ANALYSIS OF FACTORS INFLUENCING TRADITIONAL MEDICINES UTILISATION IN GHANA: EVIDENCE FROM KUMASI METROPOLIS AND SEKYERE SOUTH DISTRICT

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BY

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CERTIFICATION

I hereby declare that this submission is my own work towards the MPhil 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, except where due acknowledgement has been made in the text.

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ABSTRACT

Utilisation of traditional medical therapy dates back into antiquity; virtually every culture in the world has relied on it to treat/prevent one ill-health or another. Despite the current advances in conventional health care, traditional medicine (TRM) use continues to upsurge at both local and global scales. Whereas findings of studies on why this trend persists remain confounding and erratic, there is paucity of data from research on determinants of TRM use in the Ashanti Region. This study investigated the nature of TRM utilisation and the factors that influence such utilisation patterns in Ghana using data from Kumasi Metropolis and Sekyere South District of Ashanti Region. This cross-sectional survey espoused a mixed-approach of social research to access data from 386 participants from rural and urban prefectures through systematic random sampling, theoretical sampling and snow ball techniques. Face-to-face structured interviewer-administered questionnaire and in-depth interview guides were the main data collection instruments used. Whereas the quantitative data were analysed using bivariate logit regression model, Pearson's chi-square and Fisher's exact tests from the PASW for Windows application programme (version 17.0), the qualitative data were subjected to content analysis with deductive and *a posteriori* normative quotes. Findings indicate that 86.1% of the sample utilised traditional health care, of which 87.8% did not disclose it use to biomedical providers. Biologically-based therapies and family/relatives were respectively, the main form and source of knowledge regarding TRM. TRM users were more likely to be traders [OR = 2.321 (95.0% CI 1.037—5.194; p = 0.040)], having lower income [OR= 2.883 (95.0% CI 1.142—7.277; p = 0.025)], perceiving TRM as effective [OR= 4.430 (95.0% CI 1.645—11.934; p = 0.003)] reporting fewer side effects of use of TRM [OR = 2.730 (95.0% CI 0.986—4.321; p = 0.031)], having chronic diseases [OR = 3.821 (95.0% CI 1.213—11.311; p = 0.005)] and good attitudes of

KNUST

traditional healers towards service users [OR = 2.943 (95.0% CI 0.875—9.896; p = 0.030)]. Whilst support was expressed for full medical integration, education/training and inter-referral mechanisms needed to fuel the process were not officially sanctioned. Study hypotheses were validated by the results. The hypotheses that there are no differences in residential status (χ^2 = 0.232, df = 1, p > 0.05), sex of respondents (χ^2 = 0.406, df = 1, p > 0.05) and health insurance status (χ^2 = 0.401, df = 1, p > 0.05) regarding TRM utilisation were confirmed. These findings contribute to the empirical and theoretical debate on TRM utilisation. The study has bequeathed a conceptual model for studies on TRM utilisation. It has further provided empirical evidence to argue against dogmatic thoughts that uninsured, uneducated, rural residents and females are principal users of TRM. Policy initiatives that seek to ameliorate TRM and address challenges encountered by intercultural health care in Ghana are recommended. Further research is directed to examine barriers/ways to improve patient-physician communication on TRM utilisation and why urban residents patronise TRM.

KNUST

TABLE OF CONTENTS

KNUST

KNUST

KNUST

KNUST

KNUST

LIST OF TABLES

KNUST

LIST OF FIGURES

KNUST

LIST OF MAPS

KNUST

LIST OF ABBREVIATIONS

CAM…….. ……...……Complementary and Alternative Medicine

CEDAR……. ……....……Centre for Diet and Activity Research

CHAG……... ……..……Christian Health Association of Ghana

CHPS……. ……....……Community-based Health Planning and Services

CSRPM……. ……...……Centre for Scientific Research into Plant Medicine

DANIDA……... ……....……Danish International Development Agency

DRG……... ……Diagnosis Related Group

FDA……... ……..……Food and Drugs Authority

FFS……. ……..……Fee-for-Service

GDHS…… ……...……Ghana Demographic and Health Survey

GDP……... ……...……Gross Domestic Product

GFTMP…….. ……...Ghana Federation of Traditional Medicine Practitioners

GGBL…… ……Guinness Ghana Brewery Limited

GHS……... ……....……Ghana Health Service

GHSD…… ……Ghana Health Service Division

GLSS……. ……..……Ghana Living Standard Survey

GOG…….. ……Government of Ghana

GP…….. ……....……General Practitioner

GPRS……. ……...……Ghana Poverty Reduction Strategy

GSS…… ……...……Ghana Statistical Service

HIV/AIDS…….. ……..……..Human Immunodeficiency Virus/ Acquired Immune Deficiency Syndrome

IBC……. ……..……International Broadcasting Convention

IMF……. ……..……International Monetary Fund

KNUST

ISSER……. ……..…Institute of Statistical, Social and Economic Research

JHS……. ……Junior High School

KATH……. ……Komfo Anokye Teaching Hospital

KMA……... ……Kumasi Metropolitan Assembly

KNUST…… …….……Kwame Nkrumah University of Science and Technology

LEAP…….. ……...……Livelihood Empowerment Against Poverty

LI…… ……...……Legislative Instrument

MCH…… ……Maternal and Child Hospital

MeTA……... ……..……Medicines Transparency Alliance

MDGs……..... ……...……Millennium Development Goals

MHOs……... ……Mutual Health Organisations

MHRA……. ……Medicines and Health Care Products Regulatory Agency

MOH…… ……..……Ministry of Health

NCCAM……... ……National Centre for Complementary and Alternative Medicine

NDPC……... ……...……National Development Planning Commission

NGO……. ……..……Non-Governmental Organisation

NHIA…… ……National Health Insurance Authority

NHIR…… ……..……National Health Insurance Regulation

NHIS…… ……National Health Insurance Scheme

NMIMR…… ……Noguchi Memorial Institute for Medical Research

OM……... ……Orthodox Medicine

OMP……. ……...……Orthodox Medical Practitioner

OPD…….. ……..……..……Out-Patient Department

PASW…….. ……Predictive Analytics Software

PHC……. ……..……..……Primary Health Care

KNUST

RTI…….. ……...……Respiratory Tract Infections

SAP…….. ……....……Structural Adjustment Programme

SAPRI…….. ……..……South Asia Policy and Research Institute

SEND…… ……....……Social Enterprise Development

SFCG…… ……....……School Fees Capitation Grant

SHS…….. ……...…….Senior High School

SSD……. ……...……Sekyere South District

SSDA…….. ……Sekyere South District Assembly

SSNIT…….. ……...……Social Security and National Insurance Trust

STIs…….. ……..……Sexually Transmitted Infections

TBA…….. ……Traditional Birth Attendant

TCM……..... ……Traditional Chinese Medicine

TH……. ……...……Traditional Healer

THETA…… ..…Traditional and Modern Health Practitioners Together Against AIDS and Other Diseases

TMP…… ……..……Traditional Medical Practitioners

TMPC…… ……Traditional Medical Practitioners Council

TRM…….. ……..……Traditional Medicine

UDHR…… ……Universal Declaration of Human Rights

UNDP……..... ……..……United Nations Development Programme

UNICEF……. ……United Nations International Children's Emergency Fund

USAID…… ……...……United States Agency for International Development

UTI……. ……..……..……Urinary Tract Infection

WHA…….. ……..……World Health Assembly

WHO…….. ……World Health Organisation

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DEDICATION

Deep heartedly, I dedicate this thesis to my most devoted brother, Dr. Anokye Mohammed Adam. He provided my past and inspired me to realise my academic goals and potentials. Crawling on his shoulders has taken me this far. I am most grateful to him for his support, encouragement, selflessness contributions and also believing in me. Prof, I owe to you my academic laurels.

KNUST

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KNUST

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KNUST

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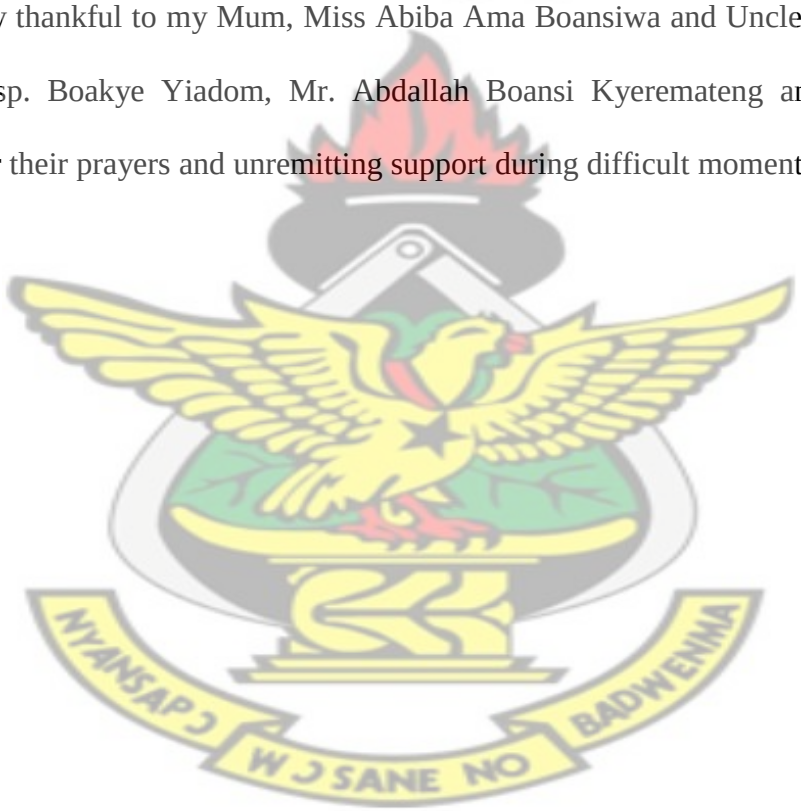

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The health of individuals, families and communities is an indispensable issue of global development. Health concerns assume the cutting edge in national development agenda. It is an indicator of development and also the mechanism for achieving a desired development (Saeed et al, 2013; Thoa et al, 2013; Adejumo et al, 2013; Kanchan and Ghosh, 2012; Wilson et al, 2012; Oluwatuyi, 2010). But for a country to develop, its population must be healthy, and to be healthy calls for efficient and effective use of health care facilities (Buor, 2008a). Strong health systems are fundamental to improving health outcomes and accelerate progress towards the health-related Millennium Development Goals (MDGs) of reducing maternal and child mortality, and to skirmishing HIV/AIDS, malaria and other diseases. At the time when economic downturn, a new influenza pandemic, and climate change add to the challenges of meeting those goals, the need for robust health systems is more acute than ever (World Health Organisation [WHO], 2012).

The enjoyment of the highest attainable standard of health is the fundamental right of every human being without distinction of race, religion, political belief, economic or social condition (Saeed et al, 2013; Thoa et al, 2013; United Nations [UN], 2000; WHO, 1948). In his preface, Rosen (1958: 17) asserts prescriptively that "the protection and promotion of the health and welfare of its citizens is considered to be one of the most important functions of the modern state. This function is the embodiment of a public policy based on political, economic, social and ethical consideration". Article 25 of the

Universal Declaration of Human Rights (UDHR) further explicates that everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, medical care and the right to security in the event of sickness, debility and disability (Saeed et al, 2013; UN, 1948; WHO, 2003). Therefore, the right to good health care is not only essential element for human existence, but also a major responsibility of the government.

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Studies have expounded that economic development of a nation is not only a function of income or wealth but on other social services such as improvement in health care delivery (Baidoo, 2009; Buor, 2008a). Human resource therefore cannot function at full capacity in the absence of effective and efficient health care. Indeed, the *sine qua non* of large and effective labour force is good health. It is for this reason that the 1992 Constitution of the Republic of Ghana obligates the government to ensure sustainable socio-economic development of its citizens, irrespective of class, ethnicity, gender, age, religion or geographical location (Republican Constitution of Ghana, 1992). In this regard, the role of the health sector is to improve human capital—"creating wealth through health"—and the development and implementation of proactive policies that will ensure improved health and vitality among Ghanaians (Ministry of Health [MOH], 2006; 2005).

According to Sen (1987) the development or wealth of a country is based on the well-being of the people. Availability and accessibility to health services can make economic development sustainable (Lachowycz and Jones, 2013; Nwaiwu, 2012; Aghion, 2010). In many cases when factors such as accessibility, availability and proper utilisation of health care services are denied, development can be stalled. The health of the nation

directly affects the socio-economic indicators that define any important national economic and socio-political growth (Baidoo, 2009). The health status of a country's population affects the condition of the labour force, which determines production while poor health has critical impact on the education of children. Improving health therefore would lead to significant savings on health expenditure as a result of the reduced disease burden. A healthy, strong, intelligent and active human capital will be more productive, creating more wealth and thus increasing the Gross National Income of a nation (MOH, 2005; Buor, 2008b).

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Disease burden and reported cases of death from preventable diseases such as malaria, cholera, HIV/AIDS, amongst others are escalating whilst health promoting mechanisms such as sanitation, personal hygiene, improved nutrition, good water sources and literacy are nothing to boast about in developing countries and Ghana is typical (MOH, 2005; 2009; Kusi-Bempah, 2011). The pursuit for health care has compelled many people far and wide to seek medical attention from various sources. In the past two decades, there has been a growing awareness that orthodox based medical care was not only becoming increasingly expensive, it was also failing to reach the majority of the population particularly in the rural settings. Empirical studies posit that 33% of global population lacks regular access to affordable modern essential drugs (World Bank Group, 2014; Mutabazi, 2008), with the figure rising to over 50 percent in the poorest parts of Africa and Asia (Hardon et al, 2004; WHO, 2013). This has called for the reassessment of strategies to meet basic health needs by national and international agencies as reverberated by WHO and UNICEF in the 1978 Alma Ata Conference.

In Ghana, Primary Health care (PHC)[1] has been adopted as the strategy of the country's health delivery system for achieving health for all. PHC forms part of the socio-economic developmental goals for achieving equity in overall development effort (Mensah, 2008; MOH, 2008). This has become necessary due to the fact that most Ghanaians live in the rural areas. They produce the bulk of the nation's foodstuffs and cash crops for export though; they are oft-deprived of adequate orthodox medical facilities for their health needs (Buor, 2008b; MOH, 2007a). In addition, conditions in the rural areas are such that the inhabitants are poignantly predisposed to numerous preventable diseases.

KNUST

Current erudition on health care in Ghana has renewed efforts and revived interest in researching traditional health system as a conduit to bridging the gap between health care demand and supply (MOH, 2007b; WHO, 2011a). Research argues that health policy should promote the use of indigenous health services to complement the declining services given by modern health care system. Traditional healing has been sustained for decades partly because it is based on cultural values and norms of the people and partly because it is available, acceptable and affordable (Airhibenbuwa, 1995; Mensah, 2008; Gyasi et al, 2011). In a research on contributions of folk medicine to health delivery at the Kwabre-Sekyere District of Ashanti, Buor (1993) found that even the educated preferred the traditional bone-setting therapy to the orthodox care since they have a great deal of belief in the system. Ghanaians have high comfort level for traditional healers (Oppong, 2003), who are members of the community and live next door to the people they treat.

[1]Essential health care based on practical, scientifically sound and socially acceptable methods and technologies made universally acceptable to individuals and families in the community through their full participation and at a cost that the country or the community can afford to maintain at every stage of their development in the spirit of self-reliance (WHO, 1978).

Coupled with paucity of readily accessible modern medical facilities and personnel in rural areas, traditional therapies and practices have proven to be a useful substitute and/or complementary medical gizmo for the peripheral and rural denizens. In the era when national health insurance scheme (NHIS) is in vogue, individuals and families all over the world continue to utilise TRM as primary or complementary sources of health care. The World Medicines Situation report evidently estimates that between 70 and 95% of the population in developing countries consume TRM and that every country in the world uses it in 'some capacity' (WHO, 2011a: 3; Sato, 2012c; Sato, 2012b; van der Geest and Whyte, 1988; Bloom and Standing, 2001).

KNUST

The role played by the TRM system in ensuring quality of life and well-being of the citizenry and the national economic, social and political growth is critical in the developing economies (WHO, 2003; 2008). In this regard, the WHO officially recognised the importance of integrating TRM into health care systems at the 30th World Health Assembly (WHA) in 1977. This policy change was based on the understanding that traditional medical knowledge can work as an additional resource for health care delivery (WHO, 1979). Full integration is pivotal in comprehensive health care provision. Instinctively, integration of medical systems ought to be informed by understanding the health-seeking behaviour and the pattern of use of the available medical modalities.

1.2 Problem Statement

The health system in Ghana has gone through series of evolution and revolution since the attainment of political independence (Vaillancourt, 2009; MOH, 2009; Sowa, 2002; van den Boom et al, 2004; Addai and Gaere, 2001; Oppong, 2001). Nevertheless, like other

developing countries, Ghana is still struggling to find the means to providing effective, efficient, appropriate and comprehensive health care system for its ever growing population. Transmissible diseases that are preventable but accounting for the leading cause of morbidity and mortality in the country (Buor, 2008a) melancholically continue to place a toll on the population. With the double burden of communicable and non-communicable diseases, coupled with the escalating costs of health services, there is an urgent need to extend health services beyond orthodox medicine (OM), particularly for addressing challenges posed by HIV/AIDS, malaria, birth complications and other priority public health problems (WHO, 2004).

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The mainstream medical system, styled after the orthodox health care delivery system, has proven woefully inadequate in meeting the basic health care needs of the citizenry (MOH/GHS, 2012; Baidoo, 2009). Up to 21st century, most Ghanaians do not have access to orthodox health care, particularly, the rural third. People either by choice or out of necessity rely entirely on herbal and other traditional medical services for their primary health care needs (Gyasi et al, 2011). There is also chronic dearth of orthodox health care infrastructure and personnel. World Development Indicators (WDI) postulates that Ghana's doctor to population and nurse to population ratio are estimated to be low at 1:10,032 and 1: 1,111 respectively but there is one traditional healer for less than 400 people in the country (World Bank Group, 2014). More so, about 40% of the population in the Ashanti Region still lack regular access to affordable modern essential drugs (MOH/GHS, 2012).

Spatial discrepancy in health care access is critical issue of concern in the region. This is largely demonstrated by the lopsided and polarised distribution of health facilities

between rural and urban divide. Studies show that over 71 percent of health facilities and 85 percent of all medical doctors or physicians in the region are concentrated in Kumasi, the regional capital (MOH/GHS, 2012; GSS, 2012) at the expense of rural areas. There is yet the problem of unequal distribution of health facilities between the urban-core and the urban-periphery. In the Kumasi Metropolis for example, the peripheral areas lacks maternal and paediatrics health services. Hence, women and children at the periphery would have to travel far to the core where such facilities are available (MOH/GHS, 2012; Buor, 2002). Distance decay[2] mechanism and activity space[3] function have become palpable and confounding in the Ashanti Region. This depicts a naked inequality and inequity in access to health care which subverts fairness and social justice (Wilson et al, 2012; Buor, 2008a; Ensor and Pham-Bich-San, 1996; Ganatra and Hirve, 1994; Okafor, 1990; Muller et al, 1998).

KNUST

Income has been identified as one major factor which accede the use of health care services in Ashanti Region (Buor, 2008a). The high costs of imported drugs and user fees have made orthodox health care expensive and unattractive. This ambience has dissuaded most people, particularly the rural poor from accessing the orthodox health care altogether. Furtherance, orthodox health care service has proven completely precarious, inept and has failed in handling most 'tropical diseases' *inter alia* malaria, jaundice, typhoid fever, piles, boils, infertility and diseases of psychic nature (Gyasi et al, 2011; Buor, 1993). The WHO (2008; 2005) and Gyasi et al (2011) among others have

[2]A geographical term which describes the effect of distance on cultural or spatial interactions. The distance decay effect states that the interaction between two locales declines as the distance between them increases. Once the distance is outside of the two locales' *activity space*, their interactions begin to decrease.

[3]Geographers use the term to identify the areal extent of a person's regularly visited places during a day. The daily set of activities and the space in which they occur. The activity space of an individual is an aspect of human spatial behaviour (Pitzl, 2004).

reported that certain aspects of the TRM are cost-effective, acceptable and more readily available to the people than the OM. The efficacy of some traditional therapies has also been justified (Gyasi et al, 2011; Xu and Levine, 2008; Kuete et al, 2007) and that over 70 percent of the denizens in Ashanti Region depends on TRM (Apt, 2013; GSS, 2012; UNDP, 2007). In developing countries, TRM is trusted and practised in line with the socio-cultural background of people (Graz et al, 2011; Kitua, 2004). TRM is congruent with the personal values, religious and health philosophies of people (Osamor and Owumi, 2010; Bishop et al, 2007; Furnham and Forey, 1994; Vincent and Furnham, 1996; Moore et al, 1985) and the system is therefore utilised as such.

KNUST

With the current dispensation, influx and advances of orthodox medical system in Ghana, TRM continues to play a significant part in Ghana's health care system. To offer an explicit and clear cut elucidation to this phenomenon, the existing literature is desperate. Economic approaches are mostly separated from anthropological perspectives. Thus, economic works largely turn to accessibility, availability and affordability as central reasons for continued use, while separately, anthropological works generally argue that social and cultural constraints shape health-seeking behaviour (Sato, 2012a). It is therefore timely and apt enough to investigate into the correlates of use of TRM particularly in a developing world so as to clearly comprehend the health-seeking behaviour of clients of medical systems. This is the main thesis and locus of this study.

Unfortunately, there is paucity of information on prognosticators of TRM utilisation in Ashanti Region since the subject is poorly researched empirically and defies documentation. However, factors that favour the choice and use of TRM are unravelled elsewhere. Some studies associate the TRM use to socio-demographic and economic

characteristics of patients (Peltzer at el, 2008; Thomas et al, 2007; Dhalla et al, 2006; Peltzer et al, 2006; Wiwanitkit et al, 2003; London et al, 2003). There are also other complex anthropological (cultural and belief) and psycho-social factors (Sato, 2012d; Osamor and Owumi, 2010).

Indeed, findings of studies on determinants of TRM use plunge into perplexity. They are mostly erratic and not well understood. Keeping view of this, investigating the determinants of use of TRM in Ghana becomes relevant and therefore brought sharply into focus. The principal purpose of this study was to fill this research lacuna and add to existing knowledge by analysing the predictors of TRM use in Ghana, taking evidence from two selected districts in the Ashanti Region as study prefecture.

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1.3 Research Questions

In line with the forgoing discussion, key research questions to which answers were sought are:

1. What is the nature of TRM utilisation in the Kumasi Metropolis and Sekyere South District?
2. What factors predict the use of traditional health care in the Kumasi Metropolis and Sekyere South District?
3. Are there any differences in the utilisation of TRM between rural and urban areas of the Kumasi Metropolis and Sekyere South District?
4. To what extent has the introduction of National Health Insurance Scheme impacted on the use of traditional medical services in the Kumasi Metropolis and Sekyere South District?

5. What are the attitudes and perceptions towards integration of TRM into the mainstream health care delivery system in Ghana?

1.4 Study Objectives

The overarching object of this study was to examine the nature of TRM utilisation and the predictors associated with such utilisation in the Kumasi Metropolis and Sekyere South District. The specific objectives of the study were to:

1. Examine the prevalence and pattern of TRM utilisation in the Kumasi Metropolis and Sekyere South District.
2. Examine the predictors associated with use of traditional medical care in the Kumasi Metropolis and Sekyere South District.
3. Analyse differences in TRM utilisation between rural and urban areas of the study areas.
4. Investigate the impact of national health insurance status of respondents on the use of TRM in the study areas.
5. Analyse the attitudes towards integration of TRM into the mainstream health care system in Ghana.

1.5 Hypotheses

The research was based on the following hypotheses:

1. There is no statistical significant difference in TRM utilisation between male and female in the research districts.
2. There is no significant relationship between household income level and the utilisation of TRM in the study communities.

3. There is no significant relationship between educational level of respondents and the use of TRM in the study districts.
4. There is no statistical significant difference in the TRM utilisation between rural and urban areas of the study districts.
5. There is no statistical significant relationship between national health insurance status and the TRM utilisation in the study area.

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1.6 Definition of Key Concepts

In this section, certain key terms are operationally defined to ratify their use in the study.

1.6.1 Traditional Medicines (TRM)

"The sum total of all the knowledge and practices, whether explicable or not, used in diagnosis, prevention and elimination of physical, mental and social imbalance and relying exclusively on practical experience and observation handed down from generation to generation, whether verbally or in writing" (WHO, 1976:3-4; WHO, 2013; 2011a; WHO/EDM/TRM, 2001). In this study, TRM involves unorthodox therapeutic modalities including, among others, herbal therapy, distant/energy healing (such as faith and spiritual healing) birth attendance, bone setting, chiropractic, massage, homeopathy, psychotherapy as well as self-preparation and self-medication (Vandebroek, 2013; UNDP, 2007; GSS, 2006; Astin et al, 2000).

1.6.2 Traditional Medical Practitioner/ Traditional Healer (TMP/TH)

A person recognised by the community to provide competent health care using vegetables, animal substances and certain other methods based on the social, cultural and religious background as well as on the knowledge, attitudes and beliefs that are prevalent

in the community regarding physical, mental and social well-being and the causation of disease and disability" (WHO, 1976:3). TMPs may include herbalists, faith healers, diviners, traditional birth attendants, bone setters, et-cetera in the context of this study.

1.6.3 Orthodox Medicine (OM)

Is the art of scientific healing by diagnosis, treatment, and prevention of disease that encompasses a variety of health care practices evolved to maintain and restore health by the prevention and treatment of illness in human beings. It may be referred to as conventional, scientific or mainstream medicine.

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1.6.4 Orthodox Medical Practitioner/ Biomedical Provider (OMP)

A person who have undergone a scientific training to diagnose, treat and prevent diseases. This may encompass practitioners of different speciality and grades including physicians/ doctors, pharmacists, nurses, midwives, medical assistants, etc.

1.6.5 Service User/Client

This refers to a person and/or patient as a total being, body, mind and spirit, sick or well, who needs help to complement his own specific ability to accept optimal responsibility for his own health (Berman and Snyder, 2012) and therefore visit a TMP for diagnosis, treatment, disease prevention, health promotion and other medical purposes. Whoever consumes the medical services of TRM/TMP is referred to as a service user or client. It constitutes individuals of both sexes with age limit of at least 18 years.

1.6.6 Utilisation

This is the act of making use of health care services provided by TMP or self-applied for therapeutic or healing purposes (Concise English Dictionary, 2008).

1.6.7 Factors/Correlates

These refer to a set of forces, variables, conditions or influence that independently or in combination act with others to bring about results (Concise English Dictionary, 2008). These are deemed as explanatory variables.

KNUST

1.6.8 Urban/ Rural

The classification of localities into 'urban' and 'rural' was based on the size of the target population. In this study all localities with 5,000 or more persons were classified as urban while localities with less than 5,000 persons were classified as rural (GSS, 2012). In the rural Sekyere south district settlements with target population less than 5,000 were randomly selected. However, settlements with more than 5,000 people were considered in the selection in urban Kumasi Metropolis.

1.7 Study Design, Fieldwork and Methodological Issues

1.7.1 Introduction

This section describes the methodological approaches to the study in order to provide the right framework and perspective for interpreting the findings and conclusion of the research. The section covers aspects, *inter alia*, the study design, delineation and measurement of the variables used in the research, the sampling design, data collection instruments and procedures as well as methods of data analysis.

1.7.2 The Study Design

The objective of this research is to measure the nature of TRM use and analyse the potential explanatory variables that predict utilisation of TRM. This retrospective cross-sectional survey employed a mixed-design approach; a quantitative study of users/ clients of TRM and a qualitative study of Traditional Medical Practitioners (TMPs) and Orthodox Medical Practitioners (OMPs). The use of quantitative and qualitative approaches in this study was appropriate because social life and human actions and inactions are highly complex. Lately, the social science research has been categorised into two dominant ideologies, namely the positivist or quantitative approach and the interpretive or qualitative approach.

KNUST

The quantitative research approach which upholds hard scientific assumptions and positivism philosophy is rooted in the 19th century where human society is believed to be governed by natural laws and that the central aim of the study of human society is to unravel these laws (Okeke and Ume, 2004). The quantitative research paradigm dominated and monopolised social science research for many years. However, the qualitative, naturalist or constructivist's perspective espoused in this study is relatively a new research paradigm. The model consists of a group of researchers who tend to question the core tenets of the quantitative research approach. Qualitative research addresses diverse lines of thought in micro-geographical traditions whose focus of study is the individual as a social actor. The goal of the qualitative researcher is to describe a specific group in detail and to explain the patterns that exist as against a discovery of general laws of human behaviour (Schofield, 1993).

With categories of study sample with diverse socio-economic vis-à-vis broad cultural and residential background, this study involves both positivist paradigm and an interpretivist, relativist ontology or subjectivist epistemology (Angen, 2000; Berger, and Luckmann, 1967) with the understanding that these approaches combined could proffer a better way of tapping into natural real-life experiences of TRM users, TMPs as well as OMPs with respect to the belief milieus, motivations and attitudes to TRM consumption and practice. The combined force of both approaches can provide an avenue to achieve a more robust, comprehensive and explicit meaning to the research findings (Mack et al, 2005; Trochim, 2006).

KNUST

1.7.3 Variables, Definitions and Preferred Cut-off Values

The outcome variable for the study was TRM utilisation. TRM utilisation was entered as a dummy variable indicating no use or use of TRM/TMP's services over the last 12 months preceding the survey. These were keyed as 0 or 1 respectively. The predictor variables were of three categories. The first constituted demographic and socio-economic variables of age, sex, marital status, household size, level of education, education of partner, health insurance status, residential status, religious background, ethnic background, employment status, nature of occupation and household income level. The second category encompassed the accessibility variable of cost of care; and thirdly, biopsychosocial/anthropological variables of belief system, nature of disease, perceived attitude of traditional healer, perceived efficacy, side effects and quality of TRM. Sex, residential status, marital status, employment status and health insurance coverage were entered as dichotomous variables whilst ethnicity and religious background were entered as nominal variables. Moreover, age, household size, education status, household income level and biopsychosocial variables were entered as ranked variables. The study

variables were operationalised and coded as indicated by Table 1.1 in order to ensure accurate measurement.

Table 1.1 Operationalisation and coding of the study variables

Variable	Operational Definition	Category	Code
Outcome Variable			
TRM Utilisation [Dichotomous]	Whether or not a patient uses TRMs/TMPs services of all forms in the last 12 months preceding the survey.	No utilisation Utilisation	0 1
Predictor Variables			
Educational status [Ranked]	A completed grade of schooling/educational level	Never-been-to school Basic education Secondary education Tertiary education	1 2 3 4
Marital status [Dichotomous]	Categorised into married and single Cohabitation is deemed married whereas widowhood is classified under single*	Married Single	1 2
Employment [Dichotomous]	Any economic activity that could generate regular income irrespective of its nature.	Employed Unemployed	1 2
Occupation [Nominal]	A kind of economic activity that brings income to a respondent	Farming Artisanal work Civil/Public Service	1 2 3
Residential status [Dichotomous]	Status of the settlement of residence. Categorised into urban (Kumasi Metropolis) and rural (Sekyere South District).	Urban Rural	1 2
Sex [Dichotomous]	Being male or female	Male Female	1 2
Religion [Nominal]	Religious affiliation of respondent.	Christianity Islam ATR Others	1 2 3 4
Ethnicity [Nominal]	The ethnic background of respondent	Akan Northern Ghana Other	1 2 3
Age [Ranked]	Number of years a respondent obtains at the last birthday	<20 20-29 30-39 40-49 50-59 60 and above	1 2 3 4 5 6
Income level [Ranked]	Income of household per month consisting of both cash and kind received from all sources within the month.	Less than GH¢100 GH¢101 to GH¢ 300 GH¢301-GH¢500 GH¢501-GH¢1000 GH¢1001 and above	1 2 3 4 5
Satisfaction/Quality	Determined as perceived by respondents or	Poor	1

KNUST

of care [Ranked]	clients of TRM. Indicators for quality are efficacy, safety and flexibility of use.	Satisfactory Good Very good	2 3 4
Attitude/Affective behaviour of TMP [Ranked]	Defined as perceived by the clients.	Poor Satisfactory Good Very good	1 2 3 4
Belief system [Ranked]	Determined as perceived by the client. It is indicated by the psychological milieu including the level of comfort of accessing traditional health care.	Poor Satisfactory Good Very good	1 2 3 4

*****This definition was used so as to avoid any ethical issues regarding marital status. As part of Ghanaian culture, people who are not married legally and co-habitat are seen with stigma and scorn. Also, inquiring about the husband or wife of widow or widower respectively raises a discomfort milieu which potentially could affect the remaining part of the interview.

Source: Author's construct, 2013.

KNUST

1.7.4 Sampling Techniques and Procedure

A standardised methodology for household selection developed by the WHO was used as the guiding foundation in this study. This technique is apposite in situations where rural and urban divide is considered in research avenue making household enumeration difficult (see WHO, 2007: 13). This sampling methodology is approved and has recently been adopted by the WHO to evaluate access to and use of medicines in Ghana (see Arhinful, 2011:8-11). However, modifications were done to suit the objectives of this study.

The Ashanti Region which depicts one of the most cosmopolitan, cultural-mixed and diverse demographic and socio-economic region was considered a true representation of Ghana and therefore suitable for this study. To reflect the vast differences in urbanity[4], population characteristics, demographic and socio-economic discrepancies, two distinct and contrasting districts were purposively selected from the Ashanti Region for the

[4]The classification of localities into 'urban' and 'rural' was based on population size. Localities with 5,000 or more persons were classified as urban while localities with less than 5,000 persons were classified as rural (GSS, 2012).

study. The study districts were Sekyere South District and Kumasi Metropolitan Area representing rural and urban governorates respectively. Adams et al (2011) and Barker et al (2001) have independently demonstrated that geographical location is critical for TRM utilisation. For any meaningful conclusion to be made thereof, the study sample should have a typical rural—urban character. This insinuates the overriding factor of selecting these study districts.

Altogether, ten (10) settlements were selected from the study districts for the research based on simple random sampling technique. In each district, settlements that met the rural or urban criterion (GSS, 2012) were enumerated and numbered: "YES" or "NO". A continuous probability selection without replacement was then carried out until the 5 settlements labeled "YES" were obtained and involved in the research. For rural Sekyere South District, study settlements selected were Akrofonso, Bedomase, Bepoase, Boanim and Domeabra whilst Atonsu, Ayigya, Nhyiaeso, Old Tafo and Suame were selected from the Kumasi Metropolis (see Table 1.2, Map 3 and Map 4). Spatial relationship of the selected settlements and physical accessibility were taken into consideration. The overriding factor in the selection of the settlements is the fair and adequate coverage of the districts so as to ensure precision and generalisability of the research findings.

Table 1.2: Sampled settlements and sub-sample

District	Sample Allocation	Sampled Settlement
Sekyere South	193	Bedomase, Akrofonso, Domeabra, Bepoase, Boanim
Kumasi Metropolis	193	Atonsu, Old Tafo, Nhyiaeso, Ayigya, Suame

Source: Author's Construct, 2013.

In all, service users (clients of TRM), TMPs (including herbalists, bone setters, diviners, faith healers and traditional birth attendants), OMPs (including doctors, nurses, midwifes and pharmacists) constituted different categories of the study sample. The inclusion of the OMPs and the TMPs was necessary to gain as in-depth understanding of the attitudes and perceptions about integration of TRM into the mainstream national health care delivery system. Given the estimated proportion of the population of Ashanti Region that depends on TRM for their primary health care, a sample size of 324 was drawn from the target population for the study.

KNUST

The World Health Organization formula for sample size estimation (Lwanga and Lemeshow, 1991) was used to determine the sample size required for representative survey:

$$n = (Z\alpha)^2 \times [P(1-P)] / d^2 \quad \text{.....} Eqn1.$$

According to this formula:

n = estimated required minimum sample size;

Zα = 5% level of significance which gives the percentile of normal distribution = 1.96;

d = level of precision or margin of error, estimated to be 0.05;

p = estimated prevalence of TRM use in the Ashanti Region (70% = 0.70) (Apt, 2013; GSS, 2012; UNDP, 2007) and

1-*p* = proportion of the population of the Ashanti Region that does not use TRM (30% = 0.30).

Based on the above assumptions, the sample size required for the study (for predominantly quantitative analysis) was determined as:

$$n = (1.96)^2 \times [0.70(1-0.70)] / (0.05)^2 = 322.69 = 323 \approx 324 \quad \text{.....} Eqn2$$

This method of determining sample size is representative, generalisable and has been applied in various studies in both developed and developing countries (see Elolemy and AlBedah, 2012; Fisher et al, 1998).

Table 1.3: Sample allocation of service users to the sampled settlements based on population size

District	Sampled Settlement	Sub-sample
Sekyere South District	Bedomase	27
	Boanim	32
	Domeabra	24
	Bepoase	43
	Akrofonso	36
Sub-total	5	162
Kumasi Metropolis	Atonsu	32
	Old Tafo	37
	Nhyiaeso	30
	Ayigya	24
	Suame	39
Sub-total	5	162
Total sample	10	324

Source: Author's Construct, 2013.

Regarding sample distribution to the study districts, a non-random quota sampling approach was applied by dividing the total sample between the study districts regardless of population differences. This was done to allow for equal sample representation necessary for fair comparisons to be made. However, the population allocation approach was used the distribute the sub-samples among the research settlements. In this regard, the distribution of the respondents to the study settlements was than based on their respective population sizes (see Table 1.3). This was done to ensure full representation of the universe by whipping down bias, particularly with the quantitative study. In addition to the 324 service users determined, 15 TMPs and 16 OMPs were selected from each of the study districts for the in-depth qualitative study as regards their attitudes towards intercultural health involving TRM and conventional health care delivery.

A combination of sampling techniques and strategies were espoused to obtain the required respondents. Systematic random sampling was employed to select houses from which households and clients/users of TRM were drawn; snowball technique was adopted to select the TMPs whilst the OMPs were purposively selected from the target population. Systematic random sampling not only has the advantage of giving each variable the same propensity of being chosen, the sample is evenly distributed at any stage during the sampling process (Yates et al, 2008). This helps to maintain fair representation and the required precision. In converse, the theoretical/purposive sampling approach has the goal of developing a rich understanding of the dimensions of a concept across a range of settings and conditions (Patton, 2001).

