctor and they do not spend much time they called to see the doctor (short doctor – patient time).

On the other hand, physical medical examination motivates adults acquire unhealthy habit such as smoking and irresponsible alcohol intake was rated as not important and was ranked last with a weighted mean of 1.07. This affirms the fact the physical examination encourages healthy lifestyle (Vorvick, 2015).

5.6 Future coverage of medical and dental examination

Majority of the respondents agree that medical and dental examinations should ask questions about exercise, diet, drug or alcohol. This is because medical and dental examinations educate individual on healthy lifestyle and the need to stay healthy. Another goal of routine medical and dental education is to educate patients about behavioral patterns environmental factors that poses risk for future diseases.

Findings from the study indicated that most of the respondents, 96.3% (208) agree that medical and dental examinations in adult should always cover the patient‟s hearts, lung, the pulse, blood pressure, blood and urine. This may imply that the respondents have knowledge about some vital signs and investigations carried out during physical examinations. This reflects a relatively

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good knowledge of hypertensive disorders and lung diseases as it might be a common illness amongst the traders, considering the strenuous nature of their work.

Results from the study indicate that more than half of the respondents, 84.7% (183) agree that bi-annual medical and dental examinations should be covered under the national health insurance. This will however, encourage the populace to undergo routine medical and dental examination as often as possible. Individuals who cannot afford will not have to worry about financing their routine examination once they are registered under the insurance scheme.

From the conceptual framework of the study, majority of the respondents, 68.1% (147) have ever had medical examination whereas just a few 31.9% (69) have ever undergone dental examinations, large proportion of the respondents undergo medical and dental examinations for personal reasons. These individuals are examined and screened by the health care provider. At the end of the examination, healthy subjects who do not show symptoms of any disease have achieved the two main goals of the physical examination. This implies that diseases have been prevented and health promotion has been enhanced. Those who go for routine medical examinations are counseled and are given health advice. However, if these respondents are screened and examined and are seen to be either symptomatic or asymptomatic of a particular disease, they are detected and are treated early enough to avoid the disease condition becoming worse. Both asymptomatic and symptomatic respondent with the disease are also counseled and educated on healthy lifestyle. This subsequently, is a reduction in morbidity and mortality. The conceptual framework model for the study was appropriate since Majority of the respondents have had routine medical and dental examination a year ago this is to ensure good health. As

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most of the respondents admit physical medical and dental examinations encourage adults to be health conscious. This is in line with the promotion of good health.

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CHAPTER SIX

6.0 CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

The study shows differentials in terms of sex, age, income level, educational level, marital status and health insurance coverage in routine medical and dental examinations. There is a need to take more preventive than curative measures of health conditions especially among young adult as they constitute the major economically active ones within the populace. Individuals should be encouraged to undergo annual medical and dental examinations. There are various reasons given for undergoing routine medical and dental examination. The importance and benefit of routine medical and dental examinations cannot be over emphasized as stipulated by respondents.

6.2 Recommendations

The recommendations of the study are as follows:

1. Ghana Health Service as part of its public education program should use the results of this study to educate and encourage the general public especially women and young adults to undergo routine medical and dental examinations annually.
2. The study provides some evidences to support the formulation of policy on the need for routine annual medical and dental examinations among the general populace.
3. The study reveals that there are no guidelines on the areas to be covered in routine medical and dental exams. The Ghana Health Service and the Ministry of Health should develop one to assist physician and dentist in these examinations.

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APPENDICES

Appendix I Informed Consent Form

Project Title: Assessment of routine medical and dental examination among adult in Tema Community 20

Background

My name is Esther Priscilla Biamah Danquah, a student from the University of Ghana, Legon. I am conducting a study on assessment of routine medical and dental examination among adult in Tema Community 20. The main objective of this study is to determine the routine medical and dental examination among adult in Tema Community, 20.

Procedures

The study will involve answering questions from a structured questionnaire about undergoing routine medical and dental examination. No coercion will be used to obtain repose from participants. It will be appreciated if you could participate in this study. This is an academic research which forms part of my work for the award of Masters Degree in Public Health.

Risks and Benefits

The study population and other stakeholders in Health care will benefit from this study. The study population estimation will show the assessment of routine medical and dental examination and the reasons for medical and dental examinations in order to influence stakeholders to take more preventive than curative measures towards health care delivery and contribute to health policy dialogue. There are no risks associated with study.

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Right to Refuse

Participation in this study is voluntary. You are allowed to answer any individual question or all the questions. You can withdraw from the study at any time however, you are encouraged to fully participate in the study.

Anonymity and confidentiality

The information obtained in this study will be kept confidential and will not be accessed by an unauthorised person.

Dissemination of Results

Copies of the findings of the study will be disseminate to Tema metropolitan Assembly, Tema metropolitan Health Services and all government hospitals in the metropolis. A copy will be kept at the Tema Metropolitan Assembly as reference.

Before taking the Consent

Do you have any concerns about the study that you wish to be addressed?

Yes ☐ No ☐

If yes, please indicate your concern below.