KNUST

To be included in the survey, a respondent ought to have attained a statutory age of 18 years or older and a resident in the study district. Minors[5] and transients or mobile individuals were excluded from the survey. This minimum age variable threshold was based on the fact, that by 18 years, *ceteris paribus*, an individual is considered matured and could participate in a national decision making (Republican Constitution of Ghana, 1992). He/she is therefore independent and could decide for himself/herself the health-seeking behaviour and the treatment modality to access when afflicted by illness spells.

1.7.5 Data Collection Tools and Procedure

Data collection took place between March, and June, 2013. The study basically depended on primary sources for its data. Three (3) primary-aggregated sets of data were considered. Face-to-face interviewer-administered questionnaires were used to collect the quantitative data chiefly from the clients of TRM in the study communities. This

[5]Individuals who are below the age cohort of 18 were considered minors in this research.

interview method was used to obtain answers to the stated research questions in order to achieve the objectives of the study. Other reasons included the fact that the majority of the potential study participants were not literate and hence could not read and write. This was again used to improve the response rate and avoid problems of call backs. The main outcome measures included demographic and socio-economic background information about respondents such as age, sex, educational status, income levels, religious affiliations, ethnic background, marital status, employment status and kind of occupation of respondents. Others were the prevalence, pattern and frequency of TRM/TMPs utilisation, attitude, behaviour and practices of the TMPs, quality, efficacy and safety of TRM, impacts of NHIS on the pattern of use of TRM and motivations for TRM use.

KNUST

Moreover, qualitative data were sourced from study participants. Pertinent data collection instruments for qualitative data constituted in-depth interview guides. Interviews were conducted in local language and later transcribed into English for analytical purposes. There were few instances where both English and local languages were mixed in the interview processes. Interviews and further discussions were tape recorded. Also, interviews were taken in field note book in order to ensure consistency. Interview in rural communities were mostly done in the evenings when people had returned from farms and other economic ventures. Data on the knowledge and practices of TMPs, communication between TMPs and physicians, quality and safety issues of TRM, attitudes and perceptions regarding integration of TRM into the mainstream national health care system were taken from both the TMPs and the OMPs. By making sure that all elements of the issues under study were fully covered, the respondents were given the freedom to begin and end the interview when they felt like doing that. During the first visit to the communities and the study sites, the research team led by the

researcher paid the needed homage to the traditional and other community leaders where the introductory letter from the researcher's institution (dully signed by the Head of Department and or one of the researcher's Supervisors) which explained the purposes of the study was presented and read out to the heads of communities. This granted the research team the permission into the research sites. The team was again introduced to the household heads and the individual respondents regarding the field work. The rapport, understanding and the acceptance by the community members made the data collection relatively easier and less stressful.

KNUST

In addition, secondary information from archives and documents was sourced to complement and validate the primary data so collected. Records stored in various forms at the health facilities, departments and agencies in the study areas (example District Assembly, District Health Administration, etc.) as well as books, book chapters, journals articles, periodicals, monographs, national surveys documents such as Ghana Demographic and Health Survey (GDHS), Ghana Living Standard Survey (GLSS) and Population and Housing Census reports on the socio-economic and demographic characteristics of the population of the study districts were retrieved to assist in the record review in the course of the study.

In the application of the systematic random sampling procedure, the first house in every street was selected. The sample interval or the *skip* depended upon the number of houses and the sample size for the settlement in question. This was done to ensure fair distribution of the sample across the settlement. The sample interval was however greater in general for the settlements in the Kumasi Metropolis than the rural settlements selected from the Sekyere South District where fewer houses existed. Upon entering a

compound/house, a household was first selected and then a respondent from the household is selected to represent all units and interviewed thereafter. The phenomenon was repeated in other compounds until the required sample was obtained. In this purview, a household was conceptualised as a person or group of related or unrelated persons, who live together in the same housing unit, share same housekeeping and cooking arrangements and acknowledge one person (usually an adult) as its head (Ghana Statistical Service [GSS], 2012). In doing this, all public structures *viz*. hotels, boarding houses, hostels, military barracks, nursing homes and all other total institutions[6] were excluded as applied to persons in afloat.

Ten (10) research assistants were recruited and trained to assist in the data collection process using the same prepared visual aids to further enhance comprehension of some questionnaire concepts. The interviewers constituted people who were literate and hail from the study communities and could speak the local dialect fluently. Others included final year Medical and Health Geography Students in the Department of Geography and Rural Development, KNUST, Kumasi who have had some background knowledge in public health issues. The researcher monitored data collection processes during field interview. Approximately, a month before the survey, a reconnaissance and scouting survey were conducted in Sunyani (representing urban settlement) and Dwomo (representing rural settlement) in the Brong Ahafo Region. This study aimed at testing the research instruments and informed the researcher of necessary minor modifications. Also, the questionnaires and interview guides were translated to Twi (the main dialect in the study area) and back translated in English to ensure content validity.

[6]Erving Goff man's concept of total institution describes a place of residence and work where a large number of like-situated individuals cut off from the wider society for an appreciable period of time together lead an enclosed formally administered round of life (Davies, 1989). Boarding schools, orphanages, military branches, juvenile detention and prisons are examples of total institutions.

Before data collection commenced, ethical issues were addressed in line with the Declaration of Helsinki (World Medical Association, 1964). It is the duty of the medical researcher to protect the life, health, privacy, and dignity of the human subject (Carlson et al, 2004; Delamonthe and Smith, 2004; Godlee, 2000). Israel and Hay (2006) have also resonated that Social Scientists do not have an inalienable right to conduct research involving other people. Ethical clearance for fieldwork was therefore obtained from the Committee on Human Research Publication and Ethics, School of Medical Sciences at Kwame Nkrumah University of Science and Technology (KNUST) and Komfo Anokye Teaching Hospital (KATH), Kumasi, Ghana. Also, in each of the ten study settlements, the opinion leaders, traditional rulers and the target population were briefed on the objectives of the research and their permission was sought before fieldwork. Informed consent was also obtained from both household heads and individual respondents before interview began. Participation in the research was therefore voluntary, and respondents were assured of strict confidentiality of the responses they offered. Each interview and/or completion of a questionnaire lasted for an average time of 45 minutes.

In all 19 persons, 7 in the Kumasi Metropolis and 12 in the rural district (who were mostly illiterate) refused to be participate in the interview. Specifically, they perceived the interview process as a waste of time and energy sapping, since such surveys had never resulted in direct improvement of the quality of their lives. Others also deemed the exercise as a conduit for tax collection and therefore remained reticent and reserved without partaking. However, frantic efforts were mounted to obtain a suitable replacement for this sample and therefore presented no adverse effects on the results of the survey.

1.7.6 Data Management and Analysis

Data were verified and coded for analysis. Prior to the quantitative analysis, the data were carefully checked for inconsistencies and cross-reference was made to the original questionnaires to inform corrections. The quantitative data were cleaned and entered into an electronic database and analysed statistically through the Predictive Analytics Software (PASW) for Windows application programme (version 17.0), Epi Info 3.3.2 Software and Microsoft Excel 2010. Bivariate techniques of analysing data were employed. Descriptive statistics were carried out to describe the background characteristics of the study sample, sources of knowledge and forms of TRM accessed and the prevalence and frequency of TRM use.

KNUST

A logit regression model (backward stepwise method) was used to estimate the relative impacts of pertinent predictor variables on utilisation of traditional medical care. This statistical technique was appropriate for the study because the outcome variable was dichotomous and/or dummy (utilisation or no utilisation of TRM) and spread over several demographic, socio-economic and bio-psychological explanatory variables (Barrow, 2006; Hennekens and Buring, 1987 cited in Buor, 2004). The odds ratio (OR) and a 95 percent confidence interval (CI) for each variable was determined. The backward stepwise logistic regression process was performed up to the 18th stage to fortify the systematic elimination of predictor variables not contributing substantially to the model using likelihood ratio test as the removal principle. This identified the strong and/or key variables that explained TRM utilisation—the dependent variable of the study.

A non-parametric Pearson's chi-square (χ^2) tests and where necessary, the two tailed Fisher's exact tests were conducted to compare the demographic and socio-economic independent variables, *inter alia*, sex of respondents, educational status, health insurance status, residential status, etc., and the TRM utilisation. These models were appropriate amongst others, given the categorical nature of the independent study variables. Cross tabulations were used to show relationships between and amongst categorical variables. The interpretation of the regression and other test results took into consideration the interaction term of less or equal to 0.05 ($p \leq 0.05$) as significant. Data were organised and presented by frequency tables and proportionate counts. Bar and pie charts were also used to depict and present data.

KNUST

The qualitative data obtained from the perspective of various categories of respondents related to attitudes and perceptions regarding motivation for TRM use and integration of TRM into national health care system were analysed thematically by comparing the different responses in order to identify common trends, similarities and contrasts through the application of Grounded Theorising Approach. Any explanations or theories were derived from the dataset itself rather than from the researcher's prior theoretical standpoint (Barbour, 2001; Bradley and Stevenson, 1999; Bryman and Burgess, 1994; Glaser and Strauss, 1967). Specific normative and subjective statements and viewpoints from the perspectives of study participants were presented through direct quotations.

1.8 Significance of the Study

This research has created increased knowledge and added to literature in this academic field. The study brings to the fore insights into the importance of traditional health care and creates awareness of the limitations of modern health care. It is important to expand knowledge on the socio-economic benefits of traditional health care use in health care system. Increased knowledge about traditional health care can foster ways to maximise health care delivery.

KNUST

Also, the analysis of this study has provided vital information useful to government's policy concerns and the current debate on full integration of the medical systems to ensure comprehensive health care delivery. Specifically, it is most useful to the MOH, which is directly responsible for the provision of public health services delivery (in terms of policy formulation, monitoring and evaluation, resource mobilization and regulation of the health services delivery). The study may be valuable also to the Traditional and Alternative Medicines unit, whose duties include monitoring and evaluating the delivery of traditional and alternative health care in the country. This study provides useful information on popular perceptions regarding the importance of traditional health care. This information could inform government policies design that is responsive to citizen's needs. Equally, it has a major contribution to the volume of scholarships currently on traditional health care available to the Health Research Unit, which has the mandate to coordinate and conduct research into health related issues to facilitate policy formulation and programme implementation.

Furthermore, the study may be useful to groups or organizations such as WHO, which is working with Ghana and other developing countries in developing national policies on the evaluation and regulation of TRM practices, and in promoting safe, effective and affordable traditional products and practices (WHO, 2003). The findings from this research may be useful to the pharmaceutical companies, as well as to the general public, who are concerned about the current health care system or their health status. The findings may have broader application, particularly for other organizations and countries that are considering implementing a TRM system programme.

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The findings of this research serve as a mechanism for the actualisation of the long awaited health for all policy in Ghana explicated by WHO in the Alma Ata Declaration in 1978. It also contributes to the achievement of the health related Millennium Development Goals 4, 5 and 6 of reducing child mortality, improving maternal health and combating HIV/AIDS, malaria and other diseases in Ghana.

1.9 Organisation of the Study

The study is divided into five chapters. Chapter one; introduction, presents the background information of the research and defines the statement of the research problem. The chapter also stipulates the research questions that the study seeks to answer, objectives to be achieved and highlights the significance of the research. It again discusses the methodological approach espoused in gathering data for the study. It also provides justification for the approaches used in gathering data. It includes research and sampling design, measurement of study variables, data collection techniques and procedure and how the data were analysed. Chapter two is devoted to the review of related literature. It provides a historical overview of TRM since colonial era to current

times, the nature of health care sector in Ghana, forms of TRM/TMP and determinants of use of TRM. Also, importance of traditional health care system, the impact of NHIS on the use of TRM and the integration of TRM into the national health care system has been reviewed in this chapter. Further, the conceptual model used in the study has also been discussed in this chapter.

Chapter three provides background characteristics of the study areas such as physical profile and socio-economic characteristics. Furthermore, chapter four presents the results of data based on the analysis and also discusses the research findings. It provides the analytical review and discussions of the study findings including the various socio-demographic, economic and the anthropological determinants of use of TRM. Also discussed is the dichotomy of rural-urban divide with respect to utilisation of TRM, impacts of NHIS on the use of TRM and the factors that influence full integration of TRM into the mainstream national health care system. Finally, chapter five draws together the main lessons learnt from the research, provides proposals and way forward for TRM utilisation. It further highlights the conclusion, recommendations and implications of the study findings for theory and policy initiatives by the policymakers, planners and stakeholders. The chapter finally gives further research directions. Table 1.5 outlines the structure of the thesis.

KNUST

Table 1.4 Structure of the thesis

Structure	Chapter	Contents
Introduction	Chapter 1	Background, The problem, Research questions, Objectives, Study design, Sampling procedures, Data collection, Significance and Structure of the study.
Theory and literature	Chapter 2	Review of relevant related literature, Theoretical perspectives and Conceptual model.
Background to the study prefectures	Chapter 3	Physical characteristics and natural environment, Social services and Local economy
Results	Chapter 4	Results of TRM users, TMPs and OMPs interviews: Discussions and review of study findings related to demographic, socio-economic, anthropological and psycho-social predictors of TRM utilisation. Differences in utilisation of TRM between rural and urban areas. Impacts of NHIS on utilisation of TRM and factors that influence full integration of TRM into national health care system
Summary, Conclusions and Recommendations	Chapter 5	Lessons learnt, implications for practice and policy and way forward for TRM utilisation

Source: Researcher's Construct, 2014.

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CHAPTER TWO

UTILISATION OF TRADITIONAL MEDICINE: REVIEW OF RELATED LITERATURE

2.1 Introduction

The literature review focuses on traditional medical services and examines the socio-demographic, economic and psycho-social determinants of use of TRM in both developed and developing economies. It further considers the pattern of use of TRM in the context of national health insurance scheme and the factors that mar and/or favour and general attitudes to full integration of TRM into national health care system. The chapter finally articulates on an exploration of the theories and models that have been used in studying access and use of health care out of which the framework for the current study was derived.

KNUST

2.2 Profile of Ghana and Overview of Health Sector

2.2.1 Background and Profile of Ghana

The Republic of Ghana is located on West Africa's Gulf of Guinea just a few degrees north of the equator. It borders the North Atlantic Ocean to the south, Burkina Faso to the north, Cote d'Ivoire to the west and Togo to the east. Ghana has a total surface area of 238,533 km^2 of which 230,020km^2 is land mass and the rest is covered with water bodies such as rivers, lakes and lagoons (GSS, 2012). A tropical rain forest belt, split by heavy forested hills, extends northward from the shore near Cote d'Ivoire border (Oppong-Boachie, 2005). This area produces most of the country's cocoa, minerals and timber. Low bush, park-like savannah and grassy plains, where medicinal plants and herbs could be found, also cover the area north of the belt (Oppong-Boachie, 2005).

Ghana has an estimated total population of 25,904,598 people (2013 estimates) representing an increase of 36.97 percent over the 2000 census figure of 18,912,079 and 5.05 percent as regards the 2010 population and housing census estimate of 24,262,901. This figure is projected to hit 32.5 million by the year 2025 (World Bank Group, 2014). Historically, Ghana was the first Sub-Saharan African country to gain political independence in March, 1957. This political sovereignty inspired independence and nationalist movements across the African continent. At independence, Ghana was the leading cocoa exporter and one of the largest gold producers in the world; it also had one of the highest literacy rates among sub-Saharan African countries. Starting in the mid-1960s, however, the country's regional leadership role declined because of a 15-year period of political instability that resulted from a succession of military coups and civil rule (Saleh, 2013). In 1992 however, the Fourth Republican Constitution was launched which promulgated political changes and a new democratic constitution. Democracy and power sharing have taken a strong hold on the country, as evidenced by successive competitive elections, a free press and a growing civil society, as well as devolution of power and responsibilities to elected district assemblies (Songsore, 2003; Saleh, 2013). The political situation in the country has been stable over the past two decades, with presidential and legislative elections every four years. The transition of power between political parties took place without any incident in 2000, 2008 and 2012 and counting. Indeed, this enviable political stability has contributed so well to the restoration of the country's regional leadership role in politics and economics with implications for the social services including the health sector.

Ghana is divided into 10 administrative and political regions, *viz*. Ashanti, Brong Ahafo, Central, Eastern, Greater Accra, Northern, Upper East, Upper West, Volta, and Western

which are further sub-divided into 170 districts (GSS, 2012). The District Assemblies which constitute the country's local government units, reserve the responsibility of planning and mobilising resources for programmes and strategies for the development of the districts. The districts are administered by elected district assemblies and constitute the basis for a decentralised health system in vogue in the country. However, the public health sector continues to operate under a deconcentration model under Ghana's Health Service regime (Bossert, 1998; Couttolence, 2012; Saleh, 2013).

KNUST

The country's economy is dominated by agriculture and service sectors which contribute 42 percent and 38 percent to Gross Domestic Product (GDP) respectively. Agriculture, which contributed over 50 percent of GDP in the 1990s, is now shrinking, giving way to especially the service sector, although still in the early stages of development and earning to the GDP. In fact, the industrial sector is least developed in Ghana despite numerous efforts and strategies put in place to ensure its advancement and trickling down effects since independence. This missing link epitomises the higher rate of unemployment situation in the country particularly, amongst the youth and in the urban communities.

Ghana was classified as one of the 41 heavily-indebted poor countries (HIPCs) in the early 2000s. As a result of good monetary and fiscal policies and a favourable international economic environment, the economy has been growing steadily by at least 5.5 percent per year since 2004 (Budget Statement and Economic Policies of Government of Ghana, 2008). Ghana is considered a lower-middle-income country, a downtrodden of its peers including Singapore, Malaysia, South Korea, etc. Based on a new methodology for computing national accounts, recent rebasing of the GDP revealed

a much richer economy (Saleh, 2013). Revised GDP estimates went up by more than 60 percent and that the GDP per capita was rebased in 2010 and is at $1,150. Ghana's GDP growth rate has also increased to 7.7 percent in 2010 (Ministry of Finance and Economic Planning, 2010; Saleh, 2013), and fell to 7.1 percent in 2013 (World Bank Group, 2014).

Table 2.1: The Macroeconomic Situation in Ghana

Economic and financial indicators	2008	2009	2010	2011	2012
Real GDP	8.4	4.0	7.7	-	6.7
Real GDP per capita	5.7	2.0	3.1	3.0	4.2
Consumer price index	16.5	19.3	10.7	108.7	118.7
Current account balance ($millions)	-3,079	-1,034	-2,252	-3,503	-4,777
Fiscal deficit (% of GDP)	8.5	5.8	6.5	-3.9	-

Source*:* World Development Indicator, World Bank (2014)

KNUST

This positive growth has however been uneven across the country and has not been felt by most Ghanaians due to increasing inter-personal, inter-regional, inter-ethnic, gender inequalities as well as the south–north divide. The incidence and pervasiveness of poverty have subsided significantly from 47.9 percent in 1992 to 19.8 percent in 2006 in the south at the expense of the north where small and insignificant decline of poverty have been achieved from 68.8 percent to 62.7 percent over the same period (World Bank, 2011). This lopsidedness and polarisation have dramatically affected the dynamics of health conditions in the country.

Programmes such as the Livelihood Empowerment Against Poverty (LEAP), School Fees Capitation Grants (SFCG), free health care for pregnant women and the NHIS are being implemented to further reduce poverty levels and disparity and to create wealth.

Poverty levels in Ghana decreased from 51.7 percent in 1991-1992 and 39.5 percent in 1998/1999 to 28.5 percent in 2005-2006. Extreme poverty has also plummeted drastically from 36.5 percent to 18.2 percent over the period (UNDP, 2007; GSS, 2007; Saleh, 2013) leading to the actualisation of the MDG 1 in 2009. Ghana's current goal is to achieve full middle-income status by 2015 (UNDP, 2007).

Cities in Ghana are indeed growing at an alarming rate. Unlike 1980s that over 80 percent of the population was found in rural areas, approximately 52 percent of Ghana's population lived in urban areas in 2010 (Saleh, 2013; GSS, 2012). This is attributed to rural-urban developmental patterning and skew experienced in the country. People are probably migrating to the cities to take advantage of economic opportunities and gains. This trend also suggests that rural areas do not have many economic opportunities; both pull and push factors are therefore at the scene of play.

KNUST

2.2.2 Overview of Ghana's Health System

After political independence in 1957, several policy interventions have taken place towards the achievement of economic growth and the development of social sectors of the economy such as education and health. Ghana is a growing economy and all the political administrations have made substantial efforts to improve health care delivery. The National Health Policy was developed in 2007 (MOH, 2007a) followed by the Health Sector Medium Term Development Plan 2010–13 (MOH, 2011). This strategy links the latest national development framework (adopted in 2010) to the attainment of the MDGs, to the Ghana Shared Growth and Development Agenda for 2010–13 (NDPC, 2010), and to earlier health sector strategies. The latter grew out of the developmental agenda of Vision 2020 under Ghana's Growth and Poverty Reduction Strategy I (2003–

05) and II (2006–09) (NDPC, 2003, 2005; IMF, 2006; Saleh, 2013). The main aim of all of these programmes is to ameliorate the health outcomes of Ghanaians, offer financial protection, and ensure that the system is responsive, efficient, equitable, and sustainable.

Ghana has a complex and multifarious health system. The MOH is the central government institution in charge of sector-wide policy development, financing, regulation, monitoring and evaluation using its agencies including GHS which is an executing agency responsible for health service delivery. Whereas MOH takes political decisions on health, the GHS controls the professional aspects of health services in the country and it is headed by the Director-General of GHS. Health care system in Ghana is categorised into four main sectors, *viz.* public, private-not-for profit, private-for-profit, and folk/traditional sectors (Ghana Health Service, 1995). Each of these health sectors officially operate under MOH and therefore responsible to it. However, day-to-day activities, management and administration of all state owned facilities are handled by the GHS apart from the three teaching hospitals (i.e. KATH, Korle-Bu and Tamale Teaching Hospital) and some quasi-government medical institutions.

Public and private sectors jointly provide health care in the country. The public sector is categorised into three tiers and each tier constitutes five levels of care operated from grassroots/community level to national and comprehensive health care level. The public sector is organised according to national (3 autonomous teaching hospitals), regional (10 regional hospitals), district (281 district public and other hospitals), sub-district (622 public health centres) and about 1,658 Community-based Health Planning and Services (CHPS) and maternity homes at the community level (PPME-GHS, 2005; Sato, 2012d). Whereas the lower levels provide primary health care services those at the top offer secondary care. Also, teaching hospitals focus on tertiary services, specialised clinical

KNUST

and maternity care, academic research and training of medical personnel. The tiers operate in conjunction and are modelled on a referral system that encourages use of bottom levels before higher levels (Fenny et al, 2014; MOH, 2011; Sato, 2012d).

The private-not-for-profit and NGOs, including the Christian Health Association of Ghana (CHAG), provide over 40 percent of health care in Ghana, especially in the rural and remote areas (Ballou-Aares et al, 2008). The private and mission health facilities are supported by government through enablement of reimbursement under NHIS, provision of personnel, staff emoluments and logistics as well as other significant costs (Medicines Transparency Alliance [MeTA] Ghana, 2010). However, private-for-profit operators serve wealthier individuals as 'Private Medical and Dental Practitioners' and constitutes smaller privately owned practices, health centres and clinics, and specialist facilities (Sato, 2012d). Approximately 654 facilities are privately owned, but more than half are located in Greater Accra and Ashanti regions (GHS, personal communication, April 2013). At the sub-district level where health centres are the highest health facilities and first line of referral to formal health from the community clinic and maternity homes, over 98 percent of them are public (MOH, 2007a).

Ghana faces acute shortage of health personnel. For instance, in the year 2013, 1,111 Ghanaians shared one hospital bed while one medical doctor attended to 10,023 patients as compared to the WHO recommendation of 1 medical doctor to 7,500 patients for sub-Saharan Africa (World Bank Group, 2014; Saleh, 2013). The health sector is also characterised by persistent exodus of health workers and over the period 1993-2002, 3,157 health workers, representing 31 percent left Ghana for greener pastures. Anecdotal evidence has it that there are more Ghanaian medical doctors in the State of New York of the United States of America alone than the resident doctors of Ghana.

In the area of health care financing, health spending lags behind other equally important sectors such as education and interest payment. Public spending on health care remains one of the less controversial roles of government partly due to its spill-over effect on GDP. The Ghana's health care expenditure in 2013 was estimated at $2.5 billion representing 5.2 percent of the GDP ($47.93 billion). Out of this, 39.0 percent was contributed by the public, 63.9 percent out of pocket payments and 0.4 percent was sourced from external resources (World Bank Group, 2014). Although, per capita public health spending has been increasing steadily over the period 2010-2013, it is still below the levels achieved by sub-Saharan African countries such as Mauritius, Botswana and South Africa. In 2013, the World Development Indicator reported that Ghana's per capita public health expenditure was US$96.5 while Mauritius had US$442.1 (World Bank Group, 2014). It is worth mentioning that the boost in public health spending in Ghana has been fuelled by donor support. For instance, donor support as a proportion of public health spending amounted to 14 percent in 2006 (GHS, 2007). The donor support excludes projects directly initiated and implemented by the donor agencies such as Danish International Development Agency (DANIDA), European Union (EU) and United States Agency for International Development (USAID).

Health care delivery in Ghana is pluralistic consisting of conventional and TRM (Tabi et al, 2006; Anyinam, 1989a; Havi, 1989). Alongside the mainstream health system lies the folk sector; the traditional medical system which is overlooked and oft-relegated. TRM is alternatively provided to the modern health care. Traditional medical therapy is quite trendy (Mensah and Gyasi, 2012) and provides medical care for approximately 70 percent of Ghanaian particularly amongst rural dwellers (UNDP, 2007; MOH, 2007b; GSS, 2012; Apt, 2013). In this sector, different healers specialise in various forms of

healing that are either sacred or secular or both (Buor, 2004). The practitioners entirely operate outside the official national medical system. There is paucity of accurate data on the folk medical practices though; the report from MOH suggests that there are approximately 22,000 registered traditional practitioners and 367 traditional birth attendants (TBA). In addition, about 200,000 other personnel are employed within the industry through marketing and distribution of herbal products (Ghana Health Service, 2007). Owing to the informal nature of the sector, irregularity of its activities, lack of record-keeping and reliance on verbal communication, statistics from the sector oftentimes are imaginative, extrapolative, speculative and in most cases unreliable (Sato, 2012d). It is therefore difficult to pass on the traditional teachings and practices from generation to generation. This poses a threat of extermination to the system.

Self-medication has also been identified as frequently used health care approach in Ghana (van den Boom et al, 2004; Gyasi et al, 2012; Gyasi et al, 2013). In this popular sector, all therapeutic options are applied without the knowledge and the consent of either a physician or TMP or both (Buor, 2004). The helpless and unsuspecting patient may go to a chemical seller/pharmacy shop/drug peddler/open market without any prescription from authorised health personnel, purchase drugs they think could deal with their medical condition. Likewise, patients in rural areas oftentimes prepare herbal medicines based on their own ideas or advise of a relative through 'try and error' mechanisms. Left-over drugs are also shared and used by family members and friends when illness spells afflict. Sometimes only God knows how long the drugs in question have been kept and therefore has out-dated the expiry. Chemical operators, pharmacy shop operators and vendors position themselves and advice patients based on their knowledge and the quest to sell out their products. The activities of 'quack doctors' and

practitioners are predominant in the eaves of self-medication. This practice was evidently pronounced in 1985 during the introduction of 'cash-and-carry' system where people were made to pay user fees for consultation, treatment and for drugs (van den Boom et al, 2004; Sowa, 2002). Indeed, self-medication has detrimental health implication which could aggravate the medical conditions and health outcomes of the patient (UNICEF, 2002).

Ghana remains off-target for achieving the health-related MDGs. Communicable diseases such as malaria, HIV/AIDS, tuberculosis and vaccine-preventable diseases remain the main causes of morbidity and mortality particularly in children under five. The country remains prone to outbreaks of and has become infested with malaria, cerebro-meningitis, cholera and guinea worm coupled with other non-communicable diseases such as hypertension, diabetes and cancers. Maternal mortality has recently been declared a national emergency and is currently a major priority for government, researchers and development partners (Senah, 2001). Health system weaknesses such as insufficient human resources, especially in rural areas with vulnerable populations, poor access to essential medicines and health technology and insufficient financing all constrain and cripple the collective efforts to achieve health-related MDGs 4, 5 and 6.

KNUST

2.3 Distribution of Health Facilities

Actualising universal coverage currently dominates global health debates. In 2005, the WHO resolution called for health systems to move towards universal coverage, where everyone has access to "key promotive, preventive, curative and rehabilitative health interventions for all at an affordable cost, thereby achieving equity in access" (WHO, 2005). The 2010 World Health Report was also devoted to universal coverage (WHO, 2010). Chuma and colleagues (2012) in their study on whether the distribution of health

care benefits meet the principles of universal coverage in Kenya argue that universal coverage connotes, among other things, ensuring that health care benefits are distributed on the basis of need for care rather than the ability to pay. This indeed presents a mechanism to bridging the gap between the socio-economic status of people in the society.

Literature has however recognised that the distribution of health facilities of all categories in the sub-Saharan Africa like other developing regions of the world is lopsided and practically far from equity (Al-Taiar et al, 2010; Jamison and Wang, 2004; Black et al, 2003; Buor, 2002; 2003; Ansah et al, 2009; Stock, 1983; Wilson et al, 2012). Disproportionately, distribution pattern oftentimes favour urban areas. Health facilities are often geographically inaccessible to the majority of the rural population particularly rural women and children who ironically present greater needs for health care (Chuma et al, 2012; Freund, 1986; Lasker, 1981; McEvers, 1980; Stock, 1985; Phillips, 1990). This is chiefly attributable to the pervasiveness of 'distance decay' and 'activity space' concepts in the developing countries in general and African Continent in parts (Buor, 2008a; Oppong and Hodgson, 1994). Added to the throes of scanty health facilities in the rural areas is the poor roads linking them to the urban settlements. This constitutes a serious deprivation of health care access, use and improved health status of rural folks. Buor (2004) noted that the differences in health care provision between rural and urban areas are often so great as to make national averages of population facilities almost meaningless.

In his annual report of 1978, the WHO Regional Director for Africa drew attention to the concentration of physicians in urban centres and the development of health services

predominantly in towns, depriving many rural communities of modern medical care (WHO, 1979, cited in Buor, 2004). In ethnomedical systems in Africa: patterns of TRM in rural and urban Kenya, Good (1987) observed that 10 percent of medical doctors in the country practise in rural areas whereas 70 percent of all doctors were in urban private practice making health care blatantly inaccessible to the rural poor. Doctor-to-population ratio ranges from 1:990 in the cities to 1:70,000 in rural areas. Large disparity also exists within urban areas where the periphery and urban slums are underserved (Phillips, 1990; Buor, 2008a). According to the World Bank Group (2014) these situations still persist and permeate in this current era.

KNUST

Disproportionately, a country of 25.9 million people, Ghana can only boost of 2,279 health care facilities. This gives a low population-facility ratio of approximately 11,000 people per facility with hospital bed to population ratio of 1: 1,111 (World Bank Group, 2014). Unfortunately, most of facilities are lower level clinics and health centres which technically cannot handle secondary and tertiary episodes. The situation is exacerbated when implementation is weak and variable along geographical lines (Saleh, 2013). Over one-half of all hospitals are located in only two regions, Ashanti and Greater Accra (MOH, 2011). This is congruent to previous World Bank study which found that nearly 70 percent of all health facilities in the country are locate in the 'Golden Triangle' of the country (World Bank, 1993; Mensah, 2008).

In Ghana, various research findings have exposed the inequities and inequalities in access to health care facilities. Ultimately, the Ghana Medium-Term Health Strategies and Five-year Programme of Work focused on promoting good health for all in Ghana and enhancing geographical and financial access to services. The MOH continues to be

concerned about the inter- and intra-regional inequalities in access to health care and in health outcomes (Ghana / SAPRI, 2001). However, the situation remains far from satisfactory. The distribution of health facilities is skewed towards the urban areas, and more to the urban core than the urban periphery and slums. For example, Grater Accra has by far the largest number of clinical health workers of 6286, followed by Ashanti Region (4824) but lowest in the Upper West Region with only 855 clinical workers (Appiah-Denkyira and Herbst, 2012). Further, studies show that over 65 percent of doctors are located in the two Teaching Hospitals at Korle Bu in Accra and Komfo Anokye in Kumasi (World Bank, 2008). In the Ashanti Region of Ghana, MOH (2012) observed that over 71 percent of all health facilities and 85 percent of all medical doctors practise in the Kumasi Metropolis. Buor (2008a) noted that doctors rebuff posting to the rural prefectures, even with additional remuneration packages due to paucity of social infrastructure and poor environmental conditions.

A study by van den Boom et al (2004) observed that medical facilities were not evenly distributed across the country, with most rural areas lacking basic facilities such as hospitals and clinics vis-à-vis health care personnel. The study explicates again that:

> "Ghanaians on average live about 16km from a health care facility where they can consult a doctor, but half of the population lives within a 5km radius. By the same token, the other half cannot consult a doctor within 5km, which corresponds to a one hour walking distance, and one quarter even lives more than 15km from a facility where a doctor can be consulted. Many people in the country therefore rely on self-medication" (van den Boom et al, 2004).

In the epoch of the re-emergence of malaria, HIV/AIDS pandemic and other non-communicable diseases (particularly suffered by the aged), coupled with rising costs of health care, proactive mechanism towards equitable distribution of health care facilities

is judicious to ensure good health outcomes for individuals and communities and the quality of life of all.

2.4 Traditional Medicine in Retrospect

2.4.1 Evolution and Historical Trajectory of Traditional Medicine (TRM)

The use of plants in the prevention and treatment of diseases is pre-historic and dates from Adam. Plants have been a source of medicinal agents for thousands of years and still continue to be an abundant source of novel therapeutic agent (WHO, 2013; Sen et al, 2011). TRM was born out of necessity and caters for the health care needs of the people since time immemorial. Indeed, the existence of TRM was felt back in the biblical times. Prophet Isaiah expressed the effectiveness of herbal medicine in the Holy Bible when he said that "Bring a fig poultice". They brought one, applied it to the ulcer and King Hezekiah recovered. (2 Kings 20:7). Ezekiel 47:12 also expresses the roots of herbal medicine – "along the river, on either bank, will grow every kind of fruit tree with leaves...and their fruits will be good to eat and leaves medicinal". In a study of use frequency of traditional Chinese medicine (TCM) in Taiwan, Chen and colleagues (2007) observed that current TCM practices can be traced back more than 2000 years. Various forms of TRM therefore form part of origin of developing world.

In a study of a Neanderthal flower burial in Northern Iraq, Solecki and Shanidar (1975) demonstrated that fossil records date human use of plants as medicines at least to the Middle Palaeolithic age some 60,000 years ago. From that point the development of traditional medical systems incorporating plants as a means of therapy can be traced back only as far as recorded documents of their likeness. However, the value of these systems is much more than a significant anthropological or archaeological fact (Fabricant and

Farnsworth, 2001). Their value is as a methodology of medicinal agents, which, according to the WHO, almost 65 percent of the world's population has incorporated into their primary modality of health care (Farnsworth et al, 1985). Bannerman et al (1983) also opined independently that the study of herbs dates back over 5000 years to the Sumerians who described well established medicinal uses for such plants as laurel, caraway and thyme. This presupposes that herbal medicine is the oldest form of health care resource known to mankind, as herbs have been used by all tribes and cultures throughout history. According to Ayitey-Smith (1989), the African continent has practiced TRM for more than 4,000 years before the introduction of orthodox medical services.

TRM encompasses ancient and culture-bound health care practices which existed before the application of science to health matters (Bannerman et al, 1983). Indeed, the use of TRM and the services of TRM practitioners by millions of African and other populations elsewhere have been recognised by the WHO and in 1977, the World Health Assembly (WHA) drew attention to the potentials and the efficacy of TRM in the national health care systems. WHA urged member countries subsequently, to utilise herbal and other forms of TRMs (Akerele, 1987) to broaden the coverage of health care in their respective countries (Tchiakpe, 2004).

The concept of TRM originated in the quest for early men to discover plants and plant products useful to treat and cure ailments. Apart from evolving from the environmental resources which the people in the community have adopted in their desperation for survival, the medicine is an integral part of the culture and beliefs of the tribe whom the practice belong. In fact TRM reflects the socio-religious structure of indigenous societies

KNUST

from which it developed, together with the values, behaviours and practices within their communities.

2.4.2 The Concept and Contested Definition of Traditional Medicine (TRM)

There is no one-size-fits-all definition of TRM. Anyinam (1990) has acknowledged the intricacies and convolutions of offering a comprehensive and precise definition of traditional medical therapies and practices. This is subject to the broad range of characteristics and elements of TRM and practitioners. Numerous streams of ideas have been expressed to inform and shape the current literature on TRM discourse across the world of today. Although each of these streams of ideas employs a unique conceptual and theoretical framework for advancing their own explanation of TRM, there is a convergence of thoughts and ideas.

Experts at the meeting organised by WHO in Brazzaville, Congo in 1976 defined TRM as follows: "The sum total of all the knowledge and practices, whether explicable or not, used in diagnosis, prevention and elimination of physical, mental and social imbalance and relying exclusively on practical experience and observation handed down from generation to generation, whether verbally or in writing...TRM might also be considered to be the sum total of practices, measures, ingredients and procedures of all kinds, whether material or not, which from time immemorial had enabled the African to guard against diseases, to alleviate his sufferings and to cure himself...TRM might also be considered as a solid amalgamation of dynamic medical know-how and ancestral medicine" (WHO, 1976:3-4). TRM involves the practice of the various traditional systems of health care delivery including religious and spiritual healing (UNDP, 2007).

Tilburt and Kaptchuk (2008) perceive traditional herbal medicines as "naturally occurring, plant-derived substances with minimal or no industrial processing that have been used to treat illness within local or regional healing practices". According to Vandebroek (2013), this includes, among others, consultation with traditional and spiritual healers, herbalists, birth attendants, bone setters and diviners as well as the use of plants, animals and minerals for self-medication. However, the Ghana Statistical Service (GSS) (2006) maintains that most of the TMPs have specialized in plant medicine, traditional birth delivery and psychic healing. Quite recently, the WHO reiterated comprehensively that TRM connotes "the sum total of knowledge, skills, and practices based on the theories, beliefs, and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health as well as in the prevention, diagnosis, improvement of treatment of physical and mental illness" (WHO, 2011a; WHO/EDM/TRM, 2001). That is to say that TRM utilises indigenous medical and aromatic plants, animal parts, or organic and inorganic materials for preventive and therapeutic purposes. They are medical products that contain active ingredients, aerial or underground parts of plants, or other plant materials, or combinations thereof, whether in the crude state or as plant preparations (WHO, 2000). TRM is thus perceived as the collection of knowledge, skills, and practices based on beliefs and experiences in indigenous cultures.

Traditional healing has been defined as "practices designed to promote mental, physical and spiritual well-being that is based on beliefs which go back to the time before the spread of western "scientific" biomedicine. TRM is based on social, cultural and religious attitude in a particular community. It represents solid amalgamation of dynamic medical know-how and ancestral experience. In the spirit of plurality and diversity, we

frame TRM as a practice of healing that is valid and diverse (Dawn, 2003). There is no intention to establish a monolithic representation of what TRM is or how indigenous knowledge contextualizes these practices (Dawn, 2003).

Traditional medical therapy is further conceived as the sum total of practices, measures, ingredients and procedures of all kinds, whether material or not, which from time immemorial had enabled the African to guard against disease, to alleviate his sufferings and to cure oneself (WHO, 1978). Similarly, TRM system depicts the ways of protecting and restoring health that existed before the arrival of modern medicine (WHO, 2002). Medicinal plants are the oldest known health-care products. These approaches to health belong to the traditions of each country, and have been handed down from generation to generation (WHO, 2002; Addae-Mensah, 1992). Traditional systems in general have had to meet the needs of the local communities for many centuries. China and India, for example, have developed very sophisticated systems such as acupuncture and Ayurveda medicine.

Herbal medicine implies any preparation containing one or more active herbal substances or herbal attractive (Agyare et al, 2006). In a study on impacts of TRM in the health care delivery services in Ghana, Buor (1993) argues that TRM involves the use by the folk population primarily of unorthodox and unscientific method for curative and prevention of diseases. In a similar rendition, Tzu Chi Institute (quoted in Kent, 1997) defined TRM as medical approach lacking scientific validation and excluded from medical school training programmes and also sees no insurance by health plans.

KNUST

The “unscientific method” here has attracted scholarly debate. Hougen et al (1998) argue whether the word “traditional” should be used at all, as it implies some degree of stagnancy or backwardness. However, “traditional” in this context elucidates a healing system that belongs to a particular group of people with specific tradition. Another challenge of researching traditional medical practices is the lack of consistency and clarity in the terminology used by authors to describe various beliefs and practices. More often than not, the term “TRM” is loosely applied to a variety of diverse activities that are not always uniformly acknowledged among indigenous practitioners and their clients. It is a useful exercise to discuss the variety of definitions that TRM is (or is not) accorded (Dawn, 2003). To get the dust settled, it is prudent to infer that TRM depicts a system of diagnosing, preventing, rehabilitating and treating ill-health, debility or infirmity and relieving physical, mental, emotional or social misery through the application of plants or plant-derived preparations, mysticism and other naturally occurring substances.

KNUST

2.4.3 Traditional Medical Practice

TRM is characterised by a holistic approach to the spirit–mind–body concept of health, embracing people, animals, plants and inanimate objects in an inseparable whole from which all beings derive their living and healing forces. TRM practice involves a multifaceted combination of activities, order of knowledge, beliefs and customs to generate the desired effects for the diagnosis, prevention or elimination of imbalances in physical, psychological and/or social wellbeing. The practice is based on the indigenous knowledge of a given people, a given community, and their experiences in the context of the local culture and environment. It is dynamic and changes with time depending on the

prevailing situation. TMP use indigenous knowledge for developing materials and procedures (Weisheit, 2003).

TRM has some strength that conventional medicine is lacking as in the perspective of holistic view of the patient's situation. In traditional practice, the psychological, spiritual and social aspects play a large role, and this holistic treatment to larger extent make up for the often weaker aspect, the medicinal treatment, when compared to western biomedicine (Jager, 2005). TRM is closely linked with peoples' cultures that will continue to thrive even when western health care becomes available. For example, Van der Geest (1997) observed in Kenya that patients had a clear sense of which diseases they would present at western clinic, and when they would seek care from traditional healers. In South Africa, traditional healers are flourishing in urban areas where western health care is available (Mander et al., 1997; Jager, 2005).

In many resource-poor settings of Africa and elsewhere, most people continue to depend on and choose traditional healers and herbal treatments for psychosocial counseling and health care (UNAIDS, 2002). This is not only because healers and herbs are readily available and accessible to people than biomedical doctors or drugs, but also because the majority of Africans believe in the usefulness, power and potency of TRM. However, many conventional health workers distrust TRM and traditional healers. In addition, herbal treatments have often never been rigorously evaluated, are not always properly prepared or standardized, and are frequently poorly packaged and preserved, limiting their usefulness and accessibility to the immediate production site (Jager, 2005).

KNUST

In Ghana, both orthodox and alternative medicines operate side by side in the provision of health care for the citizenry. TRM plays a crucial part alongside the orthodox medical practice in meeting the health needs of the vast majority of Ghanaians especially those residing in the rural settings (GSS, 2007; Apt, 2013). Approximately, 70% of the population of Ghana use alternative medicine which includes traditional herbal medicine, psychosomatic treatments and faith based medical regimes (UNDP, 2007). Research reports that over 80% of Ghanaians rely on herbal preparations for their PHC (GSS, 2003; 2007; Apt, 2013; UNDP, 2007; Gyasi et al, 2011).

KNUST

The alternative medicine[7] practice uses magico-religious means of treatment sometimes combining knowledge of the defensive mechanism of the body (Twumasi, 1988). Alternative medical practitioners are mostly located in the cities viz. Accra, Kumasi and Takoradi. In contrast, about 70 percent of traditional medical practitioners are located in the rural areas of the country.

2.4.4 The Role of TRM in Primary Health Care

Interest in traditional systems of medicine and, in particular, herbal medicines, has increased substantially in the 21st century. TRM assumes greater importance in the primary health care of individuals and communities in many developing countries and has been popularly recognised (Hoareau and DaSilva, 1999; Bodeker and Kronenberg, 2002; Pal and Shukla, 2003; Elujoba et al, 2005; Van Andel and Havinga, 2008; Alves and Rosa, 2007; Tilburt and Kaptchuk, 2008; Payyappallimana, 2010; Sen et al, 2011; Van Andel et al, 2012).

[7]An aspect of the traditional health care system and any form of health care approach that is outside the mainstream allopathic and TRM

WHO in seven decades ago acknowledged health as "a state of complete physical, mental and social well-being and not merely absence of disease or infirmity" (WHO, 1948). According to Vandebroek (2013), this definition communicates well to the inclusive nature of TRM that extends beyond the physical body into a broader social/emotional, cultural and spiritual context of health and well-being. "The importance of traditional medicine in global health care is reflected by the three A's, viz., Affordability, Availability and Accessibility" (Vandebroek, 2013). This is especially true in rural areas lacking biomedical health care, but also in immigrant communities in large urban centres (Pieroni and Vandebroek, 2007) and urban slums, regardless the increased availability of biomedicine and practice in urban areas.

KNUST

There has also been an increased international trade in herbal medicines (van Andel et al, 2012; Van Andel, and Havinga, 2008) and a significant world market worth an estimated $83 billion in 2008 (WHO, 2011b). In his introductory remarks of General Guidelines for Methodologies on Research and Evaluation of TRM, the acting Coordinator of TRM, DrXiaorui Zhang, reiterated that use of TRM has expanded globally and has gained popularity during the last decade. "It has not only continued to be used for primary health care of the poor in developing countries, but has also been used in countries where conventional medicine is predominant in the national health care system" (WHO, 2000a). TRM practice has been a significant part of the history of medicine in Ghana. The contribution of TRM to health care in Ghana is tremendous as more and more Ghanaians, especially the poor, underserved and the excluded that are presumably unable to afford orthodox medical care wholly rely on traditional medical practices. Indeed, upsurge utilisation rate of TRM is portrayed by the emergence and rapid growth in the

number of herbal outlets, herbal clinics and hospitals (Bloom and Standing, 2001; van der Geest and Whyte, 1988) in the sub-Saharan Africa and elsewhere.

Herbal medicine according to Ayitey-Smith (1989) has been, and still in use to treat and manage all kinds of ailments. A lot of these medicinal plants have been documented, with sharp focus on those for cold, chronic catarrh, migraine, malaria, hypertension, diabetes, bronchial asthma, jaundice, bruises, fever, sexual and reproductive health issues, menstrual irregularities, skin disorders. Now, preparations that control the spread of AIDS and its attendant opportunistic and melancholic infections presented on people living with HIV and other complex ailments have been developed by herbal medical practitioners (Peltzer et al, 2006; Osei-Edwards, 2003; Gyasi et al, 2013). A study by UNAIDS shows that about two-thirds of HIV/AIDS patients in developing countries use TRMs to obtain symptomatic relief and manage opportunistic infections (UNAIDS, 2003).

The medicines used by the practitioners to treat AIDS patients are rightly available locally (WHO, 2001). The large number of traditional medical practitioners and their locations in every town or village in the continent could be exploited to handle AIDS care needs. Their familiarity with patients and also the communities in which they operate serve as added advantage to relief the AIDS patients. The WHO (2001) has declared that the traditional herbal practitioners are normally acknowledged and trusted in their communities; they could therefore be used as counselors and health educators to cure the spread of HIV and AIDS in Africa.

KNUST

TRM practitioners use plant parts such as leaves, stems, roots, seeds, fruits, flowers, tree barks, etc, and other mineral substances which have been found to have essential medicinal properties to cure diseases. These plant parts are made into various forms: fresh, dried, cut-in-pieces, powder, ointment, oil extract, liquid, lotion, etc. to treat ailments (Mensah and Gyasi, 2012). This has been taking place for so many years before the orthodox medicine found its way to the continent of Africa. Scientifically, the herbs or the medicinal plants in use have proved to be efficacious for the treatment of the various endemic ailments (Addae-Mensah, 1992).

KNUST

In fact, medicinal plants with anti-viral and anti-bacterial properties are available in Africa (Ayitey-Smith, 1989) and there are prospects for the developments of these medicinal plants into new chemotherapeutic agents. The prevalence of malaria, HIV/AIDS and other infectious diseases and now non-communicable diseases has been escalating at an alarming rate in the sub-Saharan African (WHO, 2008; 2011; Kofi-Tsekpo, 2006). However, the malaria endemic countries in Africa have herbs for treating the fever. According to Buor (2003), the malaria parasite has developed resistance to all the anti-malaria drugs and there is the need to develop herbal substitutes not only for the side effects but also for the expensiveness. What is now left is to research into these herbs for their use as anti-malaria drugs.

2.5 Characterisation, Categories of Traditional Medical Practitioners (TMPs) and Forms of Traditional Medicine (TRM)

2.5.1 Characterising Traditional Medical Practitioners (TMPs)

In Africa, as in the case of many parts in the developing world, TMPs tend to be the first agents consulted by people with infectious diseases such as sexually transmitted infections (STI) (Peltzer, 1998; 2001; 2003; Wilkinson and Wilkinson, 1998; Louw and Pretorius, 1995) and non-communicable and/or chronic diseases in both rural and urban settings. Healers are more easily accessible geographically, economically and also provide a culturally accepted treatment. They maintain credibility, trustworthiness, acceptance and respect among the population they serve, and thus form a critical part of the health care delivery system in sub-Saharan Africa (Peltzer and Mngqundaniso, 2008). The African Regional Office Expect Group, the WHO therefore adopted a definition for traditional healer as "...a person who is recognised by the community in which he lives as competent to provide health care by using vegetables, animal substances and certain other methods based on the social, cultural and religious background as well as on the knowledge, attitudes and beliefs that are prevalent in the community regarding physical, mental and social well-being and the causation of disease and disability" (WHO, 1976:3).

King and Homsy (1997) noted that traditional health practitioners provide client-cantered and personalised health care that is tailored to meeting the needs and expectations of their patients, paying special respect to social and spiritual matters. Chifakacha (1997) studied Traditional Healers in Botswana and found that traditional healers had adequate knowledge on the risks of HIV transmission through blood products. Although, TMPs are unorganised and informal, they play a significant role in a health system and their

modus operandi is unique. Indeed, the term 'traditional healers' is deemed a misnomer. In a study in Ghana on Ethnopharmacological use of plants, Wodah and Asare (2012) found that traditional healers possess rich traditional knowledge about medicinal plants and therapeutic activity. However, Edwards (2011) observed that there are many secrets that healers are not readily prepared to share: out of a desire to protect themselves, their medicines, and their traditions, especially from people who may misuse them.

According to UNAIDS (2006), 80-85 percent of Black South Africans utilise the services of TMPs in both rural and urban areas. Traditional healers are source of health care for which Africans have always paid (van der Geest, 1992). In the context of expansion of modern medical practitioners and practice in Africa, traditional healers are still popular and trendy (Mensah and Gyasi, 2012).

KNUST

2.5.2 Categories of Traditional Medical Practitioners (TMPs)

TRM practices differ according to cosmological beliefs, culture, location and category of healer, ranging from rituals to herbal remedies (UNAIDS, 2006; Truter, 2007; Borja, 2010). Numerous studies in Africa have attempted the classification of TMPs (Stekelenburg et al, 2005; Twumasi, 1988; Peltzer, 2000). Nevertheless, classification of TMPs is contradictory, still remains somewhat implicit and therefore leaves much to be desired. Evans-Anfom (1986), Edwards (1986) and Sorsdahl et al (2013) among others distinguished two main classes of TRMs; those who practice without invoking supernatural causes such as herbalists, bonesetters and traditional birth attendants (TBAs) on one hand and those who source supernatural power whether or not they use material remedies (or those who apply distant healing) such as fetish-priests, Muslim 'mallams' and faith healers on the other. In South Africa, studies group traditional health practitioners into three, viz. the traditional doctor or herbalist, diviner and the faith healer

who integrates Christian ritual and traditional practices (Peltzer and Mngqundaniso, 2008; Freeman and Motsei, 1992). However, in congruent with Twumasi (1978), Truter (2007) classified TMPs into four categories. He identified healers as diviner/spiritualist, traditional doctor/herbalist, faith healer/prophet and traditional midwife. Notwithstanding these categorisation (based on distinctive features and specialism), the roles of TMPs overlap considerably.

KNUST

Herbalists are the most common type of healers; approximately, 90 percent are male. Primarily, herbalists use medicinal plants but occasionally use animal parts and minerals. They do not receive a calling, and chooses to become an herbalist. Their comprehensive curative expertise includes preventive and prophylactic treatments, rituals and symbolism as well as preparations for luck and fidelity (Truter, 2007). Some treat only one disease and become renowned experts on that disease. Herbalists can be non-spiritual or spiritual. The former do not link their trade to divine or religious elements while the latter incorporate religious aspects such as rituals into their consultations. In this sense, non-spiritual herbalists are the group most closely aligned to modern practitioners. The distinction between the spiritual herbalist and diviner is subtle (Twumasi, 1978). The herbalist specialises in the use of herbs and other medicinal preparations for treating diseases. He possesses an extensive knowledge of curative herbs, natural treatments and medicinal mixtures of animal origin.

Diviners are the most senior of the traditional healers. Although, the calling is open to people of any gender, age or status, over 90 percent of them are females (Truter, 2007). A diviner's speciality is divination where she operates within a traditional religious supernatural context and acts as a medium with the ancestral spirits. Diviners concentrate

on diagnosing the unexplainable. They analyse the causes of specific events and interpret the messages of the ancestors. Training to become a diviner is not a personal choice but is a calling bestowed by ancestors to a person who then gets apprenticed to a qualified diviner for several months. On completion of training she undergoes the culturally accepted form of ancestral spirit possession when she is called by ancestors to become a diviner. Oftentimes, diviners belong to a revival sectarian or African-based syncretic church and an increasing number of 'church camps' claim to heal some illnesses, including impotence, infertility and mental illness, by communicating with the supernatural (Twumasi, 1978).

KNUST

Fetish priests, in turn, are similar to diviners but diagnose illnesses via deities by acting as an agent between the patient and the supernatural (gods or ancestors, for example). Sometimes a shrine can be found in villages or towns to honour these deities and locals offer gifts in return for their safekeeping (own observation). In addition to health, therefore, some healers are claimed to play a greater protective role in society. Finally, some practitioners are classified by their particular specialism. This includes TBA (the equivalent to midwives), bonesetters (the equivalent to orthopaedics) and traditional surgeon or circumcisers. Unlicensed druggists and traditional birth assistants are also part of the traditional system, as well as a range of other specialised traditional practitioners (Anyinam, 1991; Van den Boom et al, 2004).

2.5.3 Forms of Health Care System

In the international workshop in Ottawa, Canada, under the auspices of the International Development Research Centre (IDRC), Islam and Wiltshire (1994) observed that the relationship between TRM and biomedical system may generally take five main forms,

viz. Intolerant Medical Orthodoxy, Tolerant Medical Orthodoxy, Parallel Development of Multiple health Systems, The policy of Integration and Active Collaboration between Fully Recognized Health Systems. These categories of health systems have been defined based on the degree of recognition that is accorded to the TRM practice.

2.5.3.1 Intolerant Medical Orthodoxy and Tolerant Medical Orthodoxy

In *the Intolerant Medical Orthodoxy*, Western system of medicine has a monopoly on health care, and traditional healing systems are either made explicitly illegal or institutionally dormant. Kenya and Ivory Coast are the countries in Anglophone and Francophone Africa that made traditional healing systems are illegal. Aboriginal healing systems, on the other hand, are suppressed and ignored. Under *the Tolerant Medical Orthodoxy* however, TRM is allowed to thrive alongside modern medicine but TMPs reverse no right to call themselves 'doctors' (Barimah, 2013). TRM is informally recognised and tolerated (Islam and Wiltshire, 1994). The existence and significance of TMPs are virtually ignored though not totally discarded. The national health care system is entirely based on allopathic medicine, leaving the TRM to develop on its own without state support and control (WHO, 2000). The multicultural health care movement in Canada is example of this inclusive/tolerant approach. Ghana's health care manifests an inclusive system but moves ahead to share unique features such as the availability of national policy on TRM, TRM Department within the MOH, regulation on TRM products, TRM research institution at both national and University levels, TRM not practice at all level of health care, no NHIS coverage for TRM and no official education at University level that cover TRM for doctors, pharmacists and nurses (WHO, 2000).

KNUST

2.5.3.2 Parallel Development of Multiple Health Systems

Islam and Wiltshire (1994) maintains that *the Parallel Development of Multiple health Systems* also known as *inclusive system* denotes the alternative healing practices that are not only recognized legally by the state, but also regulated. There is increased professionalization of these multiple systems resulting in their co-existence. With an inclusive system, TRM is recognize but not yet integrated fully into all aspects of health care. In this system, TRM may not be taught in schools or may not be regulated by government or may only be partially regulated (IBC, 2012; WHO, 2002a). It is also possible that some health care levels may not be involved in the use of TRM and the national insurance system of the country might also not cover TRM use. However, there are works on policy, regulation, practice, health insurance coverage, research and education under way. Countries such as Equatorial Guinea, Nigeria and Mali have national policies on TRM, but little or no regulation of TRM products. Countries in the Indian subcontinent and South East Asia may be the best examples of such parallel development. Also, developed countries including Canada and the United Kingdom which lack any significant university level education in TRM, but which are making concerted efforts to provide quality and safe CAM for their population are all considered to practice the inclusive health system (WHO, 2002a). However, parallel development may not translate into active collaboration between the custodians of the traditional systems and the western medical orthodoxy.

2.5.3.3 Policy of Integration

The *policy of Integration* aims at combining the theory and practice of different health systems and creating a new, better, and comprehensive one. In this perspective, TRM is accorded official recognition (WHO, 2002a; Anyinam, 1989b) and integrated into all

aspects of health care provision. In countries where this strategy is pursued, TRM is fully incorporated into the relevant national drug policy; healers and their products are registered and regulated; therapies offered by the practitioners are available at health care facilities including hospitals and clinics (either public, private-not for-profit of private-for-profit); TRM is taught in educational institutions; and is also covered by insurance (if any). China is perhaps the best example of this policy. Others include Democratic People's Republic of Korea and Vietnam (IBC, 2012; WHO, 2002a). However, since philosophical underpinnings of the traditional and western medical systems are quite diverse and often contradictory, real integration is extremely difficult, if not impossible (Islam and Wiltshire, 1994; Barimah, 2013).

KNUST

2.5.3.4 Active Collaboration between Fully Recognized Health Systems

According to Islam and Wiltshire (1994) the Active Collaboration between Fully Recognized Health Systems finally draws on equity, mutual respect and understanding among the biomedical practitioners and traditional healers; both work together against mistrust. This is level of health care is what Ghana and other countries in Africa need to guaranteeing suffice robust physical, mental and social wellbeing of their citizenry.

2.5.4 Model of Medical Pluralism

Medical pluralism model is a real situation, almost indispensable in every society and has been regarded as a global phenomenon. In 1978, the WHA proposed the medical pluralism, through a wider utilisation of TMPs (particularly, the TBAs) and the incorporation of effective traditional remedies into the national drug regulations at the International Conference on Primary Health Care at Alma-Ata. In contemporary Ghana, as in other parts of Africa and elsewhere, two systems of medicine, traditional and

'scientific' exist simultaneously and/or practised side by side (Anyinam, 1987; Owoahene-Acheampong, 1998; Twumasi, 1975; Good, 1987; Unschuld, 1980; Tabi et al, 2006; Anyinam, 1989a; Havi, 1989).

Added is the third strand, the 'fringe medicine'. According to Senah (1997: 48) 'fringe medicine' insinuates a recent development in Ghana's health care scene including acupuncture, homeopathy, naturopathy, chiropractic treatment and hydrotherapy that are classified elsewhere as complementary and alternative medicine (Barimah, 2013). This, according to Twumasi (1979) leaves individual the credulous victim, of the contradictions between respective philosophies, theories and realities of each medical system. While Western-style biomedicine is believed to be useful, TRM is well established and not uncommonly used. One underpinning explanation for the persistence of such plural medical systems is a functional theory (Waxler-Morrison, 1988). Indeed, each system is employed for different treatments, diseases or for the ideological, linguistic or social characteristics of the physician. In part, TRM and Western biomedicine coexist because their practitioners provide distinctly contrasting services (Waxler-Morrison, 1988). To Wade and friends, medical pluralism embraces the employment of more than one medical system or the use of both conventional medicine and TRM/CAM for health and illness (Wade et al, 2008).

In Ghana, a study on use of TRM by HIV/AIDS patients in Kumasi Metropolis like other studies in sun-Saharan Africa found that 53.2 percent of the study sample utilised both antiretroviral therapy and TRM of various forms concomitantly without the knowledge of their health care providers (Gyasi et al, 2013). Research has documented evidence of pluralistic medical practice in different countries outside the African Region such as

China, Sri Lanka, United States (Waxler-Morrison, 1988; Chung et al, 2009) and Taiwan (Shih et al, 2010). Populations of advanced countries with well sophisticated biomedical health care system are making headway and increasingly continue to depend on TRM. A small-scale study conducted with self-reported medical questionnaires revealed that medical pluralism in Taiwan has existed for more than a century (Kang et al, 1996). In USA, Tilburt and Miller (2007) in responding to medical pluralism in practice: a principled ethical approach, observed that about 62 percent of adults use CAM including prayer for health and megavitamins each year as a complementary therapy. Almost one-half of Americans that utilise CAM consult CAM practitioners (Eisenberg et al, 1998; Barnes et al, 2004). Recognizing the prevalence of CAM practices and the potential for adverse clinicians cannot to ignore CAM use in their patient populations. According to the Institute of Medicine, "recognition of medical pluralism" calls for "a moral commitment to openness" (Institute of Medicine, 2005).

Indeed, it looks completely unlikely that TRM will be ousted by improving access to and use of modern medical system, as the two systems exhibit divergent and distinctive logic. Individuals do not necessarily perceive the two medical systems to be substitutes (Sato, 2012d; Twumasi, 1979). Consequently, modern and traditional systems coexist, with their individual characteristics. The use of a particular medical system depends on the socio-economic, cultural, anthropological orientation, nature of ill health and the treatment-seeking behaviour of the patient. Physicians are therefore charged to inquire about TRM use by their patients (Gyasi et al, 2013; Tilburt and Miller, 2007) especially with the use of herbal remedies such as St. John Wort (*Hypericumperforatum*) that may interact with conventional drugs (Tilburt and Miller, 2007) to protect them from harm. By expressing genuine interest, clinicians can elicit more accurate information about

their patients' TRM use. Recognising medical pluralism is a recipe to encourage clinicians to acknowledge the cultural and personal meanings associated with diverse health beliefs and practices of patients which deserve respectful consideration (Tilburt and Miller, 2007; Cassileth and Lucarelli, 2003).

2.6 Quality Control and Intercultural Health Care

2.6.1 Safety, Quality and Standards of Traditional Medicine (TRM)

KNUST

Research has reiterated the upsurge demand globally for herbal medicines, herbal health products, herbal pharmaceuticals, nutraceuticals, food supplements and herbal cosmetics due to the growing recognition of these products as mainly non-toxic and having fewer side effects (Dubey et al., 2004; Sharma et al., 2008; Gyasi et al, 2013; Buor, 1993; Peltzer, 2008). Gyasi et al (2013) and Peltzer (2008) believe that herbal medicines are safe due to their "naturality and neutrality". Research carried out for the UK medicines regulator, the Medicines and Health care products Regulatory Agency (MHRA), found that many people believe that herbal products are safe because they are natural, confirming previous findings.

Indeed, anything 'natural' appears normal and safe in the eyes of the society. In Ghana, Mensah and Gyasi (2012) in a study of use of herbal medicine in the management of malaria in the urban-periphery confirmed the safety of herbal medicine. This hypothesis was vindicated by Willcox et al (2007) in a study conducted at the village of Missidougou, in the Sikasso Region, Mali on *Argemone Mexicana* decoction for the treatment of uncomplicated *falciparum* malaria amongst 80 under five years. It was observed that mild cough and diarrhoea were the commonest 'adverse events' and did not deterred patient from treatment.

Despite these arguments and the widespread use globally, phytomedicines are not completely harmless (Oreagba et al, 2011). The proliferation of TRM and the treatment of plethora of diseases by a single medical preparation have created erroneous impressions in the minds of many (WHO, 2005). The concept of "cure all" is employed by many TMPs and is rooted from the vacuum between the TMPs and biomedical practitioners (Adewunmi and Ojewole, 2004b). Adewunmi (1999) however associate this to low level of technology and acknowledgement in the practice of traditional medical profession. A number of herbal and other TRM products are thought to be likely to cause adverse effects. Adulteration, inappropriate formulation, or lack of understanding of plant and drug interactions have led to adverse reactions that are sometimes life threatening or lethal (Elvin-Lewis, 2001). Vickers (2007) proposed that proper double-blind clinical trials are needed to determine the safety and efficacy of each plant before they are recommended for medical use.

Researchers in various studies have shown a concern about the efficacy and safety of herbal medicines (Niggemann and Grüber, 2003; Barnes, 2003; Adewunmi and Ojewole, 2004a; Salia, 2006; Clay, 2006; Addo, 2007). A number of reports have revealed examples of incorrect use of TRMs, including incidents of overdose, unknowing use of suspect or counterfeit TRMs and unintentional injuries caused by 'quack' practitioners. Herbal medicines and synthetic drugs may interact, causing toxicity to the patients. Salia (2006) argues that traditional remedies can dangerously be contaminated. TRM without established efficacy may be used to replace medicines that do have corroborated efficacy. Plants have chemical defence mechanisms against predators that can have adverse or lethal effects on humans. Examples of highly toxic herbs include *poison hemlock* and *nightshade* (Müller, 1998; Elvin-Lewis, 2001) that are sourced variously in

treating numerous ailments including malaria. Hodges and Kam (2002) observed that surgical intervention may pose peri-operative implications on patients.

Few studies are available on the safety of herbs on pregnancy. However, Boivin and Schmidt (2009) found that use of complementary and alternative medicines are associated with a 30 percent lower ongoing pregnancy and live birth rate during fertility treatment. Herbal medicine use in obstetrics may adversely affect the course and outcome of pregnancy (Ernst, 2002). In Ghana, a study of herbal medicine use by patients in a tertiary obstetrics and gynaecology unit of Komfo Anokye Teaching Hospital, (Addo, 2007) confirmed that herbal medicine contributes to poor pregnancy outcome such as abortions, intrauterine growth restriction, pattern delivery and low birth weight. In consultation with physicians, usage of herbal remedies should be clarified, as some herbal remedies have the potential to cause adverse drug interactions when used in combination with various prescription and over-the-counter pharmaceuticals. Likewise, a patient should inform herbalists of their consumption of orthodox prescription and other medication.

In the past few decades there has been a new interest in the use of traditional treatments for a wide range of diseases that affect urban populations, including diabetes, malaria, cancer and most recently, HIV/AIDS (Willcox, 2004). According to Baragi et al (1990), industrialised countries have set up research programmes to study the use of TRM in treating some of these conditions. Examples include the National Centre for Complementary and Alternative Medicine (NCCAM), established by the US government, and the network of the WHO collaborating centres set up in different countries. Alongside this growing interest there have been concerns over the quality of

TRMs. This is largely because the increasing global demand has led to large-scale manufacturing of TRMs. The problems associated with the logistics of large-scale production, economics and distribution have prompted policymakers to support initiatives for the development of modern standards for evaluating the quality, safety and efficacy of these medicines. The challenge is to develop modern, international standards for medicines and practices that have originated in varied cultural settings within parameters that can be universally understood (Twumasi, 1975; Chaudhury, 2002).

KNUST

The safety, quality and efficacy of TRM continue to vex medical geography and medical society since worldwide quality control and proper regulation continues to remain a challenge. Regulation and legislation of herbal medicines particularly in Africa and some parts of Asia is limited despite various efforts made by regulatory authorities at different countries in developing guideline principles (Warude and Patwardhan, 2005). Further and future advancement of complementary and alternative medicines rests on scientific validation and technological standardization of complementary and alternative medicines (Sen et al, 2011). Education and training of those involved in the sickness episode, including healers (in particular about practice), physicians, patients and members of the community to understand and appreciate the complementary and alternative health care is important (Sen et al, 2011; Waldram, 2000; WHO, 2002b; Warude and Patwardhan, 2005). Understanding indigenous knowledge and practices is the way forward regarding safety and efficacy of traditional medical therapy.

2.6.2 Intercultural Health Care and Policy Regulations of Traditional Medicine

Intercultural health care implies health care practices that bridge and incorporate indigenous medicine and western biomedicine, where both are considered as

complementary (Vandebroek, 2013; Mignone et al, 2007; Awodele et al, 2011). The practice of integrating western and traditional indigenous medicine is fast becoming an accepted and more widely used approach in health care systems throughout the world. The concern to integrating fully TRM into the national health care system has been in the academic and policy discussions for decades. This integration can take place at different levels including individuals (patients, healers and biomedical health care providers), institutions (health centres and hospitals) and/or society (government policy) (Vandebroek, 2013; Mignone et al, 2007).

KNUST

Since the WHO officially promoted TRM in developing countries in 1978, there have been increasing interests among developing countries in integrating TRM into a national health care system. Most of these policies, however, tend to be the policy of coexistence instead of integration. This is because the debate about intercultural health approaches have raised significant concerns regarding regulation, efficacy, safety, intellectual property rights, lack of cross-cultural research, access and affordability, and protection of sacred indigenous plants and knowledge (O'Neil et al, 2006; Mignone et al, 2007; Payyappallimana, 2010).

Buor (2008a) observed that an attempt to integrate the two systems is a *sine qua non* to improving the efficacy and comprehensiveness of the health delivery services. A successful, integrated health care system would facilitate more efficient use of domestic medical resources, and enhance self-sufficiency in health development for resource-poor countries (Chi, 1994). China, Vietnam and India have standardized their own indigenous medicine and pharmacopoeia, yet countries in Africa as a whole and Ghana in parts, despite the pressures of disease burden and the abundance of plant species, have not

followed suit. The findings of a four village study in the Northwest Ecuador concerning Western and TRM practices and their relationship with the people's health status report the existence of complex social networks for disease interpretation and management which combine Western and TRM practices, religious and lay family healing procedures (Pedersen and Coloma, 1983).

Resolute efforts towards integration of modern and traditional medical systems in a culturally acceptable manner, particularly at the primary level have been executed by international organisations including the WHO, WHA, etc., for many decades. For instance, the WHO in 1977 declared a collaborative efforts between TMPs and modern medical providers and accordingly, the Alma-Ata Declaration (1978) emphasised how primary health care at the local level 'relies…on health workers…as well as TMPs as needed, suitably trained socially and technically to work as a health team and to respond to the expressed health needs of the community' (WHO, 1978a; Sato, 2012d). Moreover, as part of its diligence, the WHO in 1995 produced another comprehensive guidance which was devoted to the training of TMPs as agents of primary health care providing enough contingency to the 'health for all' policy (WHO, 1995). In 2008, Beijing Declaration urged member states to 'respect, preserve and widely communicate, as appropriate, the knowledge of TRM, treatment and practices…on evidence of safety, efficacy and quality', pointing to the persistent gaps in policy and regulation (Sato, 2012d). Recommendations then were made to strengthening relations between TMP and modern medicine professionals through better communication and cooperation. Importantly, it recognizes that healers should be licensed and trained, in order to "upgrade their knowledge and skill in collaboration with relevant health providers, on the basis of traditions and customs of people and communities" (WHO, 2008a).

KNUST

Still, the effort-laden WHO has published a number of policy documents on TRM. These include documents on quality, safety, standards and monitoring (WHO, 2004); registration and regulation (WHO, 2001, 2005); advice for users (WHO, 2004b); methodology for research and evaluation (WHO, 2000a); training for practitioners (WHO, 1995); and a 'TRMs Strategy' (WHO, 2002a). This document highlights four objectives, *viz.* to integrate TRM with the national health system; assure its safety, efficacy and quality; increase availability and affordability especially for the poor and promote rational use (WHO, 2002a: 43; Sato, 2012d). These and other documents so produced provide an indication for policy interest in the TRM practices and activities.

KNUST

Goodwill and commitment of individual countries to intercultural health care are ignited. In Uganda, the integrative efforts have culminated the emergence of Traditional and Modern Health Practitioners Together Against AIDS and Other Diseases (THETA). The goal of THETA (a local NGO) is to collaborate with both modern and traditional health care practitioners to prevent, control and treat HIV/AIDS and other sexually transmitted diseases (World Bank, 2009). The World Bank report indicates that, THETA has comprehensively trained more than 5,000 traditional healers in 17 districts of Uganda in basic knowledge of HIV/AIDS treatment, presentation and care such as counseling, educating, promoting safe-sex and distribution of condoms to local communities. This form of collaboration between modern and traditional health care practitioners has contributed to the successful development of health care delivery particularly for HIV/AIDS victims (World Bank, 2009; 2006; Baidoo, 2009). Similar attempts towards medical integration are evident in other African countries including Kenya, South Africa, Ethiopia, Mali, etc.

In Ghana, concerted efforts are being made to integrate TRM into scientific medicine. In this regard, research institutions and other relevant bodies have been set up to ensure the safety, efficacy and quality of TRM as a conduit towards integration. Way back in 1975, the Center for Scientific Research into Plant Medicine (CSRPM) at Mampong-Akwapim was established by the Government of Ghana in recognition of the pioneering work of Dr. Oku Ampofo, a Ghanaian allopathic medical practitioner. The aim was to carry out research into plant medicine; address issues of quality and safety in herbal drug use by scientifically validating the therapeutic effects of herbal preparations towards integrative process. Today, CSRPM has become a leading research institution in Africa that has made Research and Development of herbal medicines its core priority (CSRPM, Personal Communication, 2013). Practitioners are now voluntarily required to register for some recognition, and to get their drugs tested scientifically (Buor, 2004; Wreford et al, 2006).

As part of the arrangement towards intercultural health care, Department of Herbal Medicine at the Faculty of Pharmacy, Kwame Nkrumah University of Science and Technology (KNUST), Kumasi has been established to run a degree programme in herbal medicine. This is to maintain and preserve the knowledge and use of TRM as an alternative health care. Also, TMPs have formed an association to regulate their activities, learn from each other and receive formal training to be able to practice their profession in a more organised and trusted manner. Furthermore, Herbal Units have been established in some government hospitals to promote herbal medical practice in the country. The Police Hospital in Osu, Accra and Suntreso Hospital in Kumasi have begun operating its herbal unit to take care of persons who prefer TRM treatment. Plans to

KNUST

introduce herbal treatment units in some 17 other government hospitals across the country are also far advanced (Personal Communication, 2013).

Even though the WHO has continued to endorse TRM since the seventies, coupled with efforts shown by individual countries, implementation of intercultural health care approach has proven a difficult task for most countries to date. This may be due in part to the strained institutional relationships between both health care systems. Vandebroek (2013) noted that several barriers to intercultural health care are known to exist at the societal level. General acceptance by biomedical practitioners, vis-à-vis issues related to the safety, efficacy, quality and rational use of TRM are unremitting. In the study of rationales for TRMs utilisation and its equity implications, Sato (2012d) argues that these unceasing efforts of WHO rather focus predominantly on supply side at the expense of demand factors. Buor (2004) has expounded that there are no legal restrictions on TMPs who do not register before operating. Some TRM practitioners are becoming 'professionalised', applying 'cure all' concept.

Area of greater concern is the lack of trust and respect between the categories of practitioners. The relationship between the two is marked by suspicion, lack of recognition and mistrust (Buor, 2008a). Orthodox health care providers look upon traditional healers with intense scorn and disdain for their lack of formal medical training (Wreford, 2005) and knowledge of health and its complex relationships and practices. In fact, many biomedical practitioners perceive traditional healers as bringing chaos to the health care delivery system, and therefore consider the practices of the latter as superfluous burden on the profession (Langwick, 2006; Wreford, 2005). They therefore eschew any form of collaboration with traditional healers (Campbell-Hall et al, 2010).