……

……

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If you have any questions later please, contact Esther Priscilla Biamah Danquah (**Tel: 0208226708**, or **biamsogh@yahoo.co.uk**) or The Ghana Health Service Ethical Review Committee administrator Hannah Frimpong (**0243235225** or **0507041223**).

Voluntary Consent

I have read the information given or the given information has been read and duly explained to me. My concerns about this study have been duly addressed. I now voluntarily agree to participate in this study knowing that I have the right to withdraw from the study at any time without it affecting me in any way.

……	……	……	……
(Name of participant)	(Signature)	(Thumbprint)	(Date)
……	……..	……..	……
(Name of Researcher)	(Signature)	(Thumbprint)	(Date)

Interviewer's Statement

I, the undersigned, have explained this consent to the subject in English/Ga/Twi and that he/she understands the purpose of this study, procedures to be followed as well as the risks and benefits of this study.

The participant has agreed to fully participate in this study.

Signature of Research Assistant …….

Date……...

Address…….

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Appendix II Questionnaire

QUESTIONNAIRE

A STUDY ON ASSESSMENT OF ROUTINE MEDICAL AND DENTAL EXAMINATIONS AMONG ADULT IN TEMA, COMMUNITY 20

Please provide the appropriate responses to the questions below.

	Questions	Response
	Respondents ID	☐☐☐
SECTION ONE (DEMOGRAPHIC INFORMATION)		
1.	Age	☐☐
2.	Sex 1. Male 2. Female	☐
3.	What is your marital status? 1. Single 2. Married 3. Separated 4. Divorced	☐
4.	What is your educational level? 1. No education 2. Primary 3. Secondary 4. Tertiary	☐
5.	What is your occupation? 1. Professional / technical / managerial 2. Clerical 3. Sales and Services 4. Skilled Manual 5. Unskilled Manual 6. Agriculture 7. Unemployed	☐

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6.	What is your monthly income?	
7.	What is your current health insurance status 1. Insured (NHIS) 2. Insured (Private Health Insurance) 3. Uninsured	
SECTION TWO (FREQUENCY AND REASONS FOR MEDICAL AND DENTAL EXAMINATIONS)		
8.	Have you ever undergone a medical examination (check -up)? 1. Yes 2. No (skip to Q.11)	
9.	If yes, when was this? 1. A year ago 2. Two years ago 3. Five or more years ago 4. Do not remember 5. Non - response	
10.	What is your main reason for doing medical examination? 1. Employment 2. Travel 3. School 4. Marriage 5. Health insurance coverage 6. Personal 7. Other (specify)_____	
11.	Have you ever undergone a dental examination (check -up) 1. Yes 2. No (skip to Q. 14)	

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12.	If yes, when was this? 1. Six months ago 2. A year ago 3. Two years ago 4. Five or more years ago 5. Do not remember 6. Non - response	☐
13.	What is your main reason for doing dental examination? 1. Employment 2. Travel 3. School 4. Marriage 5. Health insurance coverage 6. Personal 7. Other (specify)_____	☐
14.	Annual physical medical and dental examinations should be done yearly in adults. 1. Strongly disagree 2. Disagree 3. Not sure 4. Agree 5. Strongly agree	☐
SECTION THREE (IMPORTANCE OF MEDICAL AND DENTAL EXAMINATIONS)		
15.	Do you think routine medical and dental examination is important for asymptomatic adult? 1.Not important 2. Less important 3. Important 4. Very Important	☐
16.	Physical medical and dental examinations are to screen for diseases and get educated by the doctor about healthy lifestyle choices. 1. Not important 2. Less important 3. Important 4. Very important	☐

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17.	Physical medical examination is a routine test performed to check your overall health. 1. Not important 2. Less important 3. Important 4. Very important	☐
18.	Dental examination encourages the individual to maintain healthy teeth and gums 1. Not important 2. Less important 3. Important 4. Very important	☐
19.	Physical medical and dental examinations is used to promote doctor-patient relationship 1.Not important 2.Less important 3.Important 4. Very important	☐
20.	Physical medical and dental examinations are necessary to establish a health baseline to compare a patient's present health to assess any changes in health. 1. Not important 2. Less important 3. Important 4. Very important	☐
21.	Physical medical examination motivates adults acquire unhealthy habit such as smoking and irresponsible alcohol intake. 1. Not important 2. Less important 3. Important 4. Very important	☐

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22.	Physical medical and dental examinations encourage adults to be health conscious. 1. Not important 2.Less important 3. Important 4. Very important	☐
SECTION FOUR (COVERAGE OF MEDICAL AND DENTAL EXAMINATIONS)		
23.	Medical and dental examinations in adults should always ask questions about exercise, diet and drug or alcohol use. 1. Strongly disagree 2. Disagree 3. Not sure 4. Agree 5. Strongly agree	☐
24.	Medical and dental examinations in adults should always cover the patient's heart, lungs, the pulse and blood pressure, and blood and urine tests. 1. Strongly disagree 2. Disagree 3. Not sure 4. Agree 5. Strongly agree	☐
25.	Bi-annual physical medical and dental examinations should be cover under the National Health Insurance Scheme. 1. Strongly disagree 2. Disagree 3. Not sure 4. Agree 5. Strongly agree.	☐

THANK YOU.