KNUST

However, folk practitioners have the feeling that scientific medicine has sacrificed the efficacy of curative methods. They consider themselves as the natural healers, and have the feeling that integration will weaken the potency of their operations (Buor, 2004; Meissner, 2004; Wreford et al, 2006). Chi (1994) suggests that effective intercultural health care should begin from the grass roots level involving training of physicians and practitioners. Sato (2012d) however maintains that integrating TRM into a biomedical framework will be a nine day wonder and practically will not see success if the demand side of the equation is sidestepped. Holding similar view, Gorn and Sugiyama (2004) argue that there is the need to evaluate TRM within its own cultural perspective rather than restrained and subdued by the orders defined by western medicine. These arguments are no doubt in congruent with sentiment shared by Halfdan Mahler (former Director General of WHO) that "For too long, traditional and modern medicine have followed their own separate paths in mutual antipathy. But their aims are surely identical — the improvement of human health and, hence, improvement of the quality of life" (Iancu, 2011).

To achieve incorporation, one must distinguish qualified practitioners and practices. The elimination of charlatans, impostors and unscrupulous TMPs is key to full medical integration. Building bridges between health care systems lingers the surest way to actualising robust health care delivery for the resource-poor and the underserved in Africa. Meissner (2008) proposes that, given mutual respect, TMPs can be successfully drawn into biomedical prevention and treatment interventions, and thereby improve their efficacy.

KNUST

2.6.3 Insurance Coverage and Pattern of Use of TRM

Overwhelming evidence shows that out-of-pocket payments remain a major means of health care financing across developing countries (Xu et al, 2007; Gobah and Liang, 2011; Blanchet et al, 2012; Osei-Akoto, 2012; Atim et al, 2001). More often than not, such payments plummet utilisation of health services, particularly among the poorest (Gilson, 1997; Palmer et al, 2004; Chankova et al, 2008). Ruinous user fee for health care have the tendency to thrust the entire households into destitution leading to poor health status (Adjei and Buor, 2012; Van Doorslaer et al, 2006). This reaffirms the WHO's publication which explicate that out-of-pocket health payment is the least efficient and most inequitable means of financing health care; preventing people from seeking medical care and may exacerbate poverty (WHO, 2000b; Xu et al. 2003; Hjortsberg, 2003). Studies have recognised that lack of prepayment or health insurance mechanisms is a precursor for awful payments for health care (Xu et al, 2003; Chankova et al, 2008). This has spurred a significant interest at present to explore the potential of social health insurance to increase access to (and affordability of) health care in sub-Saharan Africa. There has been an upsurge of experimentation of the social health insurance policy (Bennett et al, 2004), though with different approaches in a number of African countries, including Benin, Nigeria, Rwanda, Kenya, Senegal, Tanzania, and Ghana over the past decade (Carrin et al, 2008; Witter and Garshong, 2009).

Direct out-of-packet payments, known to be 'cash and carry' system for health care delivery in Ghana was instigated by the Government of Ghana through the MOH in 1985 as part of the Economic Recovery Programme under the Structural Adjustment Programme (SAP) of the late 1900s. The 'cash and carry' system poignantly required customers and clients of health services to offer monetary payment either before or after

treatment in health facilities across the country. This presented a serious barrier to health care since 1980s. The MOH then reverberated that:

> "...out of 18 percent of the population who require health care at any given time, only 20 percent of them are able to access it. That is about 80 percent of people living in Ghana who need health care cannot afford to pay out-of-pocket at the point of service use" (MOH, 2004:1).

Various attempts to alleviate Ghanaians with a system of exemptions were not very successful (Nyonator and Kutzin, 1999; Waddington and Enyimayew, 1989; Garshong et al, 2001). This induced an initial 50 percent reduction in outpatient attendance at health facilities especially for the rural denizens (Songsore, 2003). Documented evidence suggests that most people resorted to TRM and over-the-counter self-medication which had throes and detrimental impacts on the health outcomes of many. Barimah (2013) added that the financial barrier caused most Ghanaians to delay treatment seeking which favoured premature deaths. The NHIS was therefore established by the National Health Insurance Act (NHIA) (Act 650) in 2003 through Ghana Poverty Reduction Strategy (GPRS) and the Health Sector Five year Programme of Work, 2002-2006 (5YPOW) (MOH, 2004; Barimah, 2013) to increase access and use of available health facilities. Subsequently, the National Health Insurance Regulations (NHIR), a Legislative Instrument (L. I. 1809) of 2004 was promulgated (Fenny et al, 2014; Witter and Garshong, 2009; Gobah and Liang, 2011).

The exemption policy was introduced. The targeted exemptions include indigents or the 'core poor', children under 18 years (who depended on contributors), senior citizens or adults 70 years and above and Social Security and National Insurance Trust (SSNIT) contributors. This was also applicable to prenatal care for pregnant woman (Ghana Government/ SAPRI, 2001; Gobah and Liang, 2011). In this regard, Government of

Ghana (GOG) in 2008 proclaimed a free maternal care policy exempting all pregnant women from paying premium and processing fees as part of the strategies towards improved and easy access to skilled delivery attendance; a conduit to the actualization of MDGs 4 and 5 (NHIA, 2008; MOH, 2009). In practice, however, exemption mechanisms are often ineffective and generally fail to protect the intended poor (Creese, 1991; Gilson, 1997). Their major failure is in the targeting (Hardeman, 2004). Most exemption systems in developing countries suffer from either inclusion error or exclusion error (Gilson et al, 1995; Willis and Leighton, 1995). The former leads to leakage of resources to better-off people whilst latter occurs when health staffs usually do not have the expertise or time to assess objectively the patient's ability to pay (Huber, 1993; Hardeman et al, 2004).

KNUST

Under the NHIS insured individuals can benefit when common diseases are presented at accredited health facilities. General out-patient and in-patient care, oral health, eye care, comprehensive delivery care, diagnostic tests, generic medicines and emergency care are also covered under the scheme. However, specialized forms of care such as dialysis, organ transplants are not covered under the insurance. Services under government vertical programmes such as antiretroviral for the treatment of HIV/AIDS, immunization and family planning are not supplied under the NHIS. Some drugs are also not listed on the list of drug that is covered in the NHIS. Claims made by accredited service providers are submitted to the district schemes for payment using the Diagnosis Related Group (DRG) rates for services and Fee-For-Service (FFS) for medicines (NHIA, 2008; Aboagye, 2012).

Before the introduction of NHIS, some form of social insurance policies existed in the country. In the early 1990s, a number of mutual health organisations (MHOs) developed in Ghana, with some external funding and technical support. Most MHOs focused on providing financial protection against the potentially catastrophic costs of a limited range of inpatient services (Atim et al, 2001; Witter and Garshong, 2009). A typical example was a faith-based non-profit service provider which was inspired by the Congolese Bwamanda scheme that designed the Nkoranza scheme in 1992. Other schemes followed, either community-initiated or provider-initiated scheme. Most of them arose after a Community Health Insurance workshop organised by PHR 14 CHI, yet most of them covered only a small fraction of the population (Soors, 2010). The NHIS aimed to build on these organisations by introducing district-based mutual health insurance schemes (DMHIS) (Witter and Garshong, 2009).

KNUST

However, Sato (2012d) argues that it is uncertain whether or not the pro-poor orientation of the NHIS has been effective. For instance, Anderson et al (2012) observed that diseases that afflict the poor and the marginalized in the society are least considered by the NHIS. In addition, a report by Oxfam explains how the NHIS policy has accidentally contributed to worsening the predicament of the poor. According to the report, since the NHIS is partly funded through Value Added Tax, it is at the expense of the poor who the policy is intended to help. This eventually drives the poor into abject poverty. NHIS was designed to be a pro-poor scheme and therefore aimed at removing financial barriers and burden to access and use of health care in Ghana. Also, the scheme aimed at covering every resident of Ghana within five-year period that will adequately guard them against user fee or out-of-pocket payment at the point of service delivery (MOH, 2004; Social Enterprise Development (SEND)-Ghana, 2010). Albeit, like other insurance schemes, the

NHIS does not cover all health care demands (NHIA, 2008). Further, the policy has not actualised its goals after nearly thirteen years of existence.

In the evaluation of the impact of national health insurance in Ghana, Sulzbach (2008) found that there has been an increase in access to formal care amongst members, as well as a significant decrease in out-of-pocket expenditure, albeit no difference in use of maternal care between the intervention and control group and that the enrolment in the NHIS remained pro-rich. Worst still, Professor Ohene Adjei, the Chief Executive of KATH, has called on the MOH to increase the NHIS tariffs in order to eliminate the financial stress induced by the NHIS policy on the hospitals (Daily Graphic, July 5, 2012).

KNUST

In countries such as China, South Korea and Vietnam, insurance fully covers TRM treatment and products (WHO, 2002a). Others, *inter alia* United Kingdom, Japan, Germany, Australia and the United States have partial insurance coverage for TRM and CAM consumption (Bodeker and Kronenberg, 2002. For example, there is a growing trend for the National Health Service to pay for the services of complementary providers in Great Britain (House of Lords Select Committee on Science and Technology, 2000). Health insurance coverage can lead to a substantial increase in the use of TRM services. Americans have been found to spend more on CAM than on all hospitalizations (Astin, 1998; Eisenberg et al, 1993). Australians also spend more on CAM than on all prescription drugs due to insurance coverage (MacLennan et al, 1996). Chen et al (2007) found that the frequency of Taiwanese who had visited TCM within previous one year in 2001 was as high as 28.4 percent because of the inclusion of TCM in the national health insurance in Taiwan. In a Korean immigrant population in Los Angeles, 24 percent of

the uninsured used traditional healers, compared with 59 percent of persons with Medicaid[8] only and 71 percent of those with other types of insurance including Medicare[9] and Medigap[10] coverage (Bodeker, 2001).

However, in sub- Saharan Africa, the public continues to pay out-of-pocket, sometimes on a large scale, for TRM services (Bodeker and Kronenberg, 2002). In Ghana for example, herbal unit has been established in seventeen hospitals and clinics as an impetus towards medical integration. Notwithstanding, unlike orthodox medical services, the treatment and dispensing of herbal medicine and products are still not covered with health insurance (Sato and Costa-i-Font, 2012; Personal Communication, 2013).

Given the terrific value of indigenous health knowledge, processes and practices and its mammoth contribution to health care delivery for more than 70 percent of Ghanaians why traditional medical sector is still not covered by health insurance in Ghana and elsewhere? Researchers blame the external orientation which makes the Western medical care solemn and progressive in Africa (Mensah, 2008; Barimah, 2013). Barimah (2013) argues that as we look for the successful implementation of the NHIS and robust health services, any attempt to include traditional healers may be the right way forward.

[8]**S**ocial health care programme for families and individuals with low income and resources in the United States. The Health Insurance Association of America describes Medicaid as a "government insurance programme for persons of all ages whose income and resources are insufficient to pay for health care." Medicaid is the largest source of funding for medical and health-related services for people with low income in the United States.

[9]National social insurance programme that guarantees access to health insurance for Americans aged 65 and older who have worked and paid into the system, and younger people with disabilities as well as people with end stage renal disease and persons with amyotrophic lateral sclerosis. This policy has been administered by the United States federal government since 1966 (Medicare.gov, 2012).

[10]Constitutes various private health insurance plans sold to supplement Medicare in the United States. Medigap insurance provides coverage for many of the co-pays and some of the co-insurance related to Medicare-covered hospital, skilled nursing facility, home health care, ambulance, durable medical equipment, and doctor charges.

Insurance coverage for TRM sector in resource-poor and under-served countries is a conduit to reducing health care financial burden (as the majority depend on TRM) and to improving health status and outcomes of people.

The question that lingers the minds of many is whether Ghanaians have changed the pattern of use of TRM in the era of NHIS which apparently excludes practices of TRM. Gobah and Liang (2013) noted that health insurance is a key determinant in seeking health care and using modern health faculties. However, waiting time, cost of treatment, quality of drugs, availability of drugs at the facility were rated as 'worse than before' while privacy during examination and treatment and availability of laboratory services were rated as 'same as before'. This suggests that TMPs could better serve their clients and project TRM as alternative, complementary and/ or substitute for treatment seeking in Ghana when covered with the NHIS.

KNUST

2.7 Determinants of Traditional Medicines Utilisation

Studies amply show the significance of TRM in the diagnosis, prevention, treatment and management of various diseases particularly in developing countries (Gyasi et al, 2013; Mensah and Gyasi, 2012; WHO, 2003; 2008; 2011a; Gyasi et al, 2011; Sen et al, 2011; Peltzer, et al, 2008; Peltzer et al, 2006; Tabi et al, 2006; Buor, 1993). Various explanations and motivation for high utilisation rate of various forms of TRM therapies and traditional healers have long been unravelled. Variously cited precursors independently include socio-demographic, economic, psychosocial and anthropological factors of individuals and groups.

2.7.1 Socio-demographic Factors

The social class and demographic situation of people may have a direct influence on their treatment and/ or health-seeking behaviour. Demographic factors of age and sex impact on utilisation TRM. In rural Nigeria and Ethiopia Kroeger (1983) discovered that children are important clients of TMPs. In sub-Saharan Africa and several developing countries women consulted TMPs most. Ethnomedicine is intrinsically embedded in the rural economies of developing countries where poor access to and less knowledge of scientific medicine exist. Political, economic and social structures internationally, nationally and within communities determine who gets what, where and how (Smith, 1979; Stock, 1985; Buor, 2008a). In concurrence with other studies (e.g. Ahmed et al., 1999) this study found that the majority of those seeking the help of TMPs were women. Unlike other studies (Berhane et al., 2001), this study found that also young and educated participants in this urban area consulted TMPs.

Demographic characteristics and factors related to an individual's health status are associated with CAM use (Bishop and Lewith, 2010). For example, Shih et al (2009) reported that being female, highly educated, or having a self-reported poor health status were predictive factors associated with TCM use. Osamor and Owumi (2010) reported in urban Nigerian community that utilisation of TRM by hypertensive patients is congruent with gender, marital status and belief in supernatural causes. Ni et al (2002) noted that age, educational level and income are associated with utilisation of TRM. Barker and colleagues (2001) in a study of demographic and health-related correlates of visits to TRM providers found that gender, education, age, geographic location, race, poorer health status and metabolic disorders were statistically significant determinants of TRM

use although these findings are not consistent, with some authors arguing that gender and age are not key factors (e.g. Schober, 1997; Wiles and Rosenberg, 2001).

Other studies have shown a correlation between ethnicity, feminism, age, educational status, household income status, perceived poor health status, safety and affordability and utilisation of TRM (Astin, 1998; Aydin et al, 2008; Lim et al, 2005; Cherniack et al, 2001; Spigelblatt et al, 1994; Lorenc et al, 2009; Lewith, 2000; Chao and Wade, 2008). In a survey among 135 hypertensive South African participants of the Prospective Urban and Rural Epidemiological (PURE) study, Hughes et al (2013) found a significant difference in the age, marital and employment status as factors predicting frequency of traditional herbal medicine use. Tovey et al (2005) also discovered in Pakistan that unlike other studies in Western context, the level of education is influential in determining the usage of particular traditional medical therapy. However, Wolsko et al (2002) found no correlation between TRM use and age, sex, socioeconomic status, health status measures and region of residence.

Health status remains one important factor that explains traditional health care utilisation. People with poorer health, greater length of disease duration (Berg and Arnetz, 1998), or experiencing a number of health problems reserve the likelihood to use TRM or CAM (Astin, 1998; Kelner and Wellman, 1997; Moser et al, 1996; Wiles and Rosenberg, 2001). Astin observed that persons who report poor health have higher rates of use of indigenous therapies than those who consider themselves to be in good health (52% vs. 33%, see Astin, 1998). The differences increase for those with specific problems, although often use is sought for more general purposes than a specific problem

KNUST

(Astin, 1998). These findings have locus as perpetual anguish and pain may canvass patients to seek out alternatives treatment especially when the orthodox care is failing.

2.7.2 Economic Factors

Generally, economic variables constitute rollout for TRM usage in the developing countries. Scholars in this purview point to an individual's economic rationality (Sato, 2012d). For example, Sowa (2002) noted that the declining hospital attendance in 1984 was as a result of overall economic crises. This situation continued through to 1986 due to the introduction and increase in hospital fees under the United Nations induced Structural Adjustment Programme. Indigenous people almost always lens TRM as more accessible, readily available and affordable than orthodox medicine and practices (Gyasi, et al, 2011; Leonard et al, 2004; World Health Organization, 2002; Vandebroek, 2013), which poignantly remain unobtainable/accessible to almost two-thirds of the people of sub-Sahara Africa.

For example, a study in Uganda estimated that there is 1traditional healer per 200 to 400 people, in sharp contrast to 1 modern practitioner for 10,000 people (World Bank Group, 2014). In Kenya, doctor-population ratio ranges from 1: 5,000 in urban areas to 1: 9,500 in rural areas (World Bank Group, 2014; WHO, 2012). This is congruent to a finding in Ghana suggesting lower physician to population (1: 1,032) and nurse to population (1: 1,111) ratio against traditional healer to population ratio (1: 400) (World Bank Group, 2014). Poverty is a strong barrier to the utilisation of health care services (Gyasi et al, 2011). In a study on the public perceptions of the role of TRM in the health care delivery system in Ghana, Gyasi et al (2011) reported that certain aspects of TRM are cheaper and more readily available to the people than the orthodox medicine. Most people live

below the poverty line and therefore find the orthodox medical care relatively costly to access. TRM/TMP is therefore the first point of call to many people in the study area.

Gyasi et al (2011) found that the current financial and economic strains partly explain the wholesome utilisation and patronage of TRM in the developing world because of its relative cost-effectiveness. A body of research has proved the hypothesis that high income earners attend hospital more often than low income earners (Buor, 2003; Delanyo, 1992; Ensor and Pham-Bich-San, 1996; Pickett and Hanlon, 1990; Habib et al, 1986). This presupposes that modalities with full or partial insurance coverage are likely to be utilised. Chen et al (2007) observed that the frequency of Taiwanese who had visited TMPs within previous year increased due to the inclusion of Traditional Chinese Medicine in national health insurance in Taiwan.

TRM is generally affordable and therefore utilised mostly by the rural poor who cannot, perhaps afford the orthodox medical care (Gyasi et al, 2011). Relative affordability of TRM rests on the fact that herbal products are appear naturally and/or cultivated locally thereby reducing both direct and indirect transaction costs and individuals can self-apply (van den Boom, 2008). Healers are also known to charge based on ability to pay and accept different modes of payment such as in-kind, by installments, etc., rather than by a flat rate payable in advance as is often the case when visiting a physician or using modern providers (Sato, 2012d; Hausmann-Muela, 2000).

KNUST

2.7.3 Anthropological Perspective

Besides socio-demographic and the economic determinants of TRM use, anthropological variables may potentially predict utilisation of TMPs and their services. Anthropological approach defines utilisation based on historical circumstance, cultural acceptability and sociological motivations focusing on perceptions of illness and disease as key reasons in determining health care-seeking behaviour (Foster, 1984; Hielscher and Sommerfeld, 1985). According to Sato (2012d), TRM were the default form of care in terms of history. For example, in Ghana, populations were entirely reliant on TRM until modern medicines were introduced into the country by British medical officers during colonisation (Twumasi, 1978). In Africa as in the case in other populations, illness and disease concepts are defined by physiologic or psychological factors. Moerman and Jonas (2002) argue that an individual's perception of treatment efficacy and understandings of illness are shaped by their culture and social environments. It is believed that epilepsy and mental illnesses are caused by spirits such us witchcraft and that the appropriate response is treatment with plant and animal products (Baskind and Birbeck, 2005).

Agyepong (1992) noted that malaria carried by mosquitoes is belied by some Ghanaians to be as a result of excessive contact with external heat which creates imbalance in 'blood equilibrium'. In this regard, healers are trusted to take into account social contexts of disease to provide holistic, culturally sensitive care (Foster, 1984). Cultural attitudes and beliefs can explain variation in utilisation. Mutual relationship with and trust toward healers, their ability to cure and perceived knowledge are significantly influence TRM use (Sato, 2012d). By using a unique survey eliciting attitudes and beliefs Sato (2012c) empirically found evidence to suggest that cultural attitudes and beliefs influence the

utilisation of TRM. It was possible to model how utilisation of TRM reflects the traditional views of illness, in line with numerous anthropological studies. Individuals who agreed more strongly with favourable statements on: healer service; trust toward TMP, the ability of TRM to cure illnesses, perceived safety and acceptance within region, were more likely to utilise TRM.

Ng and others (2003) utilised a cross-sectional survey in the study of use of complementary and alternative medicine by asthma patients in five primary care clinics in Singapore and found that use of CAM was significantly associated with Chinese ethnicity, longer disease duration, moderate and severe persistent asthma, lack of positive response to treatment in the past year, higher patient knowledge score, and multiple sources of care providers. The motivation for use and non-use of TRM is associated with cultural and clinical factors reflecting a need to improve care.

KNUST

2.7.4 Psychosocial Factors

Some patients use TRM because they are dissatisfied and uncomfortable with OM that are perceived to be ineffective, expensive or have unpleasant side effects (Menniti-Ippolito, 2002; Sutherland, 1994), while others find TRM attractive because it is consonant with their personal values, religious and health philosophies (Furnham and Forey, 1994; Vincent and Furnham, 1996; Bishop et al, 2007; Moore et al, 1985). Major self-reported reasons for consulting the THP included a complex of supernatural problems or psychosocial problems, chronic conditions, acute conditions, generalized pain, HIV and other STIs. (See Peltzer and Mngqundaniso, 2008 for reference). The high satisfaction of TCM visits also could explain part of the high utilisation of TCM (Lin and Lee, 2009). Personal beliefs were the most commonly cited reasons for women's CAM

use. A majority of respondents (60%) cited that using CAM was consistent with their beliefs, and 62 percent wanted a natural approach to treatment. Social influences were cited by about one third of respondents; these included being influenced by friends and family members (35%) and reading or hearing about these types of treatments in the media (33%) (Wade et al, 2008). Barker et al (2001) noted that individuals in poorer health and those suffering from mental, musculoskeletal, and metabolic disorders also tended to be more likely to have visited a CAM provider.

KNUST

The antecedents for use of TRM and hence health-seeking behaviour of individuals are manifold: financial background (income, wealth, insurance); disease characteristics (severity and type); socioeconomic variables (age, gender, religion, education, and occupation), supply factors (closeness of healers, urban location) as well as cultural believe mechanism of the patient.

2.8 Geography, Space and Utilisation of TRM

Research has validated the position that utilisation of TRM differs geographically between rural and urban divide. Evidence copiously indicates that people who reside in non-urban areas have a higher rate of use of TRM/CAM than people of urban communities (Adams et al, 2011b; Jirojwong and MacLennan, 2002; Shreffler-Grant et al, 2005; Andrews et al, 2010; Gesler and Kearns, 2002; Hoyez, 2007). Adams et al (2009), Sibbritt et al (2004), Shreffler-Grant et al (2007), Sibbritt et al (2006), Nilsson et al (2001), Friedman and Lahad (2001) showed in various studies that in general, rural and urban settings present different socio-economic, political and environmental, health status, health beliefs and prevalence of diseases burden. This phenomenal diversity

contributes to a difference in terms of self-rated health (van der Hoeven et al, 2012) which informs health care seeking behaviour and utilisation of health care resources.

Using data from Survey of the Australian Longitudinal Study on Women's Health conducted in 2007, Adams et al (2011a) studied the urban-rural divide in complementary and alternative medicine use among 10,638 women and found that women who consulted a CAM practitioner varied significantly by place of residence. They noted that 28 percent resided in the urban areas, 32 percent resided in rural areas whilst 30 percent resided in remote areas. This finding confirms the observation of Shreffler-Grant et al (2007) and Wilkinson and Jelinek (2009) that report that CAM is found to be used by older rural adults as a common strategy for maintaining health and wellbeing compared with their urban counterparts.

Whilst a clearer picture is painted regarding spatial analysis of TRM use amongst populations elsewhere, the subject unfortunately remains gray in the African context. From North America and Australia, Wilkinson and Simpson (2001), MacLennan et al (2002), Herron and Glasser (2003) have independently depicted that populations in rural and remote communities are associated with higher CAM demand taking their urban counterparts as benchmark. In a retrospective analysis of 237,500 claims data of two large United States insurance companies in Washington State for calendar year 2002, Lind et al (2009) noted that the proportion of claimants using chiropractors was higher in rural than urban residents even though users of chiropractic treatment in metropolitan areas made more chiropractic visits than users in non-urban areas (Adams et al, 2011a). Lack of conventional providers in rural areas did not completely explain this difference, nor did differences in patient cost-sharing or demographics (Lind et al, 2009). In

Australia, the Perspectives on the Use in Communities of Complementary and Alternative Medicine study based on a survey of 459 residents in Victoria revealed significantly higher rural use of self-prescribed supplements, chiropractic and Bowen therapy than in urban areas (Robinson and Chesters, 2008; Robinson, 2007; Adams et al, 2011a).

In a survey of malaria treatment in remote areas of Mali, Graz et al (2006) observe that most children with reported uncomplicated malaria were first treated at home (87%) with modern medicines alone (40%), a mixture of modern and traditional treatments (33%), or traditional treatment alone (27%). The upsurge use of TRM by populations in non-urban environments is evident. It therefore becomes exigent to critically appreciate whether some traditional treatments available in remote villages and to rural denizens are real, recommendable first aid.

In a cross-sectional survey of 1,427 participants from the Australian Longitudinal Study on Women's Health conducted in 2009, Adams and others (2011b) observed that the increased use of TRM/CAM in rural and remote areas appears to be influenced by poorer access to conventional medical care and a greater sense of community amongst these rural and remote residents. Other popular reasons have been observed for the geographical dimensions of TRM utilisation. One explanation put forward to account for differences in TRM/CAM use across the urban and non-urban divide has been a dearth of satisfaction with conventional health services in non-urban regions (Adams et al, 2011a: Adams et al, 2011b). Closer working ties between regional general practice and TRM/CAM provision and stronger informal community networks in rural settings are also suggested (Van der Weg and Streuli, 2003).

2.9 Conceptual Model

Access to and use of health services are critical determinants of healthy living. To this far, a number of conceptual models and theories have been posited to accentuate health care delivery for the citizenry. These include mathematical gravity models propounded by Kon-Kyun (1972), Pyle (1974) and Dutton (1986). These rigorous quantitative models cannot conveniently apply to developing countries including Ghana due to rarity of accurate data (Buor, 2004).

KNUST

Most studies on health service utilisation in the developing countries have followed the predisposing-enabling-need framework (Andersen, 1968; Andersen and Newman, 1973) which evolved from the health belief model introduced in 1950s. These original utilisation models consider individuals to vary health-seeking behaviours according to predisposing characteristics (*viz.* demographic, social structures, health beliefs, etc), enabling resources (*viz.* Personal, family, community, etc) and need for care (*viz.* perceived, evaluated, etc) (Andersen, 1968; Andersen and Newman, 1973). Andersen and others have built popular models upon this original utilisation framework (Andersen and Newman, 1973; Aday and Andersen, 1974; Andersen, 1995).

Kroeger (1983) developed a similar conceptual model of utilisation. Kroeger's utilisation framework proposes an answer for the question of how people enter the sick role and make choices regarding the use and/or non-use of different kinds of health services available. Based on an extensive review of the anthropological and socio-medical literature of health care, Kroeger (1983) proposed that determinants of utilisation in developing countries could be grouped under three broad categories, viz. *Patient's characteristics* (predisposing factors) such as age, sex, marital status, household

composition and size, ethnic group affiliation, occupation, assets and education; *characteristics of illness, expected benefits from treatment and beliefs about disease causation*; and *characteristics of the health care system*, including accessibility, acceptability, quality and cost of care. Although, Kroeger's (1983) model presents advancement to other original model by including traditional approaches of care as a possible health resource, it fails to explore outcomes such as satisfaction of use and/or equity of care.

KNUST

Buor (2004) in the study of the accessibility and utilisation of health services in Ghana developed a more comprehensive schematic model as an improved version of other earlier utilisation models. Buor (2004) conceptualises that health care use is influenced by a number of variables and the interrelationship between them, including, spatial setting, health policy, health resources, level of physical accessibility, physician characteristics and patient characteristics. All these impact health care use. The model identifies the importance of health policy and levels of physical accessibility in utilisation in developing countries. Moreover, characteristics of physician that seek to determine the quality of service and physician attitudes to patients that influence utilisation are illustrated. Characteristics of patient are carefully outlined under predisposing, enabling and need factors which are crucial to utilisation in developing countries (see Figure 2.1).

However, like most utilisation studies, the model accounts only for modern medicines use, neglecting TRM. Seeking modern medical care is oftentimes considered to be the 'gold standard' (Sato, 2012d). The model therefore fails to appreciate the significant role that traditional medical system plays in developing economies (WHO, 2010; 2001;

Peltzer et al, 2008; Dhalla et al, 2006; Peltzer and Mngqundaniso, 2008). It only focuses on modern medical practice. In this regard, Buor (2004) defined health services use with orthodox medical system in mind. Base on this, characteristics of physicians who practice in the orthodox hospitals are outlined without a mention of the traditional healers and their practices.

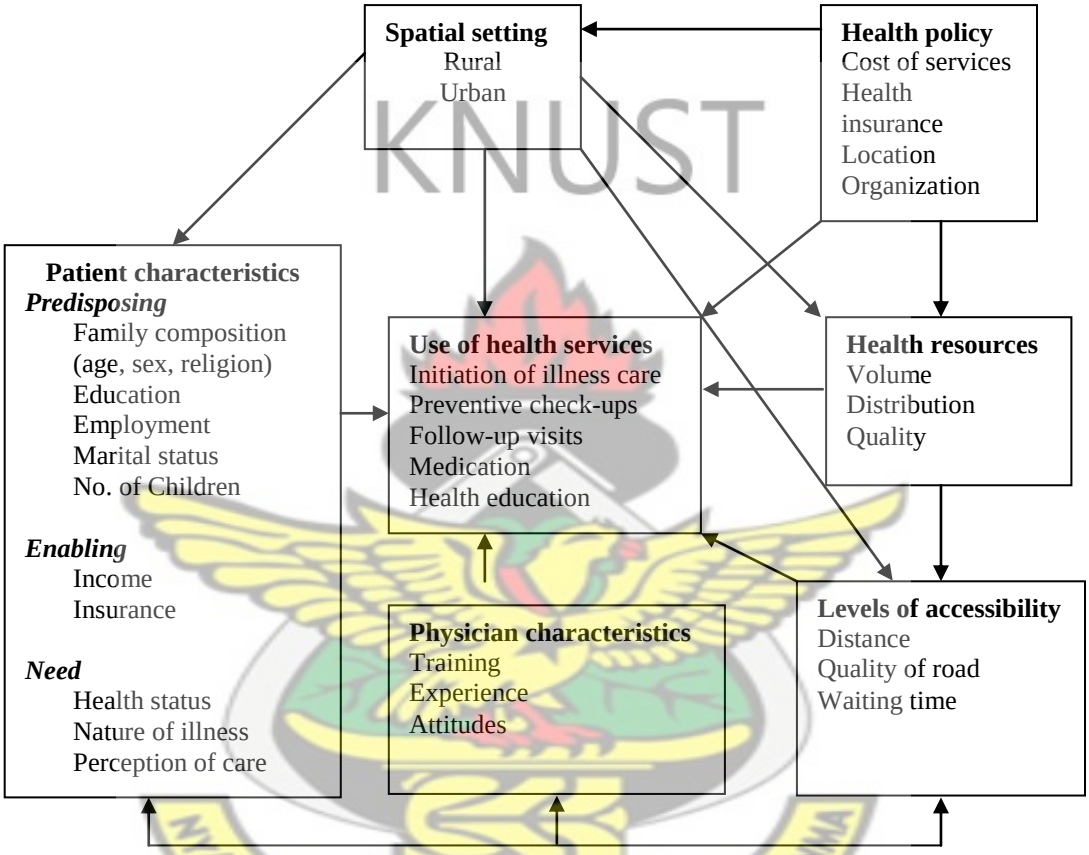

Figure 2.1 A model for the study of access and utilisation of health services
Source: Buor (2004).

Again, the model emphasises inadequacy of orthodox health care facilities and the effects of distance decay in the distribution of orthodox health facilities and personnel, neglecting the crusade to ameliorate TRM as a suitable alternative and/or complementary gizmo and possible integration into national health delivery system. The model therefore cannot conveniently and rightfully apply to a typical developing economy like Ghana where TRM forms a major component of health care system based on culture, tradition

and values of the people (Oppong, 2003). Taking these deficiencies in the model into consideration and other variables to be tested to ascertain utilisation of TRM and its possible integration into the national health care system in Ghana, a model has been proposed for the study. (see Figure 2.2).

The model seeks to explicate the dynamics of utilisation of TRM in developing countries. It depicts interactions that exist between utilisation of TRM and its innate variables. The outcome variable, the TRM use is placed at the centre and is influenced upon by various predictor variables; viz. characteristics of the TMPs and the population at risk, geographic location, consumer satisfaction, health policy, level of accessibility and integration of TRM into mainstream health services. Indeed any of these factors have the potential to influence utilisation of TRM.

In developing countries, most of the people in the rural areas directly or indirectly depend on the TRM for their health care needs (WHO, 2003; Kuo et al, 2004; Tabi et al, 2006; GSS, 2012). This is because the distribution of health facilities which is the function of the health policy is lopsided and skewed against the rural areas (Oluwatuyi, 2010). Health policy is critical in developing countries as far as health care use is concerned. The policy determines the organisation, insurance coverage, cost and where (geographical space) and when (time frame) facilities are provided. It is exclusive on the policy to regulate the preparation, use and to initiate the incorporation of TRM into the orthodox health care.

The attitude, level of training, experiences and affective behaviour of TMPs (characteristics of TMPs) towards their clients are important elements in utilisation of

TRM since they have a strong link with the consumer satisfaction in terms of efficacy, quality and social accessibility. *De facto*, a patient is more likely to access TRM if the efficacy in ensuring good health is guaranteed regardless of income, educational status, nature of disease, etc. The practitioner's characteristics and perceptions also underpin the successful integration of the two medical systems whereas mechanisms of integration may serve as a conduit to reshape practitioner's characteristics. Levels of physical accessibility of the orthodox health facilities and the patient's perception as regards efficacy, perceived side-effects, etc., of orthodox medicine play a crucial role in utilisation of TRM in developing countries.

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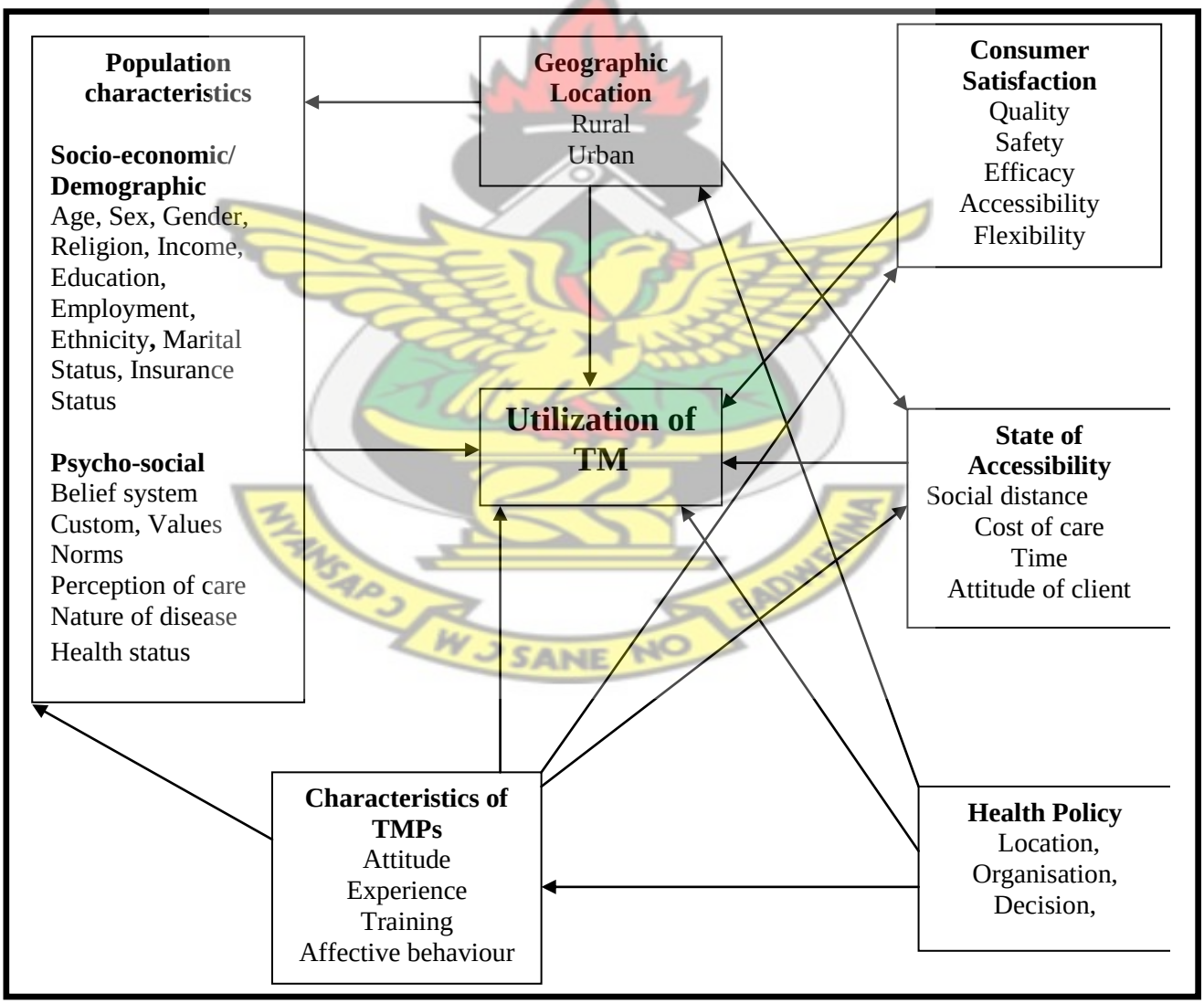

Figure 2.2 A conceptual framework for studying access and use of traditional medicine
Source: Adapted from Buor (2004)

Characteristics of the population at risk are crucial to utilisation of TRM in developing countries. In most rural communities there is a low perception of the need for modern health care. Social enlightenment plays a role in evaluating the need for health care. Financial constraint must also be mentioned as the most important hindrance. As long as Ghana remains medically pluralistic society, it is appropriate to perceive health service utilisation as incorporation between traditional and modern medical systems. The inclusion of TRM in utilisation analyses is crucial, as it allows for explicit understanding of how medical systems have evolved into the pluralistic system we see today (Sato, 2012d).

KNUST

This model shows the direction of use of TRM which is congruent with the perception and belief of people in the developing countries. It has filled the gap in contemporary models of utilisation of TRM.

CHAPTER THREE

BACKGROUND CHARACTERISTICS OF KUMASI METROPOLITAN AREA AND SEKYERE SOUTH DISTRICT

3.1 Introduction

This chapter presents the profile and background to Kumasi Metropolis and Sekyere South District where the study was conducted. The chapter considers a plethora of issues including the location and extent, demographic characteristics, climatic conditions and drainage characteristics of the study prefectures. The chapter also discusses the socio-economic characteristics of the study areas based predominantly on secondary sources of data gathered from District Assemblies and other published national documents in the course of the study. The chapter is sub-divided into two: Sections A and B so as to provide the avenue for critical analysis of each of the study settings

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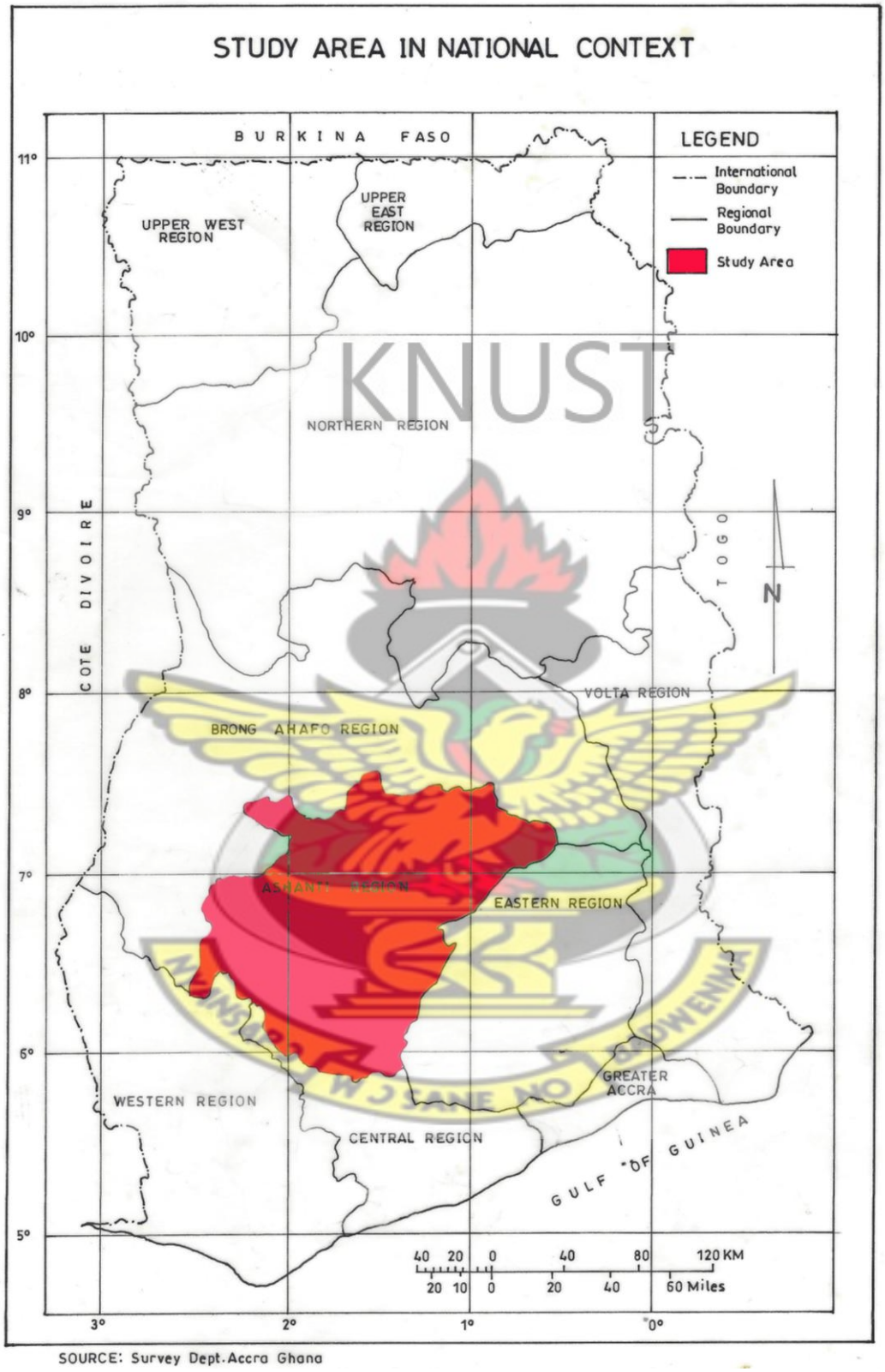
SECTION A: KUMASI METROPOLIS

3.2 PHYSICAL CHARACTERISTICS AND NATURAL ENVIRONMENT

3.2.1 Location and size

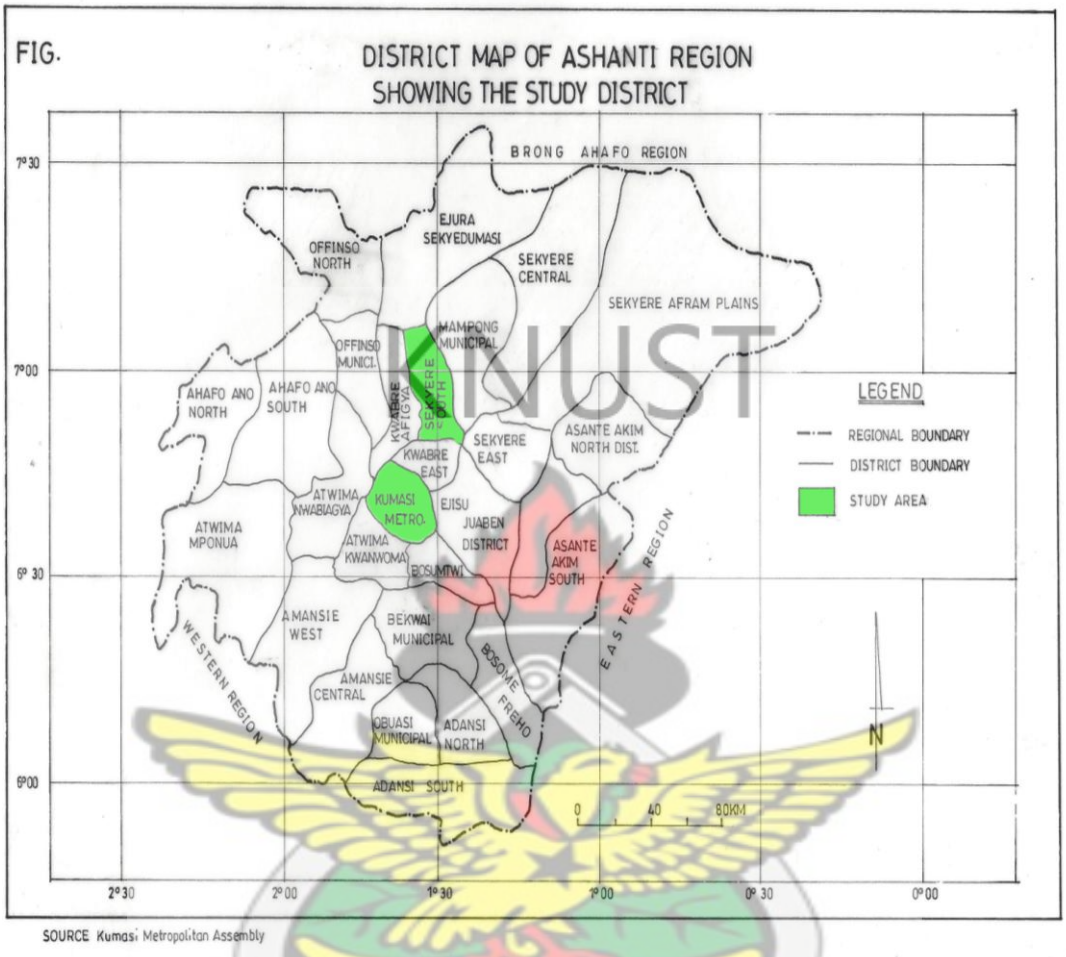
Kumasi is located in the transitional forest zone, about 270km north of the national capital, Accra. It covers a total land area of 254Km^2, stretching between latitude 6.35^{o}N – 6.40^{o}N and longitude 1.30^{o}W – 1.35^{o}W, an elevation which ranges between 250 – 300 metres above sea level. Kumasi Metropolitan area is bordered by five districts namely Kwabre East to the north, Atwima Nwabiagya to the west, Atwima Kwanwoma to the south west, and Ejisu-Juaben to the east and Bosomtwe to the south (see Map. 3.2) (KMA, 2011).

Map 3.1 Location of Ashanti Region in the National Context



Source: Survey Department, Accra, Ghana, 2014.

Map 3.2 Locations of Kumasi Metropolis and Sekyere South District in the Regional Context



Source: Kumasi Metropolitan Assembly, 2014

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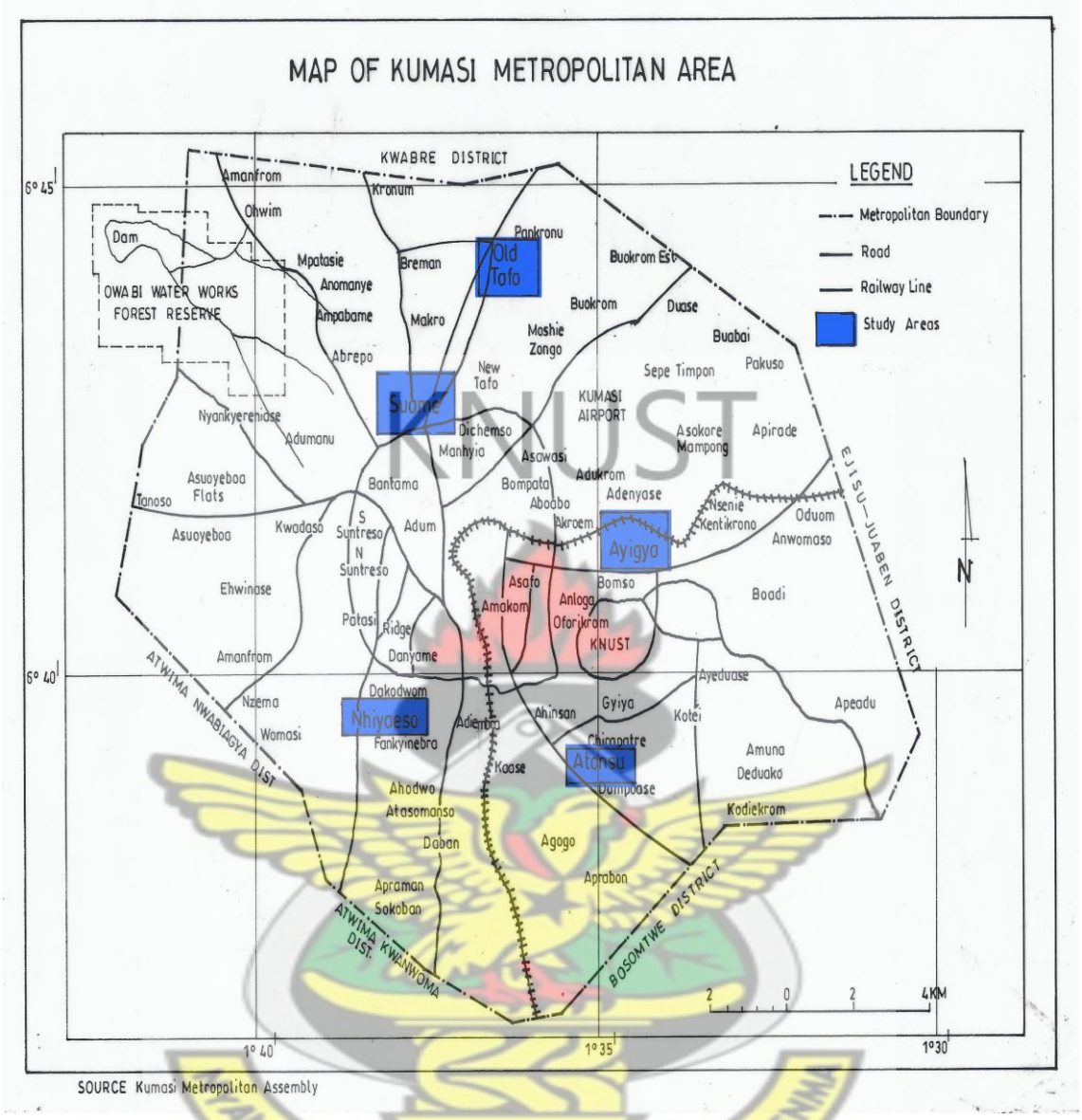
Map 3.3 Map of the Kumasi Metropolitan Area Showing Study Settlements



Source: Kumasi Metropolitan Assembly, 2014.

These districts are agrarian, hence, they serve as bread basket for the Metropolis. They also play important role in housing approximately 400,000 of the active labour force that provide diverse services in the Metropolis. The Metropolis on the other hand provides these districts with lucrative platform to market and sell their produce which contributes to revenue generation to these districts and Kumasi alike. The unique centrality of Kumasi as a traversing point from all parts of the country also makes it a special enclave

for many to migrate to. This central function of Kumasi has the potential of attracting trade and commerce from all parts of the country. Administratively, Kumasi Metropolitan Assembly governs the Metropolis and it is divided into 10 sub-metropolitan areas for effective administration. These sub-metropolitan areas are Bantama, Suame, Manhyia, Tafo, Kwadaso, Nhyiaeso, Subin, Asokwa, Asawase, and Oforikrom (KMA, 2011).

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3.2.2 Geology, soil and minerals

Kumasi has an undulating topography and it lies on a watershed approximately 282 meters high (Gyasi et al, 1995). Kumasi is dominated by the Middle Precambrian Rock. The unique nature of this geological structure has reflected positively on the local economy. It has created employment and generated revenue for some residents in the Metropolis. This is because the Precambrian Rock is a principal source of resource (gravels) for construction projects and activities in the Metropolis. This has resulted in the influx of Quarrying and Sand Winning Industries such as KAS at Buohu, Consar at Barekese and Sonitral at Abuakwa as well as the proliferation of small-scale stone quarry and sand winning activities. Even though these have created productive employment opportunities and revenue for sustainable livelihood, the uncontrolled extraction of these resources, especially by households for housing construction in the communities, has significantly altered the environment resulting in gully erosions and exposed foundation (KMA, 2011).

The major soil type in the Metropolis is Forest Ochrosol. The detailed soil associations include Kumasi-Offin compound Association; Bomso-Offin compound association; Nhyanao-Yinkong Association; Bomso-Suko Simple Association and Bekwai-

Akumadan-Oda compound association. Soils in some peri-urban areas are developed on Granites or Phyllites. Those developed on Granites are acidic whilst those on the Phyllites are less acidic. Soil classes found in the Kumasi metropolis include Haplic Acrisols, Eutric Gleysols, Gleyic Arenosols and Gleyic Cambisols. The most common soil group is Ferric Acrisols (Gyasi et al, 1995). It is estimated that about 80 percent of the arable lands have been displaced by the construction of houses and other physical infrastructure at the expense of possible employment and revenue to be generated from agricultural activities.

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3.2.3 Climate

The Kumasi metropolis falls within the wet sub equatorial climatic region and has an average minimum temperature of 21.5°C and an average maximum temperature of 30.7°C. The average humidity is about 84.16 percent at 0900 GMT and 60 percent at 1500 GMT. The moderate temperature and humidity coupled with the double maxima rainfall regime (214.3mm in June and 165.2mm in September) have directly affected the growth of the population and the environment. The first rainy season is from mid–March to early July whilst the second starts from late August to early October. The dry season is experienced from November to early March (Gyasi et al, 1995). Nevertheless, the failure to match increase in population with housing supply has resulted in excess demand for housing accommodation. This phenomenon has resulted in high cost of rental accommodation hence the emergence of slums in Metropolis which often serve as breeding grounds for deviant behaviour.

3.2.4 Relief and Drainage

Kumasi lies within the plateau of the South – West physical region which ranges from 250-300 meters above sea level. The topography is undulating. It is traversed by streams such as Subin, Wiwi, Sisai, Owabi, Aboabo and Nsuben. However, human activities such as estate development, encroachment and improper waste disposal management have impacted negatively on these water bodies and even threatened their extinction. Flow of excess water, after heavy down pour of rain, is another problem associated with choked water bodies. This phenomenon explains the cause of the flooding problems that confronts the Metropolitan Authorities every year during raining seasons since these water bodies spill over their boundaries.

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3.2.5 Vegetation

The city falls within the moist semi-deciduous South-East Ecological Zone (Gyasi et al, 1995). Predominant species of trees found are Ceiba, Triplochlon, Celtis with exotic species. In the wet season the vegetation is lush and the presence of rich soils coupled with adequate rainfall supports the growth of vegetables, plantain and tubers as cassava and cocoyam. The rich soil has promoted agriculture in the periphery. A patch of vegetation reserve within the city has led to the development of Kumasi Zoological Gardens and the KNUST botanical gardens. These forest conservations serve as tourist attraction centres. In addition to their scenic beauty as tourist centres, they also serve other objectives such as educational, preservation of wildlife, leisure and amusement. Apart from the zoological gardens, there are other patches of vegetative cover scattered at the peri-urban areas of the Metropolis. However, the rapid spate of urbanization and the impact of anthropogenic endeavours *viz*. indiscriminate tree felling for lumber have caused the depletion of most of the forest resources and reserves.

3.2.6 Demographic Characteristics

The Metropolis is the most populous district in the Ashanti Region; it accounts for almost a third of the region's population. The population has grown rapidly over the inter-censal periods from 346,336 to 487,504 and to 1,170,270 for 1970, 1984 and 2000 respectively. According to the 2010 Population and Housing Census Report, Kumasi accommodated a total of 2,035,064 people as of 2010, reflecting an inter-censal growth of 2.7 percent between 2000 and 2010 (GSS, 2012). Compared to the national and regional growth rate of 3.4 percent and 2.7 percent respectively, the Metropolis is growing at a faster rate indicating the attractiveness of Kumasi in the region due to certain pull factors (see Table 3.1).

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Table 3.1: Population of Kumasi (1948 – 2010)

Area/year	1948	1960	1970	1984	2000	2010
Kumasi	81,870	218,172	346,336	487,504	1,170,270	2,035,064
Ashanti	1,109,130	1,481,698	2,090,100	2,948,161	3,612,950	4,780380
Nation	-	9,726,320	9,632,000	12,296,081	18,912,079	24,658,823

Source: KMA, 2012.

The growth of the population in Kumasi has also influenced the population density in the Metropolis. Second to Accra Metropolis, Kumasi Metropolitan Area has a population density of 8012 persons/km^2. The Ashanti Region on the other hand recorded 148 persons/km^2 (GSS, 2012). The Kumasi metropolis is densely populated partly due to the reason that it has the second largest urban economy in Ghana attracting trade and commerce in industry, services and government administrative functions (KMA, 2011). The total number of houses was estimated in the year 2010 to be 67,434 with a total

number of 231, 653 households. The average household size was also recorded as 5.1 (GSS, 2012). This phenomenon partly explains the cause of traffic congestion in the Metropolis and the high cost of rental accommodation which has adversely affect residents' ability to save as a means of capital accumulation for sustainable productive employment creation. The large difference between the density of the Metropolis and the region indicates the rurality of the region.

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3.3. SOCIAL SERVICES

3.3.1 Health Services

The Metropolitan Health Services are organised around five (5) Sub-Metro Health Teams; namely, Bantama, Asokwa, Manhyia North, Manhyia South and Subin. The Metro Health Team is led by its Director of Health Services who has the overall responsibility for planning, monitoring and evaluating the performance of the Health Sector in the metropolis.

Kumasi has a number of health facilities in both the public and private sectors. Notable among them are the Komfo Anokye Teaching Hospital (KATH), which is one of the two (2) national autonomous hospitals, four (4) quasi health institutions, five (5) health care Centres owned by the Church of Christ and the Seventh-Day Adventist Church. In addition, there are over two hundred (200) known private health institutions and 13 industrial clinics in the metropolis. There are also 54 trained Traditional Birth Attendants (TBAs), nine (9) Maternal and Child Health (MCH) points and 119-outreach sites. These facilities are evenly distributed in space.

Aside these, there are uncountable number of traditional medical practitioners who offer their services to complement the existing modern health facilities. By the nature of their preparation and administration of health care, it is difficult to identify and locate these traditional healers and have any proper records of their activities. Their contribution to the general health care delivery to the people of Kumasi cannot be underestimated. Some notable ones are Angel Medical products, Adutwumwaa Bitters, Chocho Herbal products, Amen Scientific Herbal Hospital, and Adom Herbal Clinic at Kwadaso

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The health facilities offer various services including Out-Patient Department (OPD) attendance, immunization, obstetrics and gynaecological services, antenatal care, supervised deliveries, et cetera. In view of data constraints this report limited its analysis on Out-Patients Department attendance, maternal mortality ratio and supervised delivery.

Kumasi metropolis has a doctor to population ratio of 1:41,606. Compared to the doctor/population ratio of Ashanti Region and the nation (1:11,235 and 1:13,683 respectively) the metropolis is exerting extreme pressure on the medical doctors. This is a cause for concern since it adversely affects the productivity of medical doctors resulting in avoidable clinical accidents often leading to fatal accidents. Also, nurse to population ratio of 1:7866. Compared to the nurse/population ratio of Ashanti Region and the nation (1:2,465 and 1:1,451 respectively) the nurses employed by the health delivery centres in the Metropolis are overburdened. This high doctor to population ratio has been accounted for by the rapid growth of the Metropolis and the fast spate of brain drain in the medical field.

The NHIS was established under Act 650 of 2003 by the Government of Ghana to provide basic health care services to persons resident in the country through mutual and private health insurance schemes. Currently, Kumasi has four clusters of National Health Insurance centres. These areas are Asokwa, Bantama, Manhyia and Subin Sub-Metro mutual health insurance schemes. Collectively these sub-metros have registered 1,568,460 residents in Kumasi representing 81.9 percent of the population. This reflects the tremendous efforts invested in the mobilization of residents in Metropolis to get insured by the scheme. About 145 of health facilities in the Metropolis are accredited to provide health care services needed by their clientele.

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3.3.2 Education

Skilled labour is needed in all sectors of the economy to promote development. Many empirical studies have found a positive and statistically significant correlation between education and per capita growth of GDP. Kumasi has demonstrated the relevance of this finding with increased number of schools−of various levels−, teaching and non-teaching staff vis-à-vis the level of enrolment in school in the Metropolis.

The educational system in Kumasi comprises Basic School, Senior High School (SHS), Vocational and Technical School, College of Education and Polytechnics and Universities that train students for both academic and professional purposes. The Basic School consists of Pre-School, Primary School and Junior High School (JHS). To facilitate the services provided by these educational systems, the Metropolis has a total of 2,325 educational institutions supporting the provision of these services. Basic School constitute majority of these institutions. It is also important to recognise the significant role the private sector plays in ensuring quality and easy access to education in Kumasi.

This active involvement of players in the private sector in the provision of educational services has been attributed to the enabling environment created through the combined efforts of KMA and other relevant public institutions within the Metropolis. To assess the level of accessibility to education certain indicators are employed.

3.3.3 Water and Sanitation

Water is life. Without water, man's existence on the earth would be threatened and he would be driven close to extinction. All biological organisms depend on water to carry out complex biochemical processes which aid in the sustenance of life on earth. Access to safe drinking water and good sanitary conditions promote good health and a more productive workforce. Provision of treated water and proper sanitary infrastructure to the inhabitants of Kumasi is therefore a compelling civic responsibility that must be effectively and efficiently shouldered by the Metropolitan Authorities.

About 97 percent households in the Metropolis have access to various kinds of water facilities. These facilities include pipe–borne, tanker supply, well, borehole, spring/rain water, rivers/stream and dugout. Appreciable number of these households has pipe-borne water facility inside their houses. Pipe-borne water facility supply water to over 80% of the households in the Metropolis. Notwithstanding this fact, the supply of potable water by pipe-borne facilities is plagued with irregularity resulting in acute water shortage in the Metropolis. This has contributed to the increase in the number of households using water from well. Those without such facilities in their neighbourhood have to cover quite a distance to fetch water. This development has affected children and women.

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Kumasi has two main surface water treatment plants that supply treated water to the residents in the Metropolis. These plants are the Owabi head work, located 10km away from the CBD and Barekese head work, located 16km from the CBD. These head works serve the Metropolis and other surrounding communities. The Owabi head work is operating at full capacity whereas the Barekese head work has a potential for further expansion to increase production.

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3.3.4 Socio-cultural Characteristics

The dominance of Christians in the Metropolis is profound (78.8 %). Islam (16%) and Traditional (0.3%) religion are also fairly represented. Nevertheless, about 4.2 percent of the population does not associate with any of these religious organizations. This "non-religion" segment of the population has taken this stand due to the "religious hypocrisy" that have characterised many of the churches. Having over 90 percent of the population being Christians and Moslem highlights potential source of revenue generation for development projects in the Metropolis. This is because these religious organizations can be used as a tool for revenue generation as well as sensitization programmes for community development. Furthermore, their doctrine could be used as a tool for shaping the character and attitude of the youth to become responsible and productive labour force for national development and God fearing citizens in the future.

3.4 LOCAL ECONOMY

3.4.1 Trade/Commerce/Services

Majority (86%) of the active population in Kumasi are economically active. Trade/Commerce/Services are the economic backbone of Kumasi. Majority (72%) of the economically active labour force are employed in this sector. This sector has made

Kumasi a hub for commercial activities in the country. The activities carried out by players in this sector are wholesale and retail in nature. They cover all kinds of commodities ranging from food stuffs, clothing, building materials, office and educational stationeries to herbal and orthodox medicines.

The banking and insurance sector coupled with other relevant institutions have contributed immensely in creating conducive environment for smooth running of business transactions in Kumasi. Such relevant institutions comprise professionals in Planning, Medicine, Engineering, Teaching and Law Practice, Telecommunications Company, Transport Sector, Hotels, Restaurants and Traditional caterers (chop bars), hairdressers and dressmakers/tailors.

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3.4.2 Industrial sector

Kumasi is a hub for scattered pockets of industrial activities in the country. Notable among them are the agglomerated small-scale mechanical garages, wood processing companies and food processing companies as well as construction firms. This sector has contributed quiet significantly to productive employment creation (23%) and revenue generation. Suame Magazine (the biggest mechanical garage in West Africa) and Asafo mechanical garages have impacted positively on productive employment creation and revenue generation in Kumasi.

Other industrial centres that have contributed immensely to job creation and sustainable source of income for a section of the active labour force in the Metropolis are the beverage processing industries. Notable among them are the Guinness Ghana Brewery Limited (GGBL) and the Coca Cola Bottling Company. The GGBL produces both

alcoholic and non-alcoholic beverages ranging from Guinness to Star Club, Gulder and Malta Guinness etc. while the Coca Cola Bottling Company produces only non-alcoholic beverages such as Fanta, Coka Cola, Sprite, etc. These companies are clustered at the Asokwa-Ahinsan-Kaase stretch hence have become industrial hub for large-scale industries. In addition to these large scale companies are micro, small and medium – scale enterprises that produces fruit juice and fresh yoghurt among others. Timber processing firms and plywood manufacturing companies located along the Asokwa-Ahinsan-Kaase stretch are other industrial centres that have significantly contributed to sustainable livelihood in Kumasi by providing productive employment and revenue. The semi-finished products of these companies are exported to the international market to generate foreign exchange as well as sold to domestic furniture workers to create jobs.

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3.4.3 Agricultural Sector

Agriculture in Kumasi consists of farming, aquaculture, horticulture and some animal rearing. Farming is limited to small scale staple crops production including maize, plantain, cocoyam, cassava and traditional (tomatoes, pepper, et cetera) and exotic (carrots, cabbage, et cetera) vegetables in the peri-urban areas. In terms of food crops it is a net importer. Most of the foodstuffs are brought in from the adjoining districts as well as distant areas such as Techiman, Nkoranza and Ejura. There are small scale agro-processing centres where pork, chicken and beef are processed into standard sausages, bacon, etc. Plantain chips, cassava flour and gari are processed as well as local milk is processed into yoghurt and milk drink. The rapid rate of urbanization in Kumasi has denied agricultural activity the land needed to sustain its practice. Currently, it is estimated that 80 percent of the arable land has been lost to residential development. Notwithstanding, the metropolis has 12,000 hectares of irrigable lands consisting of

swampy and marshy areas. Only 5 percent of the active labour force is engaged in agricultural activities and even on a subsistence scale.

SECTION B: SEKYERE SOUTH DISTRICT

3.5 PHYSICAL CHARACTERISTICS

3.5.1 The Size and Location

The Sekyere South District is one of the 27 administrative districts in the Ashanti Region of Ghana. The District spans a total area of 520km^2 and forms approximately 3.27 percent of the total landmass of the region of Ashanti. It is located in the northern - eastern portion of Ashanti Region and shares boundaries with Ejura-Sekyedumase to the North, Mampong Municipal to the East, Sekyere East and Kwabre to the south and Offinso Municipal to the West. Specifically, the district lies between latitudes 6^0 50'N and 7^0 10'N and longitudes 1^0 40'W and 1^0 25'W.

3.5.2 Weather and Climate

The District experiences the equatorial climate type with double rainfall maxima regime (SSDA, 2009). The major rainy seasons occur between March and July whilst the minor season takes place between September and November. The mean annual rainfall ranges between 855mm and 1,500mm. The dry season however occurs from December to February when little or no rainfall is recorded (SSDA, 2009). The onset of the rains is usually characterized by storms and is very torrential which brings about destruction of some crops. This usually causes food shortage and therefore high food stuff prices. Temperatures are generally high all the year round especially during the dry periods. The mean monthly temperature stands about 27^0C. The relative humidity is also high particularly in the dry season with an average of 80 - 85 percent (SSDA, 2009).

3.5.3 Vegetation and Soils

The vegetation type of the District is the moist-semi-deciduous forest. The rain forest abounds in different species of plants and tropical woods of high economic value. The major tree species are Wawa, Odum, Sapele and Mahogany. There are two forest reserves in the district namely, the Offin Forest Reserve and Gye Anoma Forest Reserve. The soils in the district are generally well drained, deep, and light in colour, well-aerated and rich in organic matter and plant nutrients (SSDA, 2009). They are easy to till and hence favour the cultivation of root and tuber crops. Cereals and vegetables also thrive very well. Farming is therefore the major occupation in the district (SSDA, 2009). The condition also serves as a pull factor in attracting the prospective and potential farmers mostly from the northern portion of Ghana to settle and work in the district. In contrast, human activities such as bush burning, deforestation and overgrazing have adversely affected the vegetation and soil fertility, leading to poor agricultural yields. It also makes the farming costly to undertake as farmers are forced to apply artificial fertilizers to the crops before harvesting. This situation further puts the farmers into poverty. As a result, most of them cannot afford the biometric medicine and therefore resort to the TRM.

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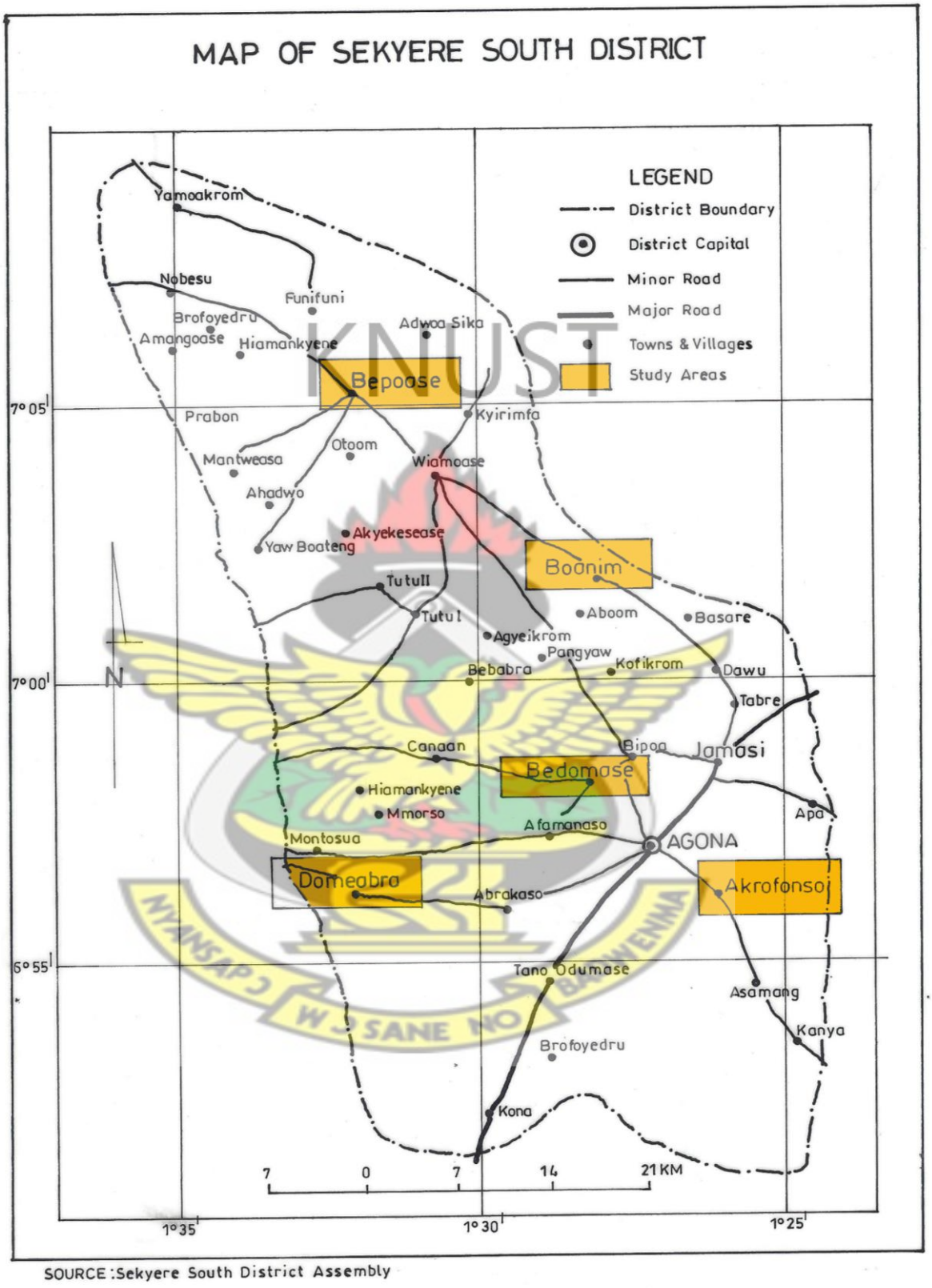
3.5.4 Geology, Relief and Drainage

The Voltaian and the Dahomeyan are the two common geological formations in the district. The rock type is of Upper Voltaian series, which consists mainly of sandstones, and Precambrian Upper Birimian rock series, which consists mainly of shale and mudstone (SSDA, 2009). Greater part of the district fall within a dissected plateau with heights reaching 800m to 1,200m above the sea level. This forms part of the Mampong-Gambaga scarp within which many streams drain and take their sources.

Map 3.4 Map of the Sekyere South District Showing Study Settlements



Source: Sekyere South District Assembly, 2014.

3.6 SOCIO-ECONOMIC CHARACTERISTICS

3.6.1 Demographic characteristics

According to the 2000 National Population and Housing Census, the population of the District was 119,093 people. This represents about 3.3 percent of the total population in the Ashanti Region at the time. The figure stood at about 106,351 in 2009 with the current growth rate of 3.1 percent per annum. The population is made up of 35.6 percent urban and 64.4 percent rural. The sex structure of the District's population indicates 48.3 percent males and 51.7 percent female. This situation indicates the need for effective policies towards the improvement of females in the District. The age structure of the District's population depicts that of a typical developing economy. The broad age structure shows 46.07 percent for the 0-14 age group, 48.03 percent for 15-64 and 6.00% for 65 and above age cohort of the population. Table 3.2 shows the age and sex structure (Percent) of the population of the District.

Table 3.2 Age and Sex Structure (%) of the Population, SSD, 2010

Age/ Sex	Male (%)	Female (%)	Total (%)
0-14	23.50	22.57	46.07
15-65	21.30	26.37	48.03
65+	3.00	3.00	6.00
Total (%)	47.80	52.20	100

Source: Sekyere South District Assembly (2011)

3.6.2 Population Distribution

The people in the District are found in over 75 communities and hamlets. The most populous town in the District is Wiamoase with a population of about 11,000 people (Population and Housing Census, 2000). The District's population distribution is directed positively towards the Eastern Constituency of the District. This is chiefly as a result of

the availability of services and easy access to marketing centres in these parts of the district. The towns involved are Agona, Jamasi, Asamang, Kona, Tano Odumase and Wiamoase. The spate of physical development around the District capital (Agona) has also attracted a lot of people.

3.6.3 Education

In terms of education, the district has been divided into 7 circuits. The district has a total of 66 nursery/KG schools with an enrolment of 11,353; 62 primary schools with an enrolment of 21,983; 48 JHS with 10,620 students; and 5 SHS with 7,163 students. There are also a total of 1,571 teachers in the district (GES, 2009). Most of the JHS and all the SHS are located in the major settlements in the district thereby making accessibility to higher education a problem for the rural population. The literacy rate in the district is very low, only about 42 percent (SSDA, 2009). This situation leads to the problem of ignorance and misconception about the orthodox medicine as many people rely entirely on the TRM for their health care needs.

3.6.4 Ethnic and Religious Composition of the District

The people in this district are mainly Twi speaking Asantes; other ethnic groups from all parts of Ghana and some African nationals from the West African Sub-Region are in the District. The people of the District are mostly segmented into three religious groups, namely, Christians (66.8%), Muslims (17.9%) and traditional Believers (8.5%). A few people (6.8%) of the population do not belong to any of the three religious denominations (District Planning Coordinating Unit, Sekyere South District, 2010).

3.6.5 Employment and Economic Activities

The predominant economic activities in the district are farming and trading. Farming employs 63.2 percent of the workforce (SSDA, 2009). The major crops produced are plantain, cassava, maize, vegetables, and cocoa. It is mainly practised on subsistent levels with simple and crude farm implements. The high cost of land preparation is their major setbacks. Heavy dependence on weather, lack of agro-processing industries, lack of storage facilities vis-à-vis poor selling prices for farm produce bring in low returns for farmers. They are therefore poor and patronize the TRM accordingly. Trading also takes 36.8 percent (i.e. industry; 14.4% and services; 22.4%) of the population (SSDA, 2009).

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3.6.6 Heath Care Services

Health care prevision in the district is led by the Director of Health Directorate who has the overall responsibility for planning, monitoring and evaluating the performance of the Health Sector in the district. Sekyere South District has 9 health care facilities of which 5 are government and 4 belong to mission. Table 3.3 shows the distribution and ownership of health facilities of the District. The district has a total of 151 staff. Out of this number, there are 3 doctors, 8 medical assistants, 2 public health nurses and 13 midwives. This is shown in Table 3.4.

Table 3.3 Distribution of Health care Facilities in the District, 2010

Ownership	Hospital	Health Centre	Maternity	Total
Government	Agona	Kona, Jamasi, Boanim, Salvation Army -Wiamoase, SDA -Wiamoase, Sacred Heart – Bepoase	Domeabra	5
Mission Facility	SDA Hospital Asamang	-	-	4
Total	2	6	1	9

Source: Sekyere South District Health Administration (2010).

Table 3.4 The Staffing of OMPs in the Sekyere South District, 2010

Staffing	Number at Post
Doctors	3
Medical Assistants	8
Pharmacists	2
Public Health Nurses	2
Midwives	13
Health Assistants	3

Source: Sekyere South District Health Administration (2010).

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The health facilities offer various services including OPD attendance, immunization, obstetrics and gynecological services, antenatal care, supervised deliveries, et cetera. In view of data constraints this report limited its analysis on Out-Patients Department attendance, maternal mortality ratio and supervised delivery. The NHIS is in vogue providing basic health care services to persons who resident in the district through mutual and private health insurance schemes. The top ten (10) common diseases in the Sekyere South District in 2012/2013 are malaria, RTI, Home/Occupational Accidents, Hypertension, Skin Diseases, Diarrhoea, Acute Eye Infection, UTI, Rheumatic/ Joint Pains and Intestinal Worms as depicted by Table 3.5.

Table 3.5 Top Ten (10) Morbidity Trends, SSD, 2010

Disease	2012 (%)	2013 (%)
Malaria	65	61.7
RTI	8.0	12.2
Home/Occupational Accidents	4.0	5.7
Hypertension	4.0	3.2
Skin Diseases	4.0	3.0
Diarrhoea	4.0	3.0
Acute Eye Infections	3.0	2.8
UTI	3.0	2.4
Rheumatism	3.0	2.2
Intestinal Worms	2.0	1.9
Total	100	100

Source: Sekyere South District Health Administration (2010

Traditional health care practice as an informal institution is also predominant in the district. Practitioners of various forms offer various services to complement the existing modern health facilities. By the nature of their preparation and administration of health care, it is difficult to identify and locate these traditional healers and have any proper records of their activities. Their contribution to the general health care delivery to the inhabitants cannot be underestimated. The health sector in the district is plagued with a number of problems; notably, inadequate health infrastructure, poor maintenance of health care building, inadequate accommodation for health personnel, inadequate means of transport, high cost of drugs, inadequate staffing in the district health centres have drastically reduced the efficiency of the health care delivery system in the district (Sekyere South District Assembly, 2013). Further, poor road network in the district has made accessibility to the health facilities by the majority of the people very difficult, thus reducing health care coverage in the district (Sekyere South District, Ghana Health Service, 2013).

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CHAPTER FOUR

FACTORS INFLUENCING UTILISATION OF TRADITIONAL MEDICINE

4.1 Introduction

The study aimed at examining the nature of TRM utilisation and predictors associated with it in rural and urban communities in the study areas. It also analysed the differences in the use of TRM between rural and urban communities in Ashanti Region. The study further sought to investigate the impact of health insurance status on the pattern of use of TRM in the study areas. Finally, attitudes and perceptions towards full integration of TRM into the mainstream national health care system in Ghana was explored and analysed. It is believed that a critical understanding of why individuals and families utilise TRM is indeed a cornerstone to enabling policy makers and educators to proceed from a more informed orientation in terms of policy design and implementation on TRM. This would allow successful execution of health programmes and initiatives aimed at ameliorating the practice and use of TRM in the country.

This chapter is devoted to the analysis of data obtained from interviews and questionnaire administration as well as the presentation of the study findings. It consists of five sections and each of which encompasses sub-concepts as to how the set objectives of the study were met.

It further gives a brief discussion of the data presented and the findings so divulged by answering the study research questions.

4.2 Background Characteristics of the Study Sample

Table 4.1 presents summary of the demographic, socio-economic and clinical characteristics of the 324 respondents with respect to sex, age, marital status, educational status, employment, household income, perceived health status as well as national health insurance status. Forty percent of the respondents were males whilst 60 percent constituted females. The proportion of respondents aged 20-39 years in the sample was 49 percent whereas those aged 50 years or more was 29 percent. This trend rebuts the perception that traditional medical care is synonymous to the aged. Respondents from the Akan ethnic group were the most predominant amongst others, constituting 78 percent whilst 22 percent comprised Ewe, Ga-Dangme, Mole-Dagbani and Guans. This trend is not surprising because the study area is typically the home of the Akan ethnic group.

In terms of religion, those who professed Christian faith dominated (81%) followed by Islam (12.0 %). This trend indicates that Christianity is ubiquitous in the study area which supports the nationwide estimates of 71.2 percent and 17.6 percent for Christianity and Islam respectively (GSS, 2012). About half of the respondents (48%) had attained up to Junior High School education, while 12 percent had attained tertiary educational status, *inter alia* University, Polytechnic, Colleges of Education and Nurses' Training College. This is consistent with the general trend of educational attainment in Ghana (GSS, 2012). Some highly educated people preferred and patronised traditional healing. This result does not deviate much from the results from other studies in Ghana (GSS, 2012; Buor, 1993).

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Table 4.1 Background Characteristics of Study Participants

Characteristics	Sub-category	Frequency (N)	Per cent (%)
Age	< 20	9	2.8%
	20 - 29	83	25.9%
	30 - 39	74	23.8%
	40 - 49	58	18.2%
	50 - 59	46	14.2%
	60 and above	49	15.1%
Sex	Male	130	40.1%
	Female	194	59.9%
Residential Status	Urban (Kumasi Metropolis)	162	50.0%
	Rural (Sekyere South District)	162	50.0%
Marital Status	Single/Widowed/Widower/Divorced	123	38.0%
	Married/Cohabitated	201	62.0%
Educational Status	Never-been-to-school	53	16.4%
	Basic Education	154	47.5%
	Secondary	79	24.4%
	Tertiary	38	11.7%
Partner's Educational Status	Never-been-to-school	35	15.0%
	Basic Education	100	42.9%
	Secondary	73	31.3%
	Tertiary	25	10.7%
Religious Background	African Traditional Religion	8	2.5%
	Christianity	264	81.5%
	Islamic	39	12.0%
	Other	13	4.0%
Employment Status	Employed	276	86.5%
	Unemployed	43	13.5%
Main Occupation	Trading	112	34.6%
	Farming	52	16.0%
	Public service	43	13.3%
	Artisan	61	18.8%
	Schooling	13	4.0%
	Others	43	13.3%
Working Experience	1 - 5 years	97	34.2%
	6 - 10 years	65	22.9%
	11 – 15 years	48	16.9%
	16 - 20 years	33	11.6%
	21 and above	41	14.4%

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Ethnicity	Akan	253	78.1%
	Ewe	17	5.2%
	Ga-Dangme	19	5.9%
	Mole-Dagbani	23	7.1%
	Guan	7	2.2%
	Gurma	5	1.5%
Household Size	< 3	96	30.9%
	4 - 6	135	41.7%
	7 - 10	67	20.7%
	11 - 15	12	3.7%
	16 - 19	3	0.9%
	20 and above	7	2.2%
Household Monthly Income	≤ 100	76	34.4%
	101 - 300	80	36.2%
	301 - 500	40	18.1%
	501 - 1000	25	11.3%
	1001 and above	0	2.8%
Perceived health status	Poor	17	5.3%
	Satisfactory	54	16.8%
	Good	143	44.4%
	Very Good	108	33.5%
Chronic disease	Yes	94	29.9%
	No	177	56.4%
	Don't Know	43	13.7%
Insurance status	Yes	232	71.6%
	No	92	28.4%

Source: Field Survey, 2013

Income distribution revealed that 70 percent of the respondents received monthly incomes of less than GH¢300 ($97.01)[11], while only about 11 percent had monthly incomes of up to GH¢500 ($161.68). Sixty-two percent of the respondents were either married or cohabitant and were living with their nuclear family members. Majority (82%) of the singles had never married. A total of 15 percent was widowed and only 3 percent were divorced or separated. In general, a picture painted by the socio-economic

[11] The exchange rate between Ghana Cedis (GH¢) and United States Dollars ($) with the rate of 3.1 as of the time of data analysis (March-June, 2014)

characteristics of the study participants reveals that both income and educational status were low in the study districts and this supports the nationwide estimates that most people find themselves in the lower socio-economic class (GSS, 2012). While the majority of the respondents perceived their health status as "Good" (44.4%), have no chronic diseases (56.4%) and ensured (71.6%), the differences between the TRM users and non-users were not statistically significant (see Table 4.2).

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4.3. Nature of Traditional Medicines (TRM) Utilisation

The first research question was loaded and embedded with addressable topical issues. To be able to present each idea broadly and independently, the analyses and presentations were organised and structured in four different phases. This included prevalence and pattern of TRM utilisation, knowledge/sources and forms of TRM utilised, motivation for TRM utilisation and concomitant use of TRM with conventional therapies.

4.3.1 Prevalence and Pattern of Traditional Medicines Utilisation

Before the arrival of modern medicine, TRM was the dominant medical system accessible not only to the local people studied but across the nation. In Ghana, TMPs are important figures that normally occupy a pivotal position in the community's knowledge of medicine and disease management. To accomplish the first objective of the study, information was sourced from study participants regarding the pattern of TRM utilisation in the study area.

Table 4.2 Background Characteristics and Use of Traditional Medicines

Variables		Total Number of Respondents, N (%) 324(100.0)		Traditional Medicine Utilisation Status				*p value*
				TRM Users n(%) 279(86.1)		Non-TRM Users n(%) 45(13.9)		
Age	< 20	9	(2.8)	9	(3.2)	0	(.0)	0.600
	20 - 29	84	(25.9)	74	(26.5)	10	(22.2)	
	30 - 39	77	(23.8)	65	(23.3)	12	(26.7)	
	40 - 49	59	(18.2)	48	(17.2)	11	(24.4)	
	50 - 59	46	(14.2)	39	(14.0)	7	(15.6)	
	60 and above	49	(15.1)	44	(15.8)	5	(11.1)	
Sex	Male	130	(40.1)	110	(39.4)	20	(44.4)	0.518 [a]
	Female	194	(59.9)	169	(60.6)	25	(55.6)	
Residential Status	Urban	162	(50.0)	138	(49.5)	24	(53.3)	0.630
	Rural	162	(50.0)	141	(50.5)	21	(46.7)	
Marital Status	Single/Widow/ Divorced	123	(38.0)	106	(38.0)	17	(37.8)	0.978
	Married/Cohabitant	201	(62.0)	173	(62.0)	28	(62.2)	
Educational Status	Never-been-to-school	53	(16.4)	48	(17.2)	5	(11.1)	0.388 [a]
	Basic Education	154	(47.5)	135	(48.4)	19	(42.2)	
	Secondary	79	(24.4)	64	(22.9)	15	(33.3)	
	Tertiary	38	(11.7)	32	(11.5)	6	(13.3)	
	Never-been-to-school	35	(15.0)	33	(16.1)	2	(7.1)	0.544
	Basic Education	100	(42.9)	86	(42.0)	14	(50.0)	
	Secondary	73	(31.3)	65	(31.7)	8	(28.6)	
	Tertiary	25	(10.7)	21	(10.2)	4	(14.3)	
Religious Background	ATR	8	(2.5)	8	(2.9)	0	(.0)	0.218 [a]
	Christianity	264	(81.5)	228	(81.7)	36	(80.0)	
	Islamic	39	(12.0)	34	(12.2)	5	(11.1)	
	Other	13	(4.0)	9	(3.2)	4	(8.9)	
Employment Status	Employed	276	(86.5)	239	(86.6)	37	(86.0)	0.922
	Unemployed	43	(13.3)	37	(13.3)	6	(13.3)	
Main Occupation	Trading	112	(34.6)	92	(33.0)	20	(44.4)	0.178
	Farming	52	(16.0)	43	(15.4)	9	(20.0)	
	Government	43	(13.3)	41	(14.7)	2	(4.4)	
	Artisan	61	(18.8)	56	(20.1)	5	(11.1)	
	Schooling	13	(4.0)	10	(3.6)	3	(6.7)	
	Others	43	(13.3)	37	(13.3)	6	(13.3)	
Working Experience	1 - 5 Years	97	(34.2)	85	(34.6)	12	(31.6)	0.611
	6 - 10 Years	65	(22.9)	53	(21.5)	12	(31.6)	
	11 – 15 Years	48	(16.9)	44	(17.9)	4	(10.5)	
	16 - 20 Years	33	(11.6)	29	(11.8)	4	(10.5)	
	21+ Years	41	(14.4)	35	(14.2)	6	(15.8)	

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Tribe/ Ethnicity	Akan	253	(78.1)	219	(78.5)	34	(75.6)	0.789 [a]
	Ewe	17	(5.2)	14	(5.0)	3	(6.7)	
	Ga-Dangme	19	(5.9)	17	(6.1)	2	(4.4)	
	Mole-Dagbani	23	(7.1)	18	(6.5)	5	(11.1)	
	Guan	7	(2.2)	6	(2.2)	1	(2.2)	
	Gurma	5	(1.5)	5	(1.8)	0	(.0)	
Household Size	≤ 3	100	(30.9)	91	(32.6)	9	(20.0)	0.000* [a]
	4 - 6	135	(41.7)	119	(42.7)	16	(35.6)	
	7 - 10	67	(20.7)	52	(18.6)	15	(33.3)	
	11 - 15	12	(3.7)	10	(3.6)	2	(4.4)	
	16 - 19	3	(.9)	0	(.0)	3	(6.7)	
	20 and above	7	(2.2)	7	(2.5)	0	(.0)	
Household Monthly Income	≤100	76	(34.4)	64	(33.3)	12	(41.4)	0.409[a]
	101 - 300	80	(36.2)	68	(35.4)	12	(41.4)	
	301 - 500	40	(18.1)	36	(18.8)	4	(13.8)	
	501 - 1000	25	(11.3)	24	(12.5)	1	(3.4)	
	1001 and above	0	(.0)	0	(.0)	0	(.0)	

* The Chi-square statistic is significant at the 0.05 level.
[a] Results are based on Fisher's exact test
Source: Field Survey, 2013.

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Contemporary documented evidence suggests that TRM use is common amongst individuals with various medical and spiritual conditions (Awad and Al-Shaye, 2014; Hwang et al, 2014; Kretchy et al, 2014; Faith et al, 2013; Gyasi et al, 2013). Respondents were asked to recall any use of TRM and/or access to the services of TMP within the last 12 months prior to the survey. Table 4.2 presents the demographic and socio-economic characteristics, prevalence and pattern of use of TRM. A total of 86.1 percent of the respondents reported to have used one or more different types of TRM.

This finding has shown a higher prevalence of TRM use amongst respondents (86.1%) than 62 percent score reported in South Korea (Hwang et al, 2014), 51.3 percent among HIV patients in South Africa (Peltzer et al, 2008) and 31 percent among Finnish parents in Finland (Hameen-Anttila et al, 2011). It is worthy of noting that the difference in

TRM utilisation between the current and the previous studies may be subject to differences in research design, methods of data collection, characteristics of respondents, response rates, the study setting, the operational definition of what constitutes a TRM and the period of TRM use preceding field work. For example, Hameen-Anttila et al (2011) studied prevalence of CAM use in two days preceding the survey. This trend is however akin to results from various studies in Africa including the rate of 84.7 percent reported by Onyiapat et al (2011) in Enugu, Nigeria and the 80 percent rate observed in Morocco (Eddouks et al, 2002). The results of the Fisher's exact test identified household size, among other demographic and socio-economic variables, to be associated with the use of TRM (df = 5; $p = 0.000$; FET).

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Table 4.3 Distribution of TRM Utilisation and its Association with Sex of Respondents

		Sex		
		Male	Female	*p*-value
		Frequency (%)	Frequency (%)	
TRM	No Utilisation	20 (15.4%)	25 (12.9%)	0.518[a]
	Utilisation	110 (84.6%)	169 (87.1%)	

[a] The p-value is based on Fisher's exact test

Source: Field Survey, 2013

When examined separately by sex, it was found that although TRM was highly patronised by both males and females, the prevalence of TRM utilisation varied from male to female in the study areas. Table 4.3 presents the distribution of TRM use by sex of the respondents. More females (87.1%) than males (84.6%) were found to have utilised TRM. This difference may be as a result of the fragility and relapsing reproductive functions and other health-related challenges of females (Buor, 2008a; Ahmed et al, 1999). In pregnancy for example, use of herbal products and other

traditional medical therapies even upsurge. TRM is commonly used in pregnancy for nausea, vomiting, anxiety, stress, depression, backache, labour induction, headaches, migraine, urinary tract problems, cough/cold and indigestion (Gaffney and Smith, 2004). This is because most women perceive TRM to be more natural and therefore safe in pregnancy and child birth. Personal beliefs have also been cited time and again as reasons for females' TRM use (Stock, 1985; Lasker, 1981).

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A non-parametric Fisher's exact test of difference was performed to determine the association between sex and use of TRM (see Table 4.3). The results showed no statistical significant association between sex and TRM utilisation (p = 0.518; FET). Although more females than males access TRM, the difference is not enough to be generalised among the population and to make any meaningful predictions. This has validated the hypothesis that there is no significant difference between males and females in the use of TRM. This finding is congruent with previous studies reporting no relationship between sex and TRM utilisation (Hughes et al, 2013; Aydin et al, 2008; Lim et al, 2005). It is however inconsistent with other studies (Chuma et al, 2012; Osamor and Owumi, 2010; Bishop and Lewith, 2010; Dog, 2009; Shih et al, 2009; Wahlstrom et al, 2008; Ni et al, 2002; Al-Windi et al, 2000; Ernst and White, 2000) which report differences in use of TRM between males and females.

Study participants were again asked to indicate the number of times they use TRM 12 months prior to the survey (see Table 4.4 and Figure 4.1). About 18.0 percent of the respondents mentioned they had used TRM at least once during the period. While the majority (68.2%) had used TRM and/or accessed the services of TMPs for two or more

times, about 14.0 percent noted they had never used traditional treatments altogether. This provides ample evidence that TRM is frequently used in the study area.

Table 4.4: Forms, Sources and Pattern of Traditional Medicine Utilisation

Category	Frequency (N = 279)	Per cent (%)	P-value
*Forms of traditional medicine accessed***			
Spiritual therapy	71	25.4	0.125[a]
Biologically-based therapy	247	88.5	
Faith healing	163	58.4	
Body-mind therapy	86	30.8	
Others interventions	21	7.5	
*Sources of Traditional Medical Products***			
Self-application	232	71.6	0.004*
Buy from Pharmacy/ Chemical Shops	186	57.4	
Open Markets/Drug Peddlers/Buses	128	39.5	
Consult TMP	96	29.6	
Hospital/Clinic/Health Centre	22	6.8	
How many times have you used TRM			
None	45	13.9	<0.001*
Once	58	17.9	
2 times	86	26.5	
3+ Times	135	41.7	

**Multiple responses were allowed; therefore, sum of percentages is over 100 percent.
* The Chi-square statistic is significant at the 0.05 level.
[a] Results are based on Fisher's exact test
Source: Field Survey, 2013.

The respondents were asked about the forms, sources and the frequency of TRM/THs use (see Table 4.4). On a multiple response scale, it was found that about nine in ten of the respondents used biologically-based products and therapies, 54.4 percent used prayer and distant healing interventions and about one out of four of the respondents reported use of divination and other spiritual therapies. With regard to sources of TRM, it was found that nearly 72 percent of the respondents resorted to self-prepared and self-applied methods. This modality was common among the respondents because various known

herbs and medicinal substances were easily obtained from within the immediate compounds and backyards of the respondents. Other important sources of TRM included pharmacy/ chemical shops (57.4%), drug peddlers or open markets (39.5%), consultation with TMPs (29.6%) and less importantly, conventional health care facilities (6.8%).

Most respondents were abreast with certain TRMs especially herbal products noted for the treatment of specific spiritual and medical conditions and applied them personally when they experienced illness spells or when any of the family members suffered from the ordeal. The medicinal products were normally obtained from backyards or neighborhood, farms within and around the community. This signifies that most users were knowledgeable about herbal medical practice handed down from older generations through informal training, folklores and verbal communications. Others, on the other hand, acquire their capabilities of traditional medical practice through dreams and sometimes, supernatural forces (Mafimisebi and Oguntade, 2010; Okunlola, 2007; Mafimisebi and Fakoya, 2007; Twumasi, 1975). This practice could fuel the incidence of indiscriminate self-medication with non-prescription with its concomitant two-way—positive and negative— impacts.

Also, nearly 30 percent obtained TRM from TMP consultations, 57.4 percent from chemical shops, 39.5 percent purchased TRM from open markets particularly from vendors in the street and buses whilst only 6.8 percent of the study participants obtained TRM from health care facilities. These differences were statistically significant [χ^2 (3, N = 279) = 13.247, p = 0.004]. This is subject to the fact that only four hospitals in the Ashanti Region have recently commenced the operation of herbal medical units as part of their general practice where patients who visit the facilities are dispensed with herbal

medicines. The biologically-based medicines accessed from the health facilities are not covered with the NHIS. Patients therefore offered full cost recovery if they opted for such medicines. These have insinuations on the relatively lower fraction of the respondents who accessed TRM from health facilities. Moreover, the trend shows that the importance of TMPs is deteriorating. This has a connotation with extermination of the medicinal plants for treating various diseases. Further, the traditional medical practice is gradually becoming unattractive especially to the youth since the THs do not receive much from the venture to help fortify their economic status.

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In support with other studies (van Andel and Carvalheiro, 2013; Peltzer et al, 2008) the management of diseases in many households usually begins at home (outside health care facility) usually with TRM. These medicines were obtained from such various sources as THs (faith healers, herbalists, bone setters, traditional birth attendants, spiritualist, etc), self-preparation, health centres, pharmacy shops, etc. In most cases, the services of conventional medical experts are sought only when complications befall.

When asked about the forms of TRM accessed, almost 9 out of 10 of the respondents mentioned biologically-based products based on multiple responses. Whilst 58.4 percent accessed faith/prayer healing, 24 percent resorted to spiritual interventions (see Table 4.4). It is important to notice this finding. Herbal medicines use is widespread since it could be obtained from unlimited sources such as TMPs, open markets, pharmacy shops as well as prepared and used by individual patients. The study found again that a few people used herbal products for health promotion or rehabilitative purposes than for disease prevention and to cure various illnesses. This is contrary to a previous study (Harnack et al, 2001).

The consumption of faith-based therapy especially distant prayer interventions is on the increase owing to the emergence of charismatic churches and the rife of prayer camps in the study communities. This is congruent to a study which reported 35 percent of participants using prayer to address their health-related problems (Eisenberg et al, 1998). Wallis (1996) in a study of faith and healing: can prayer, faith and spirituality really improve your physical health, also found that 82 percent of Americans believed in the healing power of prayer and over 64 percent felt that biomedical practitioners should pray with patients who request it at the time of medical administration. In contrast, the significance of divination is dwindling in the study prefecture as most people are now embracing Christianity and Islam against the African Traditional Religion. However, few Christians and Moslems sought medical help and protection from spiritualists and diviners.

Intriguingly enough, the study again found that respondents were more likely to use TRM in shorter intervals than not, for curative and preventive purposes. This was statistically significant [χ^2 (3, N = 324) = 0.000, p < 0.001] from Pearson's Chi-square analysis performed. Others reiterated using TRM for rehabilitative and health promotion reasons. As indicated in Figure 4.1, majority (75.5%) of the participants stated using TRM or services of THs regularly within daily, weekly and in monthly basis. Whereas about 10 percent of the respondents noted use of TRM/THs in yearly intervals, nearly 14.1 percent said they only used TRM whenever afflictions of illness spells find their way.

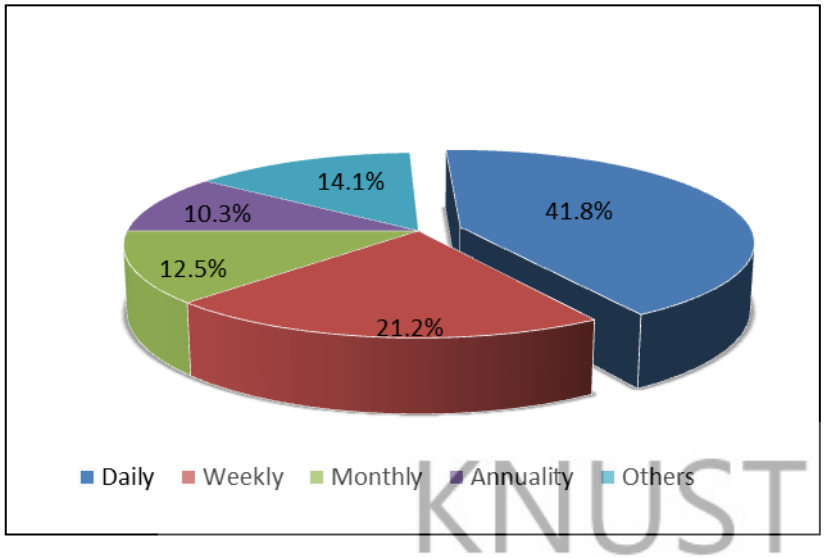

Figure 4.1 Frequency of TRM Utilisation

Source: Field Survey, 2013.

4.3.2 Sources and Forms of TRM

Knowledge about TRM is a major determinant of it use. Individuals and communities also obtain various forms of TRM from numerous sources for various reasons. The study at this point intended to ascertain the various sources from which respondents obtained information on the TRM they used. Figure 4.2 indicates that the preponderance of the study participants received information on TRM from their family members/relatives (50.3%) and friends/acquaintances (19.4%). This finding is noteworthy, in that traditional knowledge of indigenous medicine is mostly acquired through inheritance and training based on oral tradition from elderly members of the family and friend.

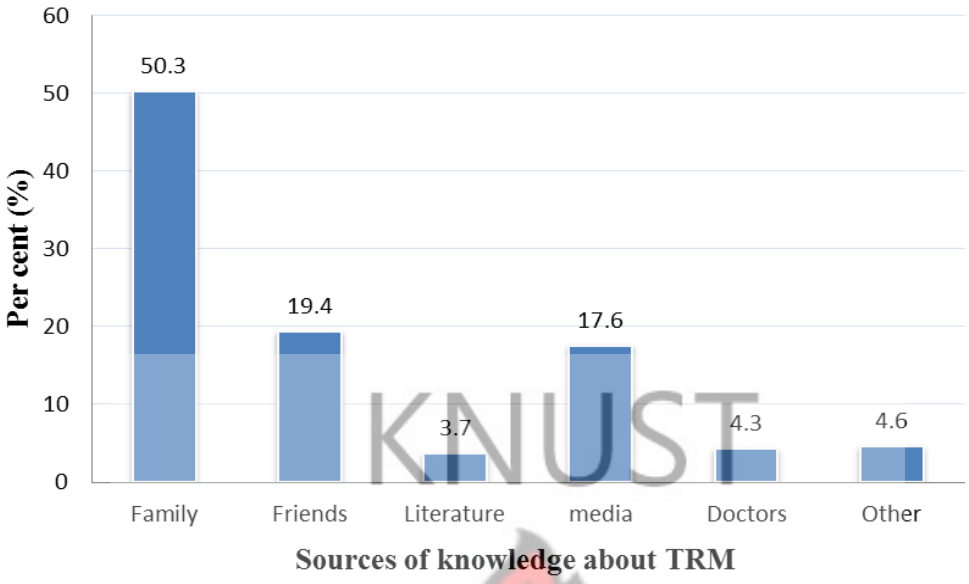

Figure 4.2 Sources of information about TRM
Source: Field survey, 2013.

It was also discovered that media, both print and electronic were important and emerging sources of information for TRM. Nearly 18.0 percent of the sample reported media—television, radio and newspapers—as their main sources of information as regard TRM. This finding affirms the current observed ascendency of television and radio panel discussions and advertisement in various forms as a marketing tool for various herbal medicines, faith healing and spiritual therapies in the region. It is incontestable truth that the public is now becoming increasingly aware of alternative medical therapies through all forms of media announcements and advertisement.

The study however found that books/literature (3.7%) was not an important source of information on TRM. The finding is consistent with that of Vickers and colleagues (2006) in a qualitative study of women's views of herbal medicine which found literature to be less important source of information about TRM. This is as a result of high level of

illiteracy not only besetting the respondents but the country as a whole. Still, 4.3 percent of the respondents said they obtained information about TRM from their medical doctors, physicians, nurses, midwives and other orthodox health care providers. This confirms the sort of rivalry, skepticism, mistrust and suspicion that have lingered between the TMPs and OMPs in the medical practice (Buor, 2004). Herbs are used frequently to treat or prevent an array of health conditions. At present, people who use TRM appear to rely predominantly on family, friends and media for information. These observations compare previous studies undertaken in Orlu, Imo State, Nigeria and elsewhere (Enwere, 2009; Harnack et al, 2001).

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4.3.3 Motivations for Traditional Medicines Utilisation

There are numerous reasons why patients choose to use TRMs and indigenous therapies. Study participants were asked to mention the various reasons why they utilised various forms of TRM. Respondents indicated a range of perceptions and beliefs about TRM which one way or the other, influenced TRM use. These motivations fell into one of two broad sub-categories or themes viz. the "push" factors and the "pull" factors. The 'push' factors were defined to mean the perceived bottlenecks, disadvantages and dissatisfaction with conventional health care services/system whilst the 'pull' factors connoted beliefs and perceptions as regards the positive aspects, advantages and/or benefits of TRM/TH (see Table 4.6).

4.3.3.1 'Pull factors' for TRM use

The participants identified a number of positive "pull" factors which to a greater extent influenced their TRM use. Majority of them reported that they use TRM because it is

more natural, involving no or little chemicals and therefore, have minimal side effects (see Table 4.5).

A preponderance of the respondents (93.1%) supported the idea that TRM treatments are safe using prescription drugs as a yardstick. This was confirmed when the respondents were asked to rate safety of use of TRM; one-half of them (57.8% of non-users and 48.7% of users) scored safety of TRM as "Good". The difference in safety of TRM between users and non-users were however not statistically significant (p = 0.504; FET) when Fisher's exact test was performed. This finding is consistent with other studies (Holst et al, 2009; Nordeng and Havnen, 2004; Hollyer et al, 2002; Westfall, 2003; Vickers et al, 2006) but inconsistence with others (Addo, 2007; Elvin-Lewis, 2001; Ernst, 2002). Inherently, most participants perceived most TRMs to be safe in the qualitative study. This was reflected in the following quotes:

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Table 4.5 Views and perceptions on the use of TRM.

Variables		Total No. of Respondents N (%) 324(100.0)	TRM Utilisation Status		*p-value*
			Non-TRM Use n (%) 45 (100.0)	TRM User, n (%) 279 (100.0)	
Do you feel that TRM treatment is effective?	Yes	306 (94.4)	40 (88.9)	266 (95.3)	0.080 [a]
	No	18 (5.6)	5 (11.1)	13 (4.7)	
How would you rate the efficacy of TRM?	Poor	15 (4.6)	2 (4.4)	13 (4.7)	0.001*
	Satisfactory	39 (12.0)	12 (26.7)	27 (9.7)	
	Good	135 (41.7)	23 (51.1)	112 (40.1)	
	Very Good	135 (41.7)	8 (17.8)	127 (45.5)	
Do you feel that TRM is safe in treating diseases?	Yes	296 (93.1)	42 (95.5)	254 (92.7)	0.504 [a]
	No	22 (6.9)	2 (4.5)	20 (7.3)	
How would you rate the safety of TRM?	Poor	18 (5.6)	3 (6.7)	15 (5.4)	0.104
	Satisfactory	60 (18.5)	11 (24.4)	49 (17.6)	
	Good	162 (50.0)	26 (57.8)	136 (48.7)	
	Very Good	84 (25.9)	5 (11.1)	79 (28.3)	
How would you rate the flexibility of TRM?	Poor	8 (2.5)	3 (6.7)	5 (1.8)	0.031*
	Satisfactory	68 (21.3)	13 (28.9)	55 (20.0)	
	Good	186 (58.1)	26 (57.8)	160 (58.2)	
	Very Good	58 (18.1)	3 (6.7)	55 (20.0)	
How would you rate the attitude/affective behaviour of TMPs towards their clients?	Poor	3 (1.0)	1 (2.6)	2 (.8)	0.008* [a]
	Satisfactory	55 (18.3)	14 (36.8)	41 (15.6)	
	Good	170 (56.5)	17 (44.7)	153 (58.2)	
	Very Good	73 (24.3)	6 (15.8)	67 (25.5)	
How would you rate the level of comfort when accessing TRM?	Poor	7 (2.2)	2 (4.5)	5 (1.9)	0.493 [a]
	Satisfactory	69 (22.1)	12 (27.3)	57 (21.3)	
	Good	166 (53.2)	20 (45.5)	146 (54.5)	
	Very Good	70 (22.4)	10 (22.7)	60 (22.4)	

* The Chi-square statistic is significant at the 0.05 level.
[a] Results are based on Fisher's exact test
Source: Field Survey, 2013.

"Yeah….it's true. These herbs are natural and pure. Natural plants are free from chemicals unlike the white man's drugs. Chemicals they put in medicines are dangerous oo….they could have long, long-term effects on your body. I don't like those drugs because I don't want to put chemicals into my body…. That's why I always go for herbs anytime I'm ill. Aaahhh, they're safe."

[A 43—year old woman, urban]

Table 4.6 Motivations for Using TRM

Perceived advantages of TRM and TMP (324**)	Perceived disadvantages of OM and OMP (324**)
1. Easily accessible (315*) 2. Readily available (268*) 3. Cost-effective/affordable (199*) 4. Holistic approach and good affective behaviour of TMPs (201*) 5. Personal philosophy/control (207*) 6. Consonant with culture/tradition (134*) 7. More effective for tropical diseases (321*) 8. Natural, non-addictive and pure (111*) 9. No/little chemicals added (296*) 10. Family/Friend Encouragement (97*) 11. No/minimal side effect (306*) 12. Spiritual Protection (75*) 13. Prescription (26*)	1. Expensive to access (319*) 2. Long distance to the facility (168*) 3. High transport cost (143*) 4. Long waiting time (298*) 5. Unable to treat/cure some medical problems/Hospitals are ineffective (218*) 6. Poor attitudes/affective behaviours of nurses especially, emotional issues (286*) 7. Negative/bad past experiences (98*) 8. Not natural/Little comfort level (87*) 9. Contains more chemicals (179*) 10. Cause long term damage/ Side effects (218*) 11. Little faith in OM/OMPs (102*)

**Number of participants;
*Number of times reflected
Source: Field Survey, 2013

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"I think herbal preparations are gentle and less powerful on our body. It's flexible too that's why we're free to take any dose without harm. I hope you know that vegetables and all leaves are herbal medicines. Then tell me why you can take any quantity of them at any time but will cause no problem for you? Look at 'kontomire', 'kwawunsusaa', onions, cabbage, carrots, lettuce, pawpaw leaves…….they're all harmless. They even provide enough blood for the body and helps indigestion. Isn't it true?"
[A 68—year old man, rural]

A middle-aged man also poised that natural things are without chemical and therefore warrant safety when used. He however lamented the negative effects of fertilizer and insecticides application on herbs.

"To me, it [herbal medicine] *means something that's been grown or produced without any chemicals in it; no or less side effects are associated. It's now that people put fertilizers and spray their herbs causes little side effects but it's safe to take".*

[A 41—year old man, rural].

"I can't say they [herbal medicines] *are all good for us but why not ……they're better than prescribed drugs from hospitals and pharmacy shops in terms of safety. For example I daze always when I take Artesunate Amodiaquine for malaria, but time herbal mixture is good for me without any side effects".*
[A 23—year old man, urban]

Issues in relation to efficacy were highlighted by the study participants. As shown by Table 4.7, 94.4 percent of the respondents felt that TRM treatments were effective particularly in handling 'tropical diseases' such as malaria, typhoid fever, jaundice, sexually transmitted infections, infertility, menstrual problems, sexual weakness, piles, cold, influenza, cough, hernia, headache/migraine stomach/intestinal problems, chronic skin diseases, bone fracture, arthritis as well as non-communicable diseases including hypertension, cancers, epilepsy, spiritual health, and illness of psychic origin. TRM users were more likely to endorse TRM treatments as efficacious compared to the non-users. On the rating scale, majority of respondents assessed efficacy of as TRM "Good" (137, 41.7%) and "Very good" (137, 41.7%). However, users of TRM were more likely to assess the efficacy of TRM as "Very good" (45.5%) compared to the non-TRM users (17.8%). This was statistically significant [χ^2 (3, N = 324) = 17.572, p = 0.001]. This finding is consistent with other studies in both developing and developed countries (Sen et al, 2011; Gyasi et al, 2011; Hwang et al, 2014; Dog, 2009; Mensah and Gyasi, 2012; Buor, 1993).

In the qualitative study, the excerpts below were generated to confirm this assertion:

"…….I never trusted the healing power of traditional medicines until I was taken to a mental healing centre called Holy Cherubim and Seraphim Healing

Church of Ghana at Tepa. I had a mental illness that took me and my family to almost all psychiatry hospitals across the country for over eight years. I was made to take all sorts of drugs that made me feel weak and disorganised all the time. The faith healer intervened and it took him less than three months to set me free. As you see, I feel good……no more stigma, no more pain, and people respect me now……."

[A 32—year old man, urban]

"Ei, that medicine (TRM) is good. My own son fell from veranda at school and had a broken leg. I took him immediately to a hospital here [I don't want to mention it] for several occasions, the POP was on but the leg kept swollen and the child was suffering. A colleague teacher recommended someone, a bone setter at Alabaa, Kumasi here. We went together and the child was able to walk after one week. My brother, I don't joke with TRM at all. Some are very effective".

[A 44—year old teacher, urban]

"TRM is very good at many diseases especially fevers and others like boils, skin rashes, piles than hospital medicines. I always use TRM for such problems and I become treated very fast"

[A 29—year old woman, rural]

"I strongly believe that there are a lot of medicines...I mean herbal medicines that would work well for many diseases both infectious and non-communicable ones like hypertension, diabetes, cancers,...yeah and others. But I think most of them are overshadowed with conventional drugs. Most people don't know much of it because we're ignorant of it".

[A 56—year old man, rural]

Respondents were tuned to the use of TRM for reasons of easily accessibility and cost-effectiveness. Overwhelming number of study participants said they were motivated to rely on TRM because it was readily available and accessible that could be found at any

time without much stress. This was a common phenomenon and repeatedly quoted by most of the interviewees. The excerpts below give further elucidation to this assertion.

> *"Yes, it is not expensive* [as compared with hospital]; *sometimes you're required to pay only few pesewas to the healer for treatment. Here too you don't also travel far for high lorry fares. They* [traditional medical practitioners] *are here with us. So, to me, herbal medicines are cool…"*
> [A 21—year old university student, urban]

> *"Hahahaha...Hmmm...we call it poor man's medicine,…'agyenkwa'* [literary, saviour]. *I think that most people use more of traditional medicines because they're poor people. You see, poor people at the rural communities cannot afford hospital fees so they go to the herbalists for help. Hospital drugs are always very expensive and they [hospitals] are far away too. Even the health insurance that Kufour brought does not work now. ….drugs are prescribed for you to buy…..it's very expensive to go to hospital. If it's not emergency, then people will continue to rely on herbal or traditional medicines for all kinds of diseases. I suppose..."*
> [A 62—year old farmer, rural]

One major important advantage that contributed to preference for using TRMs was holistic approach and excellent affective behaviour of TMPs. This featured in nearly all the interviews and ranged from the belief that the practitioners were experienced, know their clientele and provided client centred treatment. From Table 4.7, most participants rated the attitude of TMPs towards their clients as "Good" (170, 56.5%) and "Very good" (73, 24.3%). It was again observed that more users of TRM were likely to rate the affective behaviour of TMPs higher than the non-TRM users. This was statistically significant [χ^2 (3, N = 324) = 11.720, p = 0.008] when Pearson's chi-square test was performed. This finding was congruent with other studies which reported that patients

continue to access TRM partly because healers are closer and have good relationships with their clients (Holst et al, 2009; Peltzer et al, 2008; Vickers et al, 2006).

From the interviews, two study participants had these to say:

> *"I don't know but I think it's the behaviour and the attitude of the traditional healers that seem to attract most people to go to them for medical and spiritual help. You see, they* [traditional healers] *have time for every sick person. Some can even let you forget about your sickness or pain and give you full assurance of good treatment before they even apply medicine on you".*
> [A 31—year old man, rural]

> *"They* [traditional birth attendants] *have patience. If you're not able to follow accurately the strict instructions they give you, they don't insult you…….embarrass you as some nurses do to us....."*
> [A 23—year old expectant mother, urban]

Interestingly, some participant aligned their preference for herbal medicines to personal control. It could be observed from Table 4.7 that more respondents (186, 58.1%) than not noted that TRM is "Good" in terms of flexibility of access and use. Another 58 (18.1%) rated the flexibility of TRM as "Very good". It was further observed that TRM users were more likely to rate the flexibility of TRM compared with the non-TRM users. This was statistically significant at [χ^2 (3, N = 324) = 8.868, p = 0.031] when Pearson's Chi-square test was performed. These findings were vindicated by the qualitative interviews. A University student maintained that using herbal medicine and other aspects of TRM enabled him to take a more active part in maintaining his own health. He did not really appreciate why accessing medical treatment and use of his medications should be rigid a process to go through. He held the belief that it is good, easy and refreshing to be able to sort things out for himself in terms of treatment-seeking routine. He clearly iterated that:

"How can you be cured with a treatment regimen you don't even understand? Someone sits somewhere and controls you about your own health, tells you what you should do ….as if he owns your life…"

[A 23—year old man, urban]

In the evaluation of health behaviours, social factors such as spirituality, religiosity, customs and personal belief and philosophies are critical agents that pull people into TRM utilisation. Spirituality and religiosity have been introduced into medical realm implying a growing interest in the possible perceived health benefits connected with having a spiritual belief and/or following a religious belief (Kretchy et al, 2013; Penman et al, 2009).

People might be attracted to and use TRM because they hold beliefs that are congruent with TRM system and practice. The cultural values and traditions of people determine their psyche which in turn influences their health-seeking behaviour. Some of the study participants maintained that TRM concurs with their religious, cultural and spiritual maquillage. An old male respondent explained how traditional beliefs have influenced him to use TRM and to access the services of TMPs. The excerpts below confirm this assertion

"I earnestly believe in the TRM. I know it to be part of my culture and total upbringing. It always yields quite satisfactory results when I used it to treat my illness. Its might be psychological, yea…"

[A 74—year old man, rural]

Some respondents perceived spiritual illness as a reason to seek traditional medical care. Sometimes there is the belief that certain diseases are caused by spirits. Respondents explained that diseases that are spiritually caused can only be treated and reversed

through spiritual means. To them, Newton's second law of motion is—action and reaction are equal and opposite—can conveniently be applied to some spiritual illness and their solution. This quotation by a middle-aged woman explains further that:

> *"I wouldn't waste my time at hospital for doctors to apply their 'try and error' tactics to my spiritual problems. They could only try to put a round peg in a square hole; which cannot fit. They only treat illnesses from the physical point of view. You know, herbalists, spiritualist and diviners are always the right people for such spiritual problems. They can read, see and reveal things that are hidden".*
>
> [A 46—year old woman, rural]

Another respondent in the rural setting has this to say:

> *"For sure, the traditional healers treat patients not merely by experience but also by a unique theoretical system which cannot be explained by modern sciences. They can tell the future from today. This is why they're able to cure certain diseases such as epilepsy and mental disorder which are intractable to prescription drugs".*
>
> [A 72—year old woman].

4.3.3.2 'Push factors' for TRM use

In converse, most respondents attributed increased use of TRM to several problems they have with conventional health care practitioners or aspects of the modern health care system. Some respondents passionately expressed a concern about dissatisfaction with conventional medicine in terms of effectiveness for most of their medical problems such as malaria, excruciating boils, broken bones, mental disorders, etc., and hence having alternative treatment was prioritised. The following excerpts confirm this claim.

"As for me I only go to the hospital for specific medical problems……like check-ups or when I need X-rays or……yeah. Their medicine [prescribed drug from hospital] *is not good for many of my problems. If you get diseases like piles, boils, fevers and others, hospital cannot help you at all. You'll take all the drugs on this earth but the problem will still be hunting you. It's better to get herbs.*

[A 22—year old lady, urban]

"But…..doctors do not have the eye to see any 'sunsun mu yadee' [spiritual problems]. *They'll just be doing try and error and before you realise your casket is close to you. Isn't it better to rather see a medicine man?"*

[A 56—year old woman, rural]

Safety of conventional therapies was a repetitive subject and serious concern to the study sample. Most respondents mentioned that medicines from hospitals contain chemicals that may have both momentary and long term side effects. The excerpts below confirm this assertion.

"Drugs for many problems especially the tablets have side effects…..when you take more of them. I know they add more chemicals to it….i don't know why but I won't take more to have any problem. I'm always fear of it…..not comfortable taking them because they are not safe"

[A 26—year old man, urban]

One area that merited a "push" away from conventional health services was the difficulties associated with accessibility and its concomitant inequities. The study participants juxtaposed the inconvenience of getting appointments with a physician with instant access to TMPs and their services. In a qualitative interview an old lady explained

that patients in most cases spend several hours at the health facility to see a physician after paying so much for long distance travel. She went on to lament on the inadequacy of health facilities at their disposal.

> *"Hmmm, my son, it's not because the prescribed drug will not work for me but…..see, you sometimes have to declare the whole day just to see a doctor. When I took my granddaughter to hospital, we had to wait for so many hours from the morning to late afternoon before we could see the General Practitioner. If I go to an herbalist, I can go back in the next one hour time. But it's not their fault too. We have few hospitals in this town and many people go to them".*
> [A 58—year old woman, urban]

An area of importance for most people was the attitude of GP towards their patients, principally as regards emotional issues. The doctor-patient or nurse-patient relationship is an important one as the doctor and/or nurse interacts with the patient. Past negative experiences with health care professionals—doctors, nurses, midwives—had led to the reluctance to consult GPs and therefore heavy reliance on TRM/TMP.

> *"As you see me, I don't want embarrassment but that's the food of most hospital workers especially the female nurses. Some don't even see you as a human being when you go to them for treatment……they talk to you as if you're a child".*
> [42—year old man, rural]

Interestingly, 'pull' factors that constituted positive representations of TRM were the strongest and most cited reasons related to health care and being able to source positive information about types of TRM self-responsibility. However, 'pushing' away effects which encompass negative representations of conventional medicines made an important contribution though somewhat lesser influence on decision to use TRM.

4.3.4 Combined use of TRM and Conventional Therapies

Therapeutic pluralism is almost becoming indispensable among populations. Many people appreciate the potential risks and problems associated with taking herbal medicines alongside conventional medicines. The current study found that majority (69.1%) of the users of TRM said they did not use herbal medicines and conventional ones together as shown in Table 4.7. This sub-sample commented that they were concerned about taking herbal medicines at the same time as conventional ones for a particular disease.

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Owing to the fact that traditional and modern medicines evolved from different philosophical assumptions and with different methodological approaches, conflicts are bound to arise when the two systems are simultaneously applied. However, about 3 out of 10 of the respondents saw no problems with co-herbal-conventional medicine use. They believed that if the medicines were for different diseases it would be safe. Most of them spoke of the greater convenience of being able to use both forms of medicine in arresting the perils of a particular medical condition. Again, over 23 percent were not aware that some herbal medicines could interact with certain orthodox drugs to elicit negative upshots.

Study participants were asked whether or not they did notify their conventional health providers about use of TRM. A substantial number (87.8%) did not disclose the use of TRM to their health care providers. Although, the biomedical health care providers sometimes suspect their patients about use of TRM, they were essentially not aware and therefore remained naïve of use of TRM by their clientele recruited for this research. This finding is congruent with body of other previous works (see Gyasi et al, 2013;

Hughes et al, 2012; Peltzer et al, 2008; Langlois-Klassen et al, 2007; Babb et al, 2007; Egede et al, 2002; Kessler et al, 2001). For example, Gyasi et al (2013) reported in a study of traditional medicines use by HIV/AIDS patients in Kumasi Metropolis that approximately 94 percet amongst the study subjects never reported use of TRM to their biomedical health care professionals.

Table 4.7: Medical pluralism, advent effects and disclosure of TRM use to health care professionals

Variables and classes	Frequency (*N*)	Per cent (%)	χ^2 *P*-value
Combined TRM use with Conventional Drugs	*278*		
Yes	86	30.9	<0.001**
No	192	69.1	
Disclosure of TRM use to health care professionals	279		
Yes	34	12.2	<0.001**
No	245	87.8	
Adverse events of combined use of TRM and OM	278		
Yes	157	56.5	<0.001**
No	62	22.3	
Don't Know	59	21.2	
*Reasons for non-disclosure**	279		
Health care professionals did not inquire	222	79.6	0.032
It is not important	143	51.3	
Fear of response of the health care professional	122	43.7	
Previous bad experience	98	35.1	
Others	42	15.1	

*Multiple responses were allowed; therefore, sum of percentages is over 100 percent.
** The Chi-square statistic is significant at the 0.05 level.
Source: Field Survey, 2013.

Respondent went on to offer reasons to substantiate the non-disclosure of TRM utilisation. Nearly 80 percent of respondents noted, health care professional did not inquire any information as regards client's TRM use. Other reasons included: some 51.3 percent deemed disclosure not important, 43.7 feared the physician's reactions based on previous bad experience of disclosure (35.1%) (see Table 4.7). This observation supports the findings of previous studies (Gyasi et al, 2013; Vickers et al, 2006).

Concomitant regimen of TRM and orthodox drugs may have the impetus to cause drug interactions that in turn may lead to advent effects through increased toxicity after initiation of treatment. Negative effects can result from lack of communication between patient and health care provider (Mar et al, 2008; Southwell et al, 2002). GP—patient relationship is critical to fortifying the communication between them. It is important and urgent that, more open and effective patient-physician communication is prioritised. For fear of stigmatization and any form of embarrassment that might arise from the orthodox health care providers, most patients recoil and keep to themselves any experiences in use of TRM. Patients therefore consider it unnecessary to stage over any discussion in this perspective.

Leonard et al (2004) suggested that although patients' belief systems and views should be respected, health care providers need to convey the potential for adverse effects and drug interactions in relation to traditional therapies. Health care professionals ought to be fully notified about TRM use for both HIV related illnesses and other co-morbid conditions as part of their history taking and clinical assessments (Langlois-Klassen et al, 2007; Peltzer et al, 2008). In accordance with the basic principle of non-maleficence, clinicians should inquire about TRM use by their patients to protect them from harm. By expressing genuine interest, clinicians can elicit more accurate information about their patients' TRM use. Furthermore, consistent with the principles of non-maleficence and beneficence, the responsibility of inquiry may call for clinicians to examine the evidence for treatments outside of their usual scope of training.

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4.4 Factors Influencing Utilisation of Traditional Medicine

The second research question therefore considered the various demographic, socio-economic as well as the biopsychosocial or anthropological variables that may influence the pattern of TRM utilisation in the study areas. A stepwise (backwards) logistic regression analysis was performed on the field data to assess the demographic, socio-economic and anthropological factors that influence the outcome variable, TRM utilisation by the study participants in the study communities. Table 4.8 presents the results of the bivariate logistic regression analysis.

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It is observed from Table 4.8 that the kind of occupation engaged in by the respondent, respondent's monthly income, the efficacy of TRM, side effects or safety of use of TRM and the nature of ill-health showed a statistically significant association with TRM utilisation. Study participants who were employed in trading ventures were 2.32 times more likely to utilise TRM [OR = 2.321 (95.0% CI 1.037—5.194; p = 0.040)] than respondents who were working in the public sector. This finding has come to validate other previous research outputs. For example, Elkins et al (2005) reported that the frequency of use of TRM was dominantly and significantly higher amongst self-employed who were widespread and engaged in innumerable economic activities.

This result may be subject to the low level of education and the higher rate of exposure to the various points of sales of TRM such as but not limited to mobile TMPs, vendors and peddlers across the length and the breadth of streets, open market places and within mobile buses. On the contrary, this finding is inconsistent with other studies that found no significant association between TRM use and the nature of occupation engaged by the study participants (see Dahilig and Salenga, 2012; Aziz and Tey, 2009; Al-Windi, 2004; Bodeker et al, 2002; Astin 1998).

Table 4.8: Results of logistic regression analysis of predictors of TRM utilisation among respondents

Variable	Users of TRM n = 279 (%)		Non-users of TRM n = 45 (%)		Total N = 324 (%)		B	Crude OR (95% C.I)	*p*-value
Occupation									
Trading	92	(33.0%)	20	(44.4%)	112	(34.6%)	.842	1.00	0.040*
Farming	43	(15.4%)	9	(20.0%)	52	(16.0%)		2.321 (1.037—5.194)	
Government	41	(14.7%)	2	(4.4%)	43	(13.3%)			
Artisan	56	(20.1%)	5	(11.1%)	61	(18.8%)			
Schooling	10	(3.6%)	3	(6.7%)	13	(4.0%)			
Others	37	(13.3%)	6	(13.3%)	43	(13.3%)			
Work experience									
1 - 5 years	85	(34.6%)	12	(31.6%)	97	(34.2%)	-.517	1.00	0.058
6 - 10 years	53	(21.5%)	12	(31.6%)	65	(22.9%)		0.597 (0.350—1.018)	
11 – 15 years	44	(17.9%)	4	(10.5%)	48	(16.9%)			
16 – 20 years	29	(11.8%)	4	(10.5%)	33	(11.6%)			
21+ years	35	(14.2%)	6	(15.8%)	41	(14.4%)			
HH Income									
≤100	64	(33.3%)	12	(41.4%)	76	(34.4%)	1.059	1.00	0.025*
101 - 300	68	(35.4%)	12	(41.4%)	80	(36.2%)		2.883 (1.142—7.277)	
301 - 500	36	(18.8%)	4	(13.8%)	40	(18.1%)			
501 - 1000	24	(12.5%)	1	(3.4%)	25	(11.3%)			

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Efficacy of TRM									
Yes	266	(95.3%)	40	(88.9%)	306	(94.4%)	-34.922	1.00	0.002*
No	13	(4.7%)	5	(11.1%)	18	(5.6%)		4.430 (1.645—11.934)	
Safety of TRM									
Yes/	254	(92.7%)	42	(95.5%)	296	(93.1%)	.990	1.00	0.031*
No	20	(7.3%)	2	(4.5%)	22	(6.9%)		2.730 (.986—4.321)	
Has chronic disease									
Yes	85	(31.5%)	9	(20.5%)	94	(29.9%)	1.386	1.00	0.005*
No	148	(54.8%)	29	(65.9%)	177	(56.4%)		3.821 (1.213—11.311)	
Don't Know	37	(13.7%)	6	(13.6%)	43	(13.7%)			
Attitude of TMPs									
Poor	2	(.8%)	1	(2.6%)	3	(1.0%)	-31.609	1.00	0.030*
Satisfactory	41	(15.6%)	14	(36.8%)	55	(18.3%)		2.943 (.875—9.896)	
Good	153	(58.2%)	17	(44.7%)	170	(56.5%)			
Very Good	67	(25.5%)	6	(15.8%)	73	(24.3%)			

*Statistical significance of interaction, $p \leq 0.05$;
OR means Odds Ratio; CI means Confidence Interval
1.00 means Reference group; HH means Household
Field Survey, 2013

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The odds of TRM utilisation was 2.88 times higher [OR= 2.883 (95.0% CI 1.142—7.277; p = 0.025)] for low income earners compared to their counterparts whose income levels were high. In situations where people are not able to generate enough income from their economic ventures, they are mostly 'pushed' and/or 'pulled' into TRM use. This is due to the fact that the access to modern health care is perceived by many to be costive as compared to the latter. This is consonant with previous studies assessing the income and general economic status and use of traditional medicines (Dahilig et al, 2012; Al-Windi, 2004).

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Also, respondents who perceived TRM to be effective in curing and/or treating diseases than the prescribed drugs from hospitals had the highest odds of its utilisation [OR= 4.430 (95.0% CI 1.645—11.934; p = 0.003)] compared to respondents who perceived TRM to be less efficacious in treating ailments. Participants who reported less side effects of use of TRM were almost 3 times more likely to report use of TRM [OR = 2.730 (95.0% CI 0.986—4.321; p = 0.031)] as compared to those who reported that they have experience some side effects after using certain forms of TRM. This has a direct link to the qualitative study where the respondents interviewed explained that natural products as implanted in TRM especially the biologically-based products were free from chemicals and therefore considered to be safe or with limited side effects.

"Yeah…it's true. Medicinal plants or herbs are natural and pure. Natural plants are free from chemicals unlike the white man's drugs. Chemicals they put in medicines are dangerous; they could have long-term devastating and degenerative effects on our body system. I don't like those drugs because I don't want to put chemicals into my body. That's why I always go for herbs anytime I'm ill. They (herbal medicines) are safe". [A 43—year old woman, Urban].

This finding supports findings of other studies that express that the upsurge demand globally for herbal medicines, herbal health products, herbal pharmaceuticals,

nutraceuticals, food supplements and herbal cosmetics are due to the growing recognition of these products as mainly non-toxic and having less side effects (Dubey et al, 2004; Sharma et al, 2008; Gyasi et al, 2013; Buor, 1993; Peltzer, 2008). Gyasi et al (2013) and Peltzer (2008) believe that herbal medicines are safe due to their "naturality and neutrality".

The analysis again found that in terms of the nature of disease, the odds of utilising TRM were 3.821 times larger for respondents who had severe and or chronic medical conditions than their counterparts with mild/non-serious and non-spiritual ailments. So then, severe/chronic diseases patients were nearly 4 times more likely to use TRM [OR = 3.821 (95.0% CI 1.213—11.311; p = 0.005)] as patients with minimal illnesses. This corroborates the findings of Kretchy et al (2013) who reported on spiritual and religious beliefs and medication adherence behaviour of hypertensive patients.

Additionally, the affective behaviour and the general attitude of traditional healers towards their clients was also statistically predictive as far as use of TRM was concerned with nearly 3 times higher odds of TRM utilisation [OR = 2.943 (95.0% CI 0.875—9.896; p = 0.030)]. Studies have reported severally particularly in Africa that TMPs are more easily accessible geographically, economically and also provide a culturally accepted treatment. This makes them credible, trusted, accepted and respected among the population they serve (Wodah and Asare, 2012; Peltzer and Mngqundaniso, 2008). TMPs again offer client-cantered and personalised health care meant to see the needs and expectations of their patients, paying special respect to social and spiritual matters (King and Homsy, 1997). TMPs are therefore the first contact by people with various health problems especially with spiritual matters Peltzer, 2003; 2001; Wilkinson and Wilkinson, 1998; Louw and Pretorius, 1995).

However, the logistic regression analysis conducted to determine whether the TRM utilisation is predicted by work experience or the number of years a respondent had worked [OR = 0.597 (95.0% CI 0.350—1.018; $p > 0.058$)], revealed no statistical significant influence.

4.5 Place of residence and use of traditional medicines

Analysis of the demographic, socio-economic and clinical background characteristics of respondents (see Table 4.9) showed statistically significant differences between place of residence and nature of occupation ($p < 0.001$), ethnicity ($p < 0.001$), household monthly income ($p < 0.005$), perceived health status ($p < 0.005$), household size ($p < 0.05$) and religious affiliation ($p < 0.05$). The rural participants significantly professed Christian faith (84.6% vs. 78.4%, $p = 0.045$), engaged in farming as a major economic venture (27.2% vs. 4.9%, $p < 0.001$), were mostly from the Akan ethnic group (88.9% vs. 67.3%, $p < 0.001$), had household size ≥7 (25.3% vs. 16.0%, $p < 0.05$), received lower monthly income levels (42.1% vs. 25.0%, $p < 0.005$) and also reported perceived poor health status (8.1% vs. 2.5%, $p < 0.005$) than the urban respondents.

Table 4.9 compares the use of traditional medical care across the two study districts. The study demonstrated a marginal spatial variation across rural and urban divide regarding use of TRM. The results revealed that rural residents (87.0%) were more likely to use TRM than their counterparts in the urban areas (85.2%) in absolute terms. More people (14.8%) are less likely to use TRM in Kumasi Metropolis than in the Sekyere South District (13.0%).

This marginal difference in utilisation between rural and urban residents might be subject to vast differences in socio-economic standing of the individuals and communities between the two geographical settings. Political colour remains a strong determinant accounting for this utilisation pattern particularly, in the developing economies. National cake regarding formal health facility provision is usually skewed against the rural communities.

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Non-existence of health care facilities and personnel in the rural communities serves as a 'push' mechanism towards the use of TRM by the rural dwellers. Even where a few facilities are provided, patients would have to travel—mostly by walking—all day long in order to access health care. In this regard, utilisation of TRM becomes universal. Further, environmental conditions in rural communities one way or the other favour use of TRM in that people may have easy access to the various biological based products. Health status, health beliefs, cultural diversity and prevalence of disease burden were some other major reasons offered. This phenomenal diversity contributes to the differences in terms of self-rated health which informs health care seeking behaviour and utilisation of health care resources.

Table 4.9 Background Characteristics of Study Participants by Place of Residence

Variable		Place of Residence of Respondents			*p*-value
		Urban (Kumasi Metropolis)	Rural (Sekyere South District)	Total	
		n (%)	n (%)	N (%)	
Age	<20	3 (1.9)	6 (3.7)	9 (2.8)	0.572
	20-29	39 (24.1)	45 (27.8)	84 (25.9)	
	30-39	43 (26.5)	34 (21.0)	77 (23.8)	
	40-49	33 (20.4)	26 (16.0)	59 (18.2)	
	50-59	21 (13.0)	25 (15.4)	46 (14.2)	
	60+	23 (14.2)	26 (16.0)	49 (15.1)	
	Total	162 (100.0)	162 (100.0)	324 (100.0)	
Gender	Male	70 (43.2)	60 (37.0)	130 (40.1)	0.257
	Female	92 (56.8)	102 (63.0)	194 (59.9)	
	Total	162 (100.0)	162 (100.0)	324 (100.0)	
Marital Status	Single/Widowed	56 (34.6)	67 (41.4)	123 (38.0)	0.208
	Married/Cohabitated	106 (65.4)	95 (58.6)	201 (62.0)	
	Total	162 (100.0)	162 (100.0)	324 (100.0)	
Educational Status	Never-been-to-school	27 (16.7)	26 (16.0)	53 (16.4)	0.117
	Basic Education	67 (41.4)	87 (53.7)	154 (47.5)	
	Secondary	47 (29.0)	32 (19.8)	79 (24.4)	
	Tertiary	21 (13.0)	17 (10.5)	38 (11.7)	
	Total	162 (100.0)	162 (100.0)	324 (100.0)	
Educational Status (Partner)	Never-been-to-school	13 (10.4)	22 (20.4)	35 (15.0)	0.061
	Basic Education	52 (41.6)	48 (44.4)	100 (42.9)	
	Secondary	47 (37.6)	26 (24.1)	73 (31.3)	
	Tertiary	13 (10.4)	12 (11.1)	25 (10.7)	
	Total	125 (100.0)	108 (100.0)	233 (100.0)	
Religious Background	ATR	4 (2.5)	4 (2.5)	8 (2.5)	0.045
	Christianity	127 (78.4)	137 (84.6)	264 (81.5)	
	Islamic	27 (16.7)	12 (7.4)	39 (12.0)	
	Other	4 (2.5)	9 (5.6)	13 (4.0)	
	Total	162 (100.0)	162 (100.0)	324 (100.0)	
Employment Status	Employed	143 (89.9)	133 (83.1)	276 (86.5)	0.075
	Unemployed	16 (10.1)	27 (16.9)	43 (13.5)	
	Total	159 (100.0)	160 (100.0)	319 (100.0)	
Nature of Occupation	Trading	73 (45.1)	39 (24.1)	112 (34.6)	<0.001
	Farming	8 (4.9)	44 (27.2)	52 (16.0)	
	Government	20 (12.3)	23 (14.2)	43 (13.3)	
	Artisan	36 (22.2)	25 (15.4)	61 (18.8)	
	Schooling	9 (5.6)	4 (2.5)	13 (4.0)	
	Others	16 (9.9)	27 (16.7)	43 (13.3)	
	Total	162 (100.0)	162 (100.0)	324 (100.0)	

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Working Experience (Years)	1-5	52 (37.1)	45 (31.3)	97 (34.2)	0.079
	6-10	33 (23.6)	32 (22.2)	65 (22.9)	
	11-15	20 (14.3)	28 (19.4)	48 (16.9)	
	16-20	21 (15.0)	12 (8.3)	33 (11.6)	
	21+	14 (10.0)	27 (18.8)	41 (14.4)	
	Total	140 (100.0)	144 (100.0)	284 (100.0)	
Ethnicity	Akan	109 (67.3)	144 (88.9)	253 (78.1)	<0.001
	Ewe	16 (9.9)	1 (.6)	17 (5.2)	
	Ga-Dangme	11 (6.8)	8 (4.9)	19 (5.9)	
	Mole-Dagbani	18 (11.1)	5 (3.1)	23 (7.1)	
	Guan	5 (3.1)	2 (1.2)	7 (2.2)	
	Gurma	3 (1.9)	2 (1.2)	5 (1.5)	
	Total	162 (100.0)	162 (100.0)	324 (100.0)	
Household Size	≤ 3	57 (35.2)	43 (26.5)	100 (30.9)	0.037
	4-6	73 (45.1)	62 (38.3)	135 (41.7)	
	7-10	26 (16.0)	41 (25.3)	67 (20.7)	
	11-15	4 (2.5)	8 (4.9)	12 (3.7)	
	16-19	0 (.0)	3 (1.9)	3 (.9)	
	20+	2 (1.2)	5 (3.1)	7 (2.2)	
	Total	162 (100.0)	162 (100.0)	324 (100.0)	
Household Monthly Income (GH¢)	≤ 100	25 (25.0)	51 (42.1)	76 (34.4)	0.002
	101-300	36 (36.0)	44 (36.4)	80 (36.2)	
	301-500	28 (28.0)	12 (9.9)	40 (18.1)	
	501-1000	11 (11.0)	14 (11.6)	25 (11.3)	
	1001+	0 (.0)	0 (.0)	0 (.0)	
	Total	100 (100.0)	121 (100.0)	221 (100.0)	
Insurance	Yes	115 (71.0)	117 (72.2)	232 (71.6)	0.805
	No	47 (29.0)	45 (27.8)	92 (28.4)	
	Total	162 (100.0)	162 (100.0)	324 (100.0)	
Perceived current health status	Poor	4 (2.5%)	13 (8.1%)	17 (5.3%)	0.003
	Satisfactory	18 (11.2%)	36 (22.4%)	54 (16.8%)	
	Good	77 (47.8%)	66 (41.0%)	143 (44.4%)	
	Very Good	62 (38.5%)	46 (28.6%)	108 (33.5%)	
	Total	161 (100.0%)	161 (100.0%)	322 (100.0%)	

Source: Field Survey, 2013

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Table 4.10 Residential Status by Use of Traditional Medicine

		Use of Traditional Medicine		
		Yes	No	Total (%)
		Frequency (%)	Frequency (%)	
Residential Status	Urban (Kumasi Metropolis)	138(85.2%)	24(14.8%)	162 (100%)
	Rural (Sekyere South District)	141(87.0%)	21(13.0%)	162(100%)
	Total	279(86.1%)	45(13.9%)	324(100%)

χ^2 (1, N = 324) = 0.232, p = 0.630.
Source: Field Survey, 2013

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To be able to conclude whether there is a significant difference in TRM utilisation between rural and urban areas, a Pearson's chi-square test of difference was carried out to determine the association of residential status and use of TRM. The results showed no statistical significant difference between residential statuses of respondents in the use of TRMs [χ^2 (1, N = 324) = 0.232, p = 0.630]. This confirms the null hypothesis that there is no difference in the TRM utilisation between rural and urban prefectures of the study districts. This finding supports the conclusion of other studies reporting a frequent use of complementary and alternative medicines by older rural adults as a common strategy for maintaining health and wellbeing compared with their urban counterparts (Shreffler-Grant et al, 2007; Wilkinson and Jelinek, 2009).

This finding does not support other studies that have reported a statistical significance difference in TRM utilisation between rural and urban residents (van der Hoeven et al, 2012; Adams et al, 2011a; Andrews et al, 2010; Adams et al, 2009; Shreffler-Grant et al, 2007; Hoyez, 2007; Sibbritt et al, 2006; Shreffler-Grant et al, 2005; Gesler and Kearns, 2002). Adams et al (2011a) found in Australian Longitudinal Study that women who consulted a practitioner varied by place of residence where 28 percent of the research

sample resided in the urban areas, 32 percent resided in rural areas whilst 30 percent resided in remote areas.

A comparison between place of residence and knowledge/information sources for TRM, sources of TRM modalities, safety, efficacy and flexibility of TRM use and attitudes to TRM are depicted in Table 4.11. The study found a statistically significant association between family/relative as a source of knowledge and/or information about TRM and residential status of the respondents (χ^2 [1, N = 145] = 11.593, p < 0.005). Respondents from rural areas were more likely than the urban residents to depend on family and relatives for information on TRM (66.0% vs. 37.7%).

On the contrary, relying on the information about TRM from friends/acquaintances (df = 1; N = 52, p < 0.005; FET) and mass media (1, N = 48, p < 0.05; FET) was common among participants from the urban area than those from the rural setting. There were however no significant differences between place of residence and books and health care professionals as information sources for TRM (p > 0.05).

Whereas respondents from urban areas were more likely than their rural counterparts to source TRM from pharmacy and chemical shops (df = 1, N = 57, p < 0.001; FET), a greater proportion of participants from rural communities obtained TRM through self-application/administration compared to urban respondents (df = 1, N = 131, p < 0.05; FET). Other sources of TRM such as consultations with TMPs and purchase from open markets/drug peddlers/ vendors showed no statistically significant differences between rural and urban prefectures (see Table 4.11).

Table 4.11: Selected survey questions regarding TRM use-related beliefs by residential status of respondents

		Place of Residence			
		Urban (Kumasi Metropolis)	Rural (Sekyere South District)	Total	*p*-value
		n (%)	n (%)	N (%)	
Knowledge/information source about TRM	Family members	52 (37.7)	93 (66.0)	145 (52.0)	0.001
	Friends	37 (26.8)	15 (10.6)	52 (18.6)	0.002
	Literature/books	7 (5.1)	5 (3.5)	12 (4.3)	0.564
	Mass media	33 (23.9)	15 (10.6)	48 (17.2)	0.009
	Doctors/Nurses	5 (3.6)	7 (5.0)	12 (4.3)	0.564
	Other	4 (2.9)	6 (4.3)	10 (3.6)	0.527
	Total	138 (100.0)	141 (100.0)	279 (100.0)	
Sources of TRM	Consult TMP	31 (22.5)	38 (27.0)	69 (24.7)	0.399
	Self-application	53 (38.4)	78 (55.3)	131 (47.0)	0.029
	Pharmacies	44 (31.9)	13 (9.2)	57 (20.4)	<0.001
	Open Markets	10 (7.2)	12 (8.5)	22 (7.9)	0.670
	Total	138 (100.0)	141 (100.0)	279 (100.0)	
Efficacy of TRM use	Yes	130 (94.2)	136 (96.5)	266 (95.3)	0.372
	No	8 (5.8)	5 (3.5)	13 (4.7)	
	Total	138 (100.0)	141 (100.0)	279 (100.0)	
Safety of TRM use	Poor	8 (5.8)	7 (5.0)	15 (5.4)	0.001
	Satisfactory	19 (13.8)	30 (21.3)	49 (17.6)	
	Good	83 (60.1)	53 (37.6)	136 (48.7)	
	Very Good	28 (20.3)	51 (36.2)	79 (28.3)	
	Total	138 (100.0)	141 (100.0)	279 (100.0)	
Flexibility of TRM use	Poor	0 (.0)	5 (3.6)	5 (1.8)	0.023
	Satisfactory	32 (23.7)	23 (16.4)	55 (20.0)	
	Good	82 (60.7)	78 (55.7)	160 (58.2)	
	Very Good	21 (15.6)	34 (24.3)	55 (20.0)	
	Total	135 (100.0)	140 (100.0)	275 (100.0)	
Attitude to TRM/TMPs	Poor	1 (.8)	1 (.7)	2 (.8)	0.394
	Satisfactory	21 (16.7)	20 (14.6)	41 (15.6)	
	Good	78 (61.9)	75 (54.7)	153 (58.2)	
	Very Good	26 (20.6)	41 (29.9)	67 (25.5)	
	Total	126 (100.0)	137 (100.0)	263 (100.0)	

Source: Field Survey, 2013.

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There were significant differences between safety of TRM use (χ^2 [3, N = 279] = 15.819, $p < 0.005$) on one hand and flexibility of TRM use (χ^2 [3, N = 275] = 9.558, $p < 0.05$) on the other. Specifically, respondents from urban areas were least likely to rate the flexibility of TRM use as 'very good' (24.3% vs.15.6%) compared to those from rural areas. Similarly, greater percentage of rural respondents perceived safety of TRM as 'very good' (36.2% vs. 20.3%) using the index of respondents from urban setting. Other variables, the attitude towards TRM/TMPs and efficacy of TRM showed no significant differences between rural and urban prefectures ($p > 0.05$).

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4.6 Impact of NHIS on Pattern of TRM Utilisation

Table 4.12 Background Characteristics of Study Participants by health insurance status

		National Health Insurance Status			χ^2/*FET*
		Insured	Uninsured	Total	
		N =232 (71.6%)	*N = 92* (28.4%)	*N = 324* (%)	
Age (Years)	<20	5 (2.2)	4 (4.3)	9 (2.8)	3.536
	20-29	56 (24.1)	28 (30.4)	84 (25.9)	
	30-39	59 (25.4)	18 (19.6)	77 (23.8)	
	40-49	44 (19.0)	15 (16.3)	59 (18.2)	
	50-59	32 (13.8)	14 (15.2)	46 (14.2)	
	≥60	36 (15.5)	13 (14.1)	49 (15.1)	
Sex	Male	81 (34.9)	49 (53.3)	130 (40.1)	9.230***
	Female	151 (65.1)	43 (46.7)	194 (59.9)	
Residential Status	Urban	115 (49.6)	47 (51.1)	162 (50.0)	0.061
	Rural	117 (50.4)	45 (48.9)	162 (50.0)	
Marital Status	Single	81 (34.9)	42 (45.7)	123 (38.0)	5.226**
	Married	151 (65.1)	50 (54.3)	201 (62.0)	
Educational Status	Never-been-to-school	35 (15.1)	18 (19.6)	53 (16.4)	3.829
	Basic Education	115 (49.6)	39 (42.4)	154 (47.5)	
	Secondary	52 (22.4)	27 (29.3)	79 (24.4)	
	Tertiary	30 (12.9)	8 (8.7)	38 (11.7)	
Educational Status (Partner)	Never-been-to-school	23 (13.3)	12 (20.0)	35 (15.0)	1.938
	Basic Education	74 (42.8)	26 (43.3)	100 (42.9)	
	Secondary	57 (32.9)	16 (26.7)	73 (31.3)	
	Tertiary	19 (11.0)	6 (10.0)	25 (10.7)	
	Total	173 (100.0)	60 (100.0)	233 (100.0)*	
Religious Background	ATR	5 (2.2)	3 (3.3)	8 (2.5)	4.761[a]
	Christianity	193 (83.2)	71 (77.2)	264 (81.5)	
	Islamic	28 (12.1)	11 (12.0)	39 (12.0)	
	Other	6 (2.6)	7 (7.6)	13 (4.0)	
Employment Status	Employed	197 (86.4)	79 (86.8)	276 (86.5)	0.009
	Unemployed	31 (13.6)	12 (13.2)	43 (13.5)	
	Total	228 (100.0)	91 (100.0)	319 (100.0)*	
Nature of Occupation	Trading	91 (39.2)	21 (22.8)	112 (34.6)	13.218**
	Farming	33 (14.2)	19 (20.7)	52 (16.0)	
	Government	34 (14.7)	9 (9.8)	43 (13.3)	
	Artisan	41 (17.7)	20 (21.7)	61 (18.8)	
	Schooling	7 (3.0)	6 (6.5)	13 (4.0)	
	Others	26 (11.2)	17 (18.5)	43 (13.3)	
Working Experience (Years)	1-5	67 (32.8)	30 (37.5)	97 (34.2)	2.660
	6-10	48 (23.5)	17 (21.3)	65 (22.9)	

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	11-15	32 (15.7)	16 (20.0)	48 (16.9)	
	16-20	24 (11.8)	9 (11.3)	33 (11.6)	
	≥21	33 (16.2)	8 (10.0)	41 (14.4)	
	Total	204 (100.0)	80 (100.0)	284 (100.0)*	
Ethnicity	Akan	185 (79.7)	68 (73.9)	253 (78.1)	6.917[a]
	Ewe	8 (3.4)	9 (9.8)	17 (5.2)	
	Ga-Dangme	14 (6.0)	5 (5.4)	19 (5.9)	
	Mole-Dagbani	18 (7.8)	5 (5.4)	23 (7.1)	
	Guan	4 (1.7)	3 (3.3)	7 (2.2)	
	Gurma	3 (1.3)	2 (2.2)	5 (1.5)	
Household Size	<3	67 (28.9)	33 (35.9)	100 (30.9)	10.489[a]**
	4-6	108 (46.6)	27 (29.3)	135 (41.7)	
	7-10	43 (18.5)	24 (26.1)	67 (20.7)	
	11-15	9 (3.9)	3 (3.3)	12 (3.7)	
	16-19	1 (.4)	2 (2.2)	3 (.9)	
	≥20	4 (1.7)	3 (3.3)	7 (2.2)	
Household Monthly Income (GH¢)	≤100	51 (31.5)	25 (42.4)	76 (34.4)	3.897[a]
	101-300	62 (38.3)	18 (30.5)	80 (36.2)	
	301-500	28 (17.3)	12 (20.3)	40 (18.1)	
	501-1000	21 (13.0)	4 (6.8)	25 (11.3)	
	≥1001	0 (.0)	0 (.0)	0 (.0)	
	Total	162 (100.0)	59 (100.0)	221 (100.0)*	
Current health status	Poor	13 (5.6)	4 (4.4)	17 (5.3)	1.621
	Satisfactory	40 (17.2)	14 (15.6)	54 (16.8)	
	Good	98 (42.2)	45 (50.0)	143 (44.4)	
	Very Good	81 (34.9)	27 (30.0)	108 (33.5)	
	Total	232 (100.0)	90 (100.0)	322 (100.0)*	
Chronic disease	Yes	75 (32.6)	19 (22.6)	94 (29.9)	4.529
	No	128 (55.7)	49 (58.3)	177 (56.4)	
	Don't Know	27 (11.7)	16 (19.0)	43 (13.7)	
	Total	230 (100.0)	84 (100.0)	314 (100.0)*	
Efficacy of TRM	Poor	10 (4.3)	5 (5.4)	15 (4.6)	5.143
	Satisfactory	24 (10.3)	15 (16.3)	39 (12.0)	
	Good	105 (45.3)	30 (32.6)	135 (41.7)	
	Very Good	93 (40.1)	42 (45.7)	135 (41.7)	
Safety of use of TRM	Poor	10 (4.3)	8 (8.7)	18 (5.6)	3.109
	Satisfactory	46 (19.8)	14 (15.2)	60 (18.5)	
	Good	115 (49.6)	47 (51.1)	162 (50.0)	
	Very Good	61 (26.3)	23 (25.0)	84 (25.9)	

***$P < 0.005$; **$P < 0.05$; *$N < 324$ due to missing values; N = Number; [a] Result is based on FET

Source: Field Survey, 2013.

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To achieve this objective, respondents were asked to report on use of TRM in relation to their health insurance status based on the enrolment on the NHIS policy. The results revealed a marginal difference in the use of TRM between the ensured and uninsured respondents in nominal terms (see Table 4.13).

Table 4.13 Insurance Status by Use of Traditional Medicine

		Use of Traditional Medicine		
		TRM Users	Non-TRM Users	Total
		Frequency (%)	Frequency (%)	
Enrolled for National Health Insurance	Insured	198(85.3%)	34(14.7%)	232 (71.6%)
	Uninsured	81(88.0%)	11(12.0%)	92(28.4%)
	Total	279(86.1%)	45(13.9%)	324(100%)

$\chi^2(1, N = 324) = 0.401, p = 0.527$

Source: Field Survey, 2013

Respondents enrolled on the NHIS had lower TRM utilisation rate compared to those who were not. Whereas 198 (85.3%) out of 232 study participants with NHIS utilised TRM, 81 (88.0%) out of 92 of the uninsured participants used TRM within the 12-month period. More people (14.7%) with health insurance were less likely to use TRM than the uninsured participant (12.0%). Hence, individuals who exhibited lower income levels and were left out of health insurance coverage were more likely to use TRMs. Cultural attitudes and ethnic group controls explain variation in utilisation, even among those who have health insurance (Sato, 2012d).

To conclude whether the difference in TRM utilisation between the insured and uninsured respondents was significantly generalisable, a Pearson's chi-square fitness-of-test was performed at a significance level of 0.05. The results showed that there was no statistically significant relationship between health insurance status and TRM use [χ^2 (1,

$N = 324) = 0.401$, $p = 0.59$]. This corroborates the fourth hypothesis that national health insurance status has no relationship with utilisation of TRM in the study area. This relationship defies previous studies that found insurance status of the study sample to influence TRM usage (Barimah, 2013).

TRM evolved and developed from different philosophical grounds than the conventional medicine. Generally, the two medical systems have a divergent approach in disease management. Each of which is effective in dealing with different kinds diseases. TRM could treat/cure certain diseases that are not likely to be treated by orthodox medicines and the reverse is true. For example, in the public perceptions of the role of traditional medicine, Gyasi et al (2011) noted that TRM was effective in treating fracture/dislocation of the bone and diseases of psychic nature as reported by study respondents. Furtherance, health-seeking behaviour of individuals has a connotation with people's cultural beliefs, tradition and religious affiliation. People might therefore continue to rely on TRM for certain disease whether or not they are enrolled on the NHIS. Moreover, most people perceive certain aspects of TRM with particular reference to the biologically based medicines and therapies as natural, less toxic, with little or no side effects as compared to the prescribed drugs from health care facilities (Kretchy et al, 2014). In this regard, NHIS status of the respondents has limited associative effect on the utilisation of TRM.

Readily availability that informs easy acquisition of traditional medical products (sometimes from farms and neighbourhoods or backyard gardens) and the opportunity to purchase these readily available products from open markets, mobile peddlers, herbal shops, pharmacies, etc. cannot be gloss over. The easy access to TRM incessantly pulls

respondents whether insured or uninsured to utilise TRM without question. This partly accounted for the universal TRM utilisation by the study participants irrespective of health insurance status.

Table 4.14: Selected survey questions regarding TRM use by health insurance status

		Health Insurance Status			*P*-value
		Insured	Uninsured	Total	
		N (%)	N (%)	N (%)	
Sources of TRM	Consult TMP	58 (25.0)	12 (13.0)	70 (21.6)	<0.001
	Self-application	105 (45.3)	50 (54.3)	155 (47.8)	<0.001
	Pharmacy shop	48 (20.7)	22 (23.9)	70 (21.6)	0.024
	Open Markets	21 (9.1)	8 (8.7)	29 (9.0)	0.033
Frequency of TRM use	None	34 (14.7)	11 (12.0)	45 (13.9)	-
	Once	36 (15.5)	22 (23.9)	58 (17.9)	0.066
	Two times	62 (26.7)	24 (26.1)	86 (26.5)	<0.001
	≥Three Times	100 (43.1)	35 (38.0)	135 (41.7)	<0.001
Co-TRM use with orthodox medicine	Yes	65 (32.8)	21 (26.3)	86 (30.9)	<0.001
	No	133 (67.2)	59 (73.8)	192 (69.1)	<0.001
Disclosure of TRM to health care professionals	Yes	21 (10.6)	13 (16.0)	34 (12.2)	0.170
	No	177 (89.4)	68 (84.0)	245 (87.8)	<0.001
Endorsing full integration of TRM into health system	Yes	210 (90.5)	79 (85.9)	289 (89.2)	0.224
	No	22 (9.5)	13 (14.1)	35 (10.8)	

Source: Field Survey, 2013.

Table 4.14 shows the relationship between health insurance position of the respondents against sources of TRM, frequency of TRM use, co-TRM use with orthodox medicine, disclosure of TRM to health care professionals and endorsement of full integration of TRM into the mainstream national health delivery system. Regarding the TRM sources, there was a statistical significance association between various sources of TRM and insurance status. Whereas the insured were more likely to obtain TRM from consultations with TMPs (25.0% vs. 13.0%, $p < 0.001$), the uninsured were more likely than the insured to access TRM by self-administration (54.3% vs. 45.3%, $p < 0.001$) and purchases from pharmacy shops (23.9% vs. 20.7%, $p < 0.05$). Similarly, the study found a

significant relationship between insurance status of the respondent and the frequency of TRM use. The insured participants were found to depend frequently on TRM for three or more times than their uninsured counterparts (χ^2 [1, N = 135] = 31.296, $p < 0.001$).

In a bivariate analysis, the study found statistically significant differences between the insured and uninsured sub-groups in relation to sex, marital status, nature of occupation and household size. Females were more likely to be enrolled on the National Health Insurance Scheme than males (65.1% vs. 34.9%). In similar sense, the married had greater propensity to be insured compared with the unmarried (65.1% vs. 34.9%). Studies have reported that females have a high demand for health care due to the fragility and relapsing reproductive functions and other health-related challenges of females (Buor, 2008; Gaffney and Smith, 2004; Gyasi, 2014). As a means to reducing the burden of escalating health care expenditure, more female than male enroll on the national health insurance. The influence of marriage couples and partners is reflected in the difference between insurance coverage between the married and unmarried respondents.

Participants enrolled on the National Health Insurance Scheme had the likelihood to concomitantly utilise TRM with prescribed drugs obtained chiefly from health facilities (df = 1; N = 86, $p < 0.001$). However, the study showed no statistically significant association between the health insurance status and disclosure of TRM use to health care professionals ($p > 0.05$). The insured and the uninsured alike showed less importance in divulging to health care providers as regards the consumption of various forms of TRM. Similarly, the study found no significant difference between the insured and uninsured respondents in relation to the endorsement of integrating TRM fully into the national health care delivery system ($p > 0.05$).

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4.7 Attitudes towards Full Integration of TRM into the Main Stream National Health Care System

TRM is built upon tradition and uncertainty. The background of TRM practice in Ghana is dependent wholly on herbs, wisdom and spiritual beliefs. Orthodox medicine which was introduced into the country by missionaries during the colonial era is rather built upon questioning and change (Twumasi, 1975). Today, a variety of therapeutic methods, techniques and modalities based on indigenous and modern regimen are available in Ghana. Recognising the international trend for patients to choose OM and TRM, the WHO has called for stronger collaboration between the two medical systems and their practitioners.

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As detailed in the final research question, the rationale for this section was to understand from different perspectives the attitudes and perceptions of integrating the TRM fully into the national health care system. Detailed findings were extrapolated from the responses of three categories of the sample, *viz.*, 324 service users, 30 TMPs, 32 OMPs across the study districts. TMPs' perspectives regarding integration of TRM into primary health care were compared with perceptions and attitudes of orthodox medical physicians and service users. Emerging themes were identified from the interviews and described independently thereof. These included attitudes towards referral interactions, attitudes to modernisation of TRM practice, registration and regulation of TRM practice and the barriers to full integration. Issues were developed and presented with subjective and normative direct quotations.

4.7.1 Attitudes towards Cross-referrals

The study found that 7 out of 10 of the communities surveyed had easy access to health care facilities—hospitals, clinics, health centres, community-based health planning and services (CHPS) compound—from which service users could consult in times of afflictions. Conventional health care practitioners in various categories and grades were therefore at post in these health facilities as the TMPs were also widespread.

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One of the most important mechanisms in any medical system which guarantees the safety of patients and assures effective treatment of diseases is the ability of the system to ensure prompt referral of patients to experienced professional medical attention. The respondents were asked to divulge their attitude towards cross-referrals between the practitioners of the two medical systems.

It was reported that referral interactions seldom occurred between THs and OMPs. The study however revealed that TMPs were more likely to refer patients to the OMPs then the reverse. Approximately, 53.3% (16/30) and 15.6% (5/32) of TMPs and orthodox medical doctors respectively explained that they have ever referred clients to the other. This finding is consistent with a Singapore study which reported that 17.1 percent of health care professionals had ever referred patients for CAM treatment and 64.1 percent had referred patients for treatment within the hospital in the preceding year (Wong et al, 2010). Notwithstanding, there was a general concert and recognition amongst the practitioners that certain diseases were better handled by a particular health system (traditional or orthodox), responding efficiently to the patients' needs. Surprisingly, overwhelming preponderance of the respondents corroborated to the fact that cross-

referral of patients between practitioners has the potential to command the forward match of full integration of TRM into the mainstream health care system.

Participants offered reasons for their reluctance to administer referrals. These were pithed on different empirical and philosophical underpinnings that root the two medical systems. Safety and efficacy concerns were also broadly highlighted. Also, the fact that clients have belief in TRM provided a strong reason for referrals. Some practitioners and service users explained further as demonstrated by the following quotation:

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> *"No, no, no. I don't refer my clients to the TMPs. Not at all…….since I can't guarantee the quality of care they* [the TMPs] *will provide to the poor and the helpless patients. If I can't ascertain and be sure of the treatment outcomes of the patient then there is no need to refer any of my clients to see healers……yeah"*
> [A 28-year old GP, Rural community]

Another biomedical practitioner noted with distrusts that;

> *"To refer cases to TMPs?.....hahaha…….this will be a very difficult task, master. Most patients are not directed to take the right dosage of whatever concoctions the practitioner will give them. Don't you think it could be dangerous to support this action"?*
> [A 47-year old Medical Officer, Urban community]

> *"No because I don't know the extreme length of the condition and moreover it is inappropriate to be prescribing treatment for patients when they have not been fully diagnosed. ……..and in fact the TMPs cannot diagnose patients properly, I guess".*
>
> [A 48-year old GP, Urban community]

One TH explained the reasons why he has never resorted to cross-referral of clients. He explained that his medicines were generally effective in the treatment of all problems presented to him by his patients.

> *"I inherited this gift from my late father who used to send me to harvest medicinal plants and products. I started seeing patients so many years ago…..but I've never referred any of my patients to the doctor. In the name of God, I'm able to handle every case presented. You know, no problem again when there is a proper solution to the problem"*
> [A 63—year old Herbalist, Urban Setting]

Most of the service users blamed poor inter-referrals on the negative attitude of OMPs to the TMPs and their medical practices. They noted that majority of the OMPs do not have any respect for healers and consider the traditional health care practice as mediocre. The biomedical practitioners entirely advise their client never to visit any TMPs or patronise and form of traditional therapy. In this purview, they are always reluctant to refer clients to the TMPs even if the orthodox medicines are working. Moreover, they glowered upon patients that have been referred to them by TMPs. This sometimes attracts serious punishments in a form of delayed attendance to the innocent referred patient. Some service users continued to note that biomedical practitioners should rather see TMPs as practitioners of their kind; share common concerns and ideas with them and full integrative medical system will results.

One service user in the Metropolis shared this with me;

> *I believed that TMPs and OMPs are should work hand in hand with one another but that is not what we see on the ground. When I was referred to send my hypertension to the hospital further treatment myself and the TMP who made the*

referral were all insulted. One of the nurses blamed me saying I shouldn't have gone to the TMP to start with the treatment. I became very much exasperated and never decided to go to the hospital again. They just want to discourage patients from seeing traditional healers for medical care.

However, few OMPs mentioned that they have involved themselves in cross-referral one way or the other. Justification for such action, according to them was related to efficacy of certain aspects of TRM. For example one urban orthodox practitioner explained that numerous diseases such as malaria, fractures, etc., are better treated and/or cured by TH. He therefore unofficially referred and/or recommended patients to TMPs. He was however much concerned with evaluation of TRM and registration of TH. These reasons are woven in the following quotes.

"I have referred several cases. It might surprise you but certain TRM helps and I don't hide it from my patients if they so wish to use them. These cover diseases from malaria, hypertension, bone fracture, diabetes, peptic ulcer disease, lumbago, gastritis, UTI, RTI and others. These conditions are better handled by TRM. But I think it's better to diagnose very well to ascertain the exact medical condition in place. I also think that it will serve all of us right to really evaluate herbal medicines properly through clinical tries. In this perspective, the benefits will be two-fold…….thus, getting better treatment alternatives, clients' safety will also be assured…..yeah"

[A-44 year old Physician, Urban community]

A general practitioner in the Metropolis mentioned that:

"Yes master, I've only recommended the use of a drug called Pilex which is a required form of traditional/ herbal medicine. It was used in patient with lever ax/ impairmeul. Most people have actually used it including myself…..And it works to the perfection probably because it's a refined form of herbal medicine. Some of the herbal medicines are truly effective"

[A- 31 year old GP, Urban community]

Majority of the TMPs rather saw the need to collaborate with the OMPs especially through communication and referrals mechanisms. It was amply demonstrated that effective communication between the two sets of medical officers will not only bring about the desired service to the clients, but rather has the impetus to lessen the burden of health care practitioners.

> *"Yes, I mostly tell patients to go and see the orthodox practitioners for treatment; after all we are all operating in the same box. Our aim is to help patients out of their medical problems. I know that not all diseases can be treated in this clinic especially cases like operation (surgery) and emergencies like coma".*
> [A-39 old year practitioner, Rural Community]

Another traditional healer concerted with other practitioners that;

> *"I sometimes make them* [patients] *go to hospital when they keep complaining after several treatment options. You know, the person's body and blood may not conform to the medications I give. So they can go to hospital, why not?" This will reduce my burden and therefore have the opportunity to see other patients.*
> [A-42 year old practitioner, Urban Community]

It was found that cross-referrals were poorly administered between the categories of the medical practitioners. In cases where cross-referral mechanisms were adhered to, there was no officially sanctioned referral system between traditional and orthodox medical systems in the study districts. Almost all the cross-referrals of patients occurred unofficially and in an uncoordinated manner. This is in concert with previous studies (Gyasi et al, 2011). These processes were more of recommendation rather than cross-referral. These developments could negatively affect the government policy to fully integrate TRM practice into the health care delivery system of the country (MOH, 2002).

This is a serious issue that must be addressed before any attempt to accomplish full integration of medical systems in Ghana.

TMPs recommended cases to OMPs mostly where the latter existed in the community. Some also OMPs reported to have appreciated certain aspects of traditional medical practice and therefore discharge and advise their clients to seek help from TMPs. This was done based on two major factors: once the OMPs are convinced that a medical case goes beyond the confines of conventional medical practice on one hand and where the OMPs or their close relatives have received excellent care from certain TMPs and/or TRM. This development is the forward march to the call for the long awaited full integration of the two medical systems in Ghana. Common conditions that orthodox practitioners referred to TMPS included Malaria, Hypertension, Diabetes, Peptic Ulcer Disease, Lumbago, Gastritis, UTI, RTI, Diseases of Spiritual Nature, Broken bones or fracture of the bone, piles, Rheumatism, Boils, Impotency, Infertility, etc. whereas TMPs referred conditions that involved surgery and those of emergency nature. TMPs were more likely to refer patients to other TMPs than conventional practitioners when they felt their own treatments were not effective, or when a particular TMP was well known for treating the problem in question.

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4.7.2 Attitudes Towards Modernisation of TRM Practice

Common views were offered regarding prompt modernisation of TRM and the practices of TMPs from the perspectives of service users, TMPs and OMPs. Education and training for both TMPs and OMPs were unanimously embraced as a crux to fortifying the processes of modernising traditional therapeutic practice which is a prerequisite condition towards medical integration. One participant described lack of basic education

as a major barrier to the acceptance of information and new technologies by the practitioners. Unfortunately, most of the respondents who participated in this study did not have any formal training regarding the practice of each other. Almost all OMPs (96.9%, 31/32) involved in the study said they had not received training on TRM practices or attended any seminars/lectures/symposia on TRM and therefore had poor knowledge about TRM. This was one major barriers resulting in low inter-referral of patients.

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Only one OMP said he has been trained up to university level at the Department of Herbal Medicine, Faculty of Pharmacy, KNUST as a practicing herbal practitioner. The reasons given for lack of training included: No opportunity to be trained, no interest in training and no time. Some of the OMPs expressed that they do not see the need to acquaint themselves with the traditional healing practices.

> *"Of course, I don't have that leisure of time to be involved in such training. I don't even see how important it is to be trained in traditional medical practice. I think I should concentrate on what I have been trained to do and do that properly"*
> [A 49—year old Medical Doctor, Urban Setting]

Majority of the TMPs (93.3%, 28/30) from both rural and urban prefectures was prepared to be educated and accept modern technologies to improve upon their skills. They explained the importance of training as it has a direct influence on performance, safety of care and more especially, the overall quality of practices. Dialogue and interaction with medical practitioners was a future goal of most TMPs.

"I think education and new technology will help me to learn and improve the quality of my medicine. It will enhance the safety and also create public awareness of the medicine".

[A-42 year old TMP, Urban]

Another respondent from a rural district explained that;

"Even if you have the gift of knowing medicinal plants and other ways of healing that is endowed by nature, you must as well be educated. Learning is part of humanity and must be allowed to continue. I'll accept modern technologies because the world is dynamic so we must always be prepared to embrace change"

[A-48 year old TMP, Rural]

One of the youngest practitioners from Kumasi Metropolis emphasised that;

"Education and training with doctors can lead to more enhancements in traditional medical treatment. Yes……good practice can be ensured. This is the more reason why I'll send my son to an herbal medicine schools"

[A 39-year old TMP, Urban].

A few of them however were not ready to participate in conventional or modern medical programmes. These assertions are given below:

"No medical scientist must be in their own line. You see we all prepare and offer the same drugs with different names. They always want to compete with us in the market. I think it's all about having the wisdom behind its preparation and treatment. My level of education is ok….."

[A 78-year Herbalist, Rural Setting]

TRM and orthodox practices are entirely built on different philosophies, although a common goal is always pursued by both entities. Some TMPs staged the argument of

secrecy in traditional medical practice. It was emphasised that certain aspects of TRM is antagonistic with conventional therapeutic practice especially those activities related to spirituality, religiosity and invocations. It therefore becomes difficult to actualise the desired modernisation and therefore full integration. A TMP had this to say:

> *"I think there are rules regarding any medical practice. I have conditions to practise with. I cannot reveal what it behind my work to anybody. Yes….I might lose my gift if I share this secrete".*
> [A 90-year old Healer, Rural Setting]

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Absurdly, majority of OMPs (91.0%, 29/32) did not see the very need to be part of and work together with the TMPs. OMPs were not willing to attend training, seminars or lectures on TRM should the opportunity be offered. For example, some participants mentioned concern for incorporating with traditional healers, as the healers were perceived with scorn and contempt. One participant mentioned that the traditional healers were uneducated and therefore cannot appreciate the scientific medical principles as regards modern medical practice. Another OMP explained that he was born and bred in a typical village where the activities of TMPs were palpable. He maintained that TMPs and their medical practices such as herbal preparations, concoctions and decoctions are not scientific due to lack of necessary education. The following quotes depict this picture clearly.

4.7.3 Registration and Regulation of TRM Practice

The safety and efficacy of TRM and CAM, as well as quality control, have become important concerns for both health authorities and the public (WHO, 2005). Development of national policy and regulations are essential indicators of the level of integration of TRM within a national health care system. Registration of practitioners

and regulation of herbal medicines is key variable of ensuring safety, efficacy and quality of herbal medicinal products.

TMPs were asked about the registration and regulatory status of their medical practice. Detailed descriptions as regards registration and regulatory status and bodies that regulate their activities were offered by the respective TMPs especially those that operate with herbal preparations. Twenty-one out of 30 (70%) TMPs interviewed mentioned that their practices were regulated. It was further found that majority (76%, 16/21) of the registered respondents were operating in the urban section of the study prefecture. The pressure in the urban environment for practitioners to uphold ethical and quality standards on one hand is the cornerstone of this regulatory trend. The competitive nature of practice cannot also be glossed over. Whereas different association at local, regional and national levels such as Ghana Federation of Traditional Medical Practitioners (GFTMP), Traditional Medicine Practitioners Council (TMPC), etc were named to have registered their activities, practitioners repeatedly cited the Foods and Drugs Authority (FDA) and CSRPM as their regulating agency. At present, FDA has created an herbal medicine unit under its jurisdiction. One participant noted that this unit is charged to monitor and evaluate the safety and efficacy of herbal drugs, products and herbal extracts. It also registers and regulates the sale and distribution of herbal drugs and products in the country. The CSRPM also screens all herbal drugs and products before they are dispensed to patients or distributed to the marketplace.

Practitioners maintained that it was necessary to be registered so as to be accredited for better services delivery.

> *"Yes, we are under the Traditional Medicine Practitioners Council and they register and regulate all our activities with respect to preparations, tests,*

packaging and sales of our medicines. Also, FDA sees to the drugs we produce here, authenticate them before we put them into the market place for sale. This is good; we in fact need to join a credible body for them to streamline our activities to benefit ourselves and the general public that buy our drugs"

[A 45-year old TMP, Urban Setting]

Another healer shared with me that;

"Yes, I think that if your medicines are good then why not go to register? To ensure more effectiveness and to clear the minds of many that TRM are not good, I went and registered my medical activities. FDA and the CSRPM check out the safety in the preparation of the balm I produce and its treatment strength before I sell them to patients"

[A 53-year old TMP, Rural Community]

In support of the above, TMP who practise in the Metropolis noted that;

You see it has been the norm. If you want your drugs to be in the reach of the public then it becomes important to register and obey the instructions as may be given. Nowadays practitioners who do not register and allow external regulations are missing out of the system. Most patients even look out for the registration labels before they buy the medicine. Foods and Drugs Authority regulate all that I do in my medical work. I registered this practice for reasons of effectiveness and public recognition"

[A 61-year old TMP, Urban Setting]

TMPs that were not registered during the survey offered reasons related to lack of information and lack of knowledge about where to register and how the registration processes are carried out. One of the practitioners never saw the reasons why she should register her activities to be monitored by an external authority.

The government is not serious…….we are tired of him. He wants to take money from us. How much do we even get from this practice? Some patients don't even pay us after treatment but it's not their fault. It's difficult to come by money these days. I'll not dare to register anything for them to come for money anytime they so desire"

[A 79-year old Herbalist, Rural Setting]

The preponderance of them (80%, 4/5) were operating in the rural section of the study communities. These respondents practised crude form of TRM. It was interesting to note that almost all the non-registered practitioners were ready than ever to do so.

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4.7.4 Perception on Barriers to Integrative Medical Care

Majority of the study participants in all three groups expressed support for the inclusion of TRM services into the Ghanaian national health care delivery (service users (96.8%); TMPs (88.7%); OMPs (68.4%)), though the service users and TMPs showed a stronger subscription as compared to the OMPs. Service users articulated their readiness and expectation to receiving traditional medical care from a primary care environment, such as hospitals, clinics, health centers, etc.

When further probes were made, majority of the respondents showed interest in seeing herbalists and their herbal treatment modalities added to the orthodox medical dispensation rather than the faith and spiritual healing practices. One respondent explained that it will be relatively easier to have herbal medicines dispensed in the health care facilities than other traditional healing modalities which appear to be spiritual and implicit. That herbalism is in consonance with the orthodox medical practice.

"Plant medicine can be easily practised in hospitals but it will be difficult to combine spiritual healing to hospital care. A patient can only be healed spiritually when he/she has a belief in that practice…..yes…….how he/she believe in……:"

[A Service User, Urban Setting]

When questioned about the current situation of the medical integration, majority of the respondents noted that the successive governments have made strides to achieve integration of traditional and modern medical practice. Some participants from the urban prefecture revealed that herbal medicine units have been established in some hospitals in the Metropolis where herbal treatment and dispensing have commenced. It was found that the past governments committed themselves to establish and make research institutions functional in the name of researching, modernising and ameliorating herbal medicine and products in the country. These institutions include the CSRPM, the Noguchi Memorial Institute for Medical Research (NMIMR) and the Department of Herbal Medicine, KNUST where herbal medical practitioners are trained and practise in the orthodox medical facilities. Out of these research endeavours, most herbal medical centres have sprouted particularly in the urban areas where improved form of herbal medicine in the form of capsules, tablets and syrups are prepared for the general public. Also, registration of TMPs, regulation and screening of herbal products and medicines by FDA provide enough evidence of integration of medical systems, at least better than years before.

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The interviewees however recognised that the forward match of full medical integration is delaying due to poor implementation mechanisms that have so far been executed. One participant in the rural setting mentioned unequivocally that the efforts of the government are not enough.

> *"You see, they* [governments] *have done something but these same governments are not coming down to the level of the poor TMPs. No government supports whatsoever is available to support healers to go through the necessary clinical test to improve the safety and quality standards of their medicines. They should do more".*

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The traditional medical practice is interwoven with charlatans and quacks. Unscrupulous individuals are veered to combine 'chaff' into concoctions and herbal preparation as a result of unemployment situation in the country. They apply 'cure all' principles and peddle in the open markets, buses and streets in the name of making economic gains, compromising the efficacy of medicines and safety of the public. Respondents explain that until proper regulation of herbal medical practice by the MOH and its agencies is guaranteed and to organise workshops on the administration of drugs for the practitioners, full integration of traditional and conventional medical services will continue to be a mirage. Currently, some of the healers' associations such as the Won Waana Traditional Healers Association are urging the government to act without delay since quackery remains a viable route to undermining the development of herbal medicines.

Participants noted again that the training sessions that are meant to boost the understanding of practitioners especially the TBAs are not forthcoming any longer. Biomedical practitioners poignantly continue to treat TMPs with disdain, belittle and

consider them as ‘unscientific’ and people who wish to bring chaos into medical practice. They explained that even today some herbalists perceive the full integration process as a cheap means to exploit and rub them of their indigenous knowledge of medical practice. Some respondents in the urban communities expressed worry about the discrimination against traditional health care. For example, a particular reference was made regarding herbal medicine and product been excluded from the NHIS drug plan although the introduction of NHIS policy and the implementation of herbal medicine unit at various hospital have concurred. Most participants agreed that coverage of herbal medicines with NHIS is potential to plummeting fake herbal practices as patients will rather opt for those drugs dispensed at the health facilities thereby streamlining integrative medical system.

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CHAPTER FIVE

SUMMARY, CONCLUSION AND POLICY RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of the main research findings as well as the lessons that could be learned. It draws conclusion with respect to the study findings and offers recommendations to be considered in the designing and implementation of future policies towards the improvement of TRM in the country. Future research directions are finally provided in this chapter.

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5.2 Summary of main findings

TRM was highly patronised in the study prefecture. Over 86 percent of respondents reported use of TRM. More females than males were found to have utilised TRM but the difference was not statistically significant based on Pearson's chi-square test of difference conducted. Moreover, majority of the respondents had used TRM two or more times during the last year. Family members (relatives), friends and media were the most important sources of information on TRM whilst the role of orthodox health care providers was low. Major sources of TRM were self-preparation and chemical shops. However, drug peddlers in the open markets, TMP consultation as well as health care facilities were not important sources of TRM. Biologically based products and faith healing were the main forms of TRM utilised.

Respondents were motivated for TRM use through 'push' and 'pull' factors; the perceived dissatisfaction of using conventional health system and the perceived benefits and beliefs attached to TRM/TH use were respectively reported. Efficacy, safety and

socio-cultural factors—spirituality, religiosity, personal philosophies—were critical elements that pulled service users into TRM utilisation. Nine in ten of respondents did not disclose TRM use to their biomedical health care providers. Biomedical practitioners not inquiring about TRM use, bad experience of previous disclosure and out of fear of their physician's disapproval of TRM use were the main reasons for non-divulgence of TRM use.

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The study found predictors of TRM utilisation to include nature of occupation, income levels, efficacy of TRM, side effects of use of TRM, nature of disease and attitude of TMPs towards their clients. The results again showed no statistically significant difference between residential status and TRM use. The uninsured patronised TRM more than the insured respondents but the difference was not statistically significant for any empirical argument.

Referrals of clients between TMPs and OMPs barely occurred though; the TMPs were more likely to refer clients to OMPs. OMPs had limited training on TRM practices and therefore lack fundamental knowledge about traditional medical practice. Most TMPs expressed the desire for training and acceptance for modern technologies in their practices. Better communication and interactions defined by cross-referral of service consumers between practitioners is potential to ensure the forward match of full integration of TRM into the primary health care system. Most TMPs expressed the desire for training and acceptance for modern technologies in their practice.

Virtually, all respondents expressed support for full intercultural health care but service users and TMPs were more likely to accept the model of medical integration. However,

inadequate government support and poor implementation mechanisms have delayed the process. Issues relating to charlatanism and quackery amongst TMPs were a concern. Training sessions meant to improve the practitioners' knowledge of practice were not forthcoming. Biomedical practitioners' negative attitudes to TMPs and the discrimination against traditional health care were recognised as inimical to actualising full medical integration. All these have cornered herbalists to perceive the full integration process as a cheap means to be exploited and therefore remain hostile to the model.

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5.3 Conclusion

The current study examined the nature of TRM utilisation and the factors that influence such utilisation patterns in representative rural and urban communities in the Ashanti Region of Ghana. The study has made significant contributions to knowledge as regards the methodological, empirical and theoretical frameworks as far as utilisation of TRM is considered. The study therefore has implications for practice and policy concerns.

The study has made an argument for espousing mixed-research approach and methodologies in the study of TRM utilisation. It has been the convention for many previous studies to apply a quantitative or qualitative methodology separately in utilisation studies. This does not bring out the desired outcomes looking at the complexities of the innate variables. To augment the qualitative methods that encapsulate ethnography and *a posteriori* inductive categories, the current study utilised a quantitative measurements and tools such as bivariate logit regression model, non-parametric Pearson's chi-square tests and Fisher's exact tests to unravel the actual worthwhile reasons, motivations and predictors of TRM utilisation. The qualitative data

present an inimitable value of complementing, validating and providing a better appreciation of quantitative discoveries.

The study has filled gaps in literature as regards prevalence, pattern of use, motivations and predictors of TRM utilisation among service users in Ashanti Region, Ghana. The findings have validated the objectives and the hypotheses of the study. Out of the five hypotheses, four were justified. This research has provided empirical evidence to rebut the argument that TRM is predominantly used by females, uninsured, rural dwellers and less educated. The study has demonstrated that there are no statistically significant differences between the female and males; uninsured and insured; and rural and urban respondents regarding TRM use. The hypotheses, that sex, residential status and health insurance status showing no difference in TRM utilisation were therefore confirmed. Moreover, the study concludes that the decision to use TRM is greatly influenced by people's experience, perceived health beliefs, attitudes to TRM in relation to efficacy, safety of use and attitudes of TMPs rather than people's socio-demographic characteristics. These findings are relevant for the ongoing empirical and theoretical debate regarding TRM utilisation.

One major contribution of this research is the provision of a conceptual model for studies on empirical relationship between utilisation of TRM and the various demographic, socio-economic as well as biopsychosocial variables. Based on the emerged model, the researcher argues that as long as majority of Africans rely on TRM for their primary health care needs, it is imperative to consider the TMPs and their medical practices in all health care utilisation model applied in the developing countries. Today, plans are far advanced to apply intercultural health care model in most developing countries. In this

regard, orthodox health care cannot be isolated without taking cognisance with traditional medical care. Key adaptions offered to the original framework include the dependent variable (utilisation of TRM) and the characteristics of TMP. Comprehensively, the study has provided a forum for future research endeavours to adopt and apply this intellectual model in studies relating to utilisation of TRM particularly in Africa and other developing communities.

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The survey was imperiled with few methodological challenges and limitations which one way or the other influenced the study results. The non-random sampling techniques used in the selection of the study settlements and qualitative respondents may present a bias since other study areas and potential participants were not given the chance of being selected. Also, the systematic random sampling method used in the selection of service users gave the propensity of losing some vital information from the target population. Some illiterate respondents found it difficult providing accurate data on their ages and monthly incomes. The problem was resolved by falling on other relatives for assistance. These may not present the realities and may lead to bias. Altogether, 19 persons, earmarked as respondents, failed to respond to the interview/questionnaire on grounds that they would not see any changes in the quality of their lives by spending time on such interviews. Others considered the exercise as an avenue to collect tax from them and therefore were reluctant to participate. To ensure precision and reliability of the survey results, efforts were made to obtain suitable substitutes with similar characteristics for this sample in order to play down bias.

5.4 Policy Recommendations

The outcome of this study based on the research findings shows that a number of strategies ought to be procured in order to ameliorate the practice of TRM in the study setting towards intercultural health care. The following policy recommendations are therefore proposed as a conduit to actualise the improvement of TRM.

5.4.1 Development of traditional medical practice

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The research has established that patronage of TRMs is on its highest apogee for many reasons, viz. belief, trust, proximity, cost-effectiveness as well as the flexibility in the mode of payment. The practice is perceived to be entrenched and enshrined in the socio-cultural milieus of the people. Two hundred and seventy-nine, representing 86% of the respondents reported to have consumed the services of TRM in the district during the survey. The system also provides employment to indigenous people and there is the need to improve upon the practice. The government, NGOs and other stakeholders must therefore see the need to invest in research, education, equipment and other infrastructure which will help make people accrue maximum benefit from traditional medical practice. The role of TRM should not end up in political polemics. Real and concrete action should follow the recognition of the contribution of TRM to the primary health care of the people. The traditional medical system should merit a significant proportion of the budgetary allocation to the health sector.

5.4.2 Communication between service users and orthodox health care providers

This research has demonstrated that medical pluralism was a common therapeutic practice among the study participants. Most of the respondents were on the known regarding the adverse effects that might be associated with the concomitant TRM use

with the variety of conventional therapies. To the dismay of many, majority (87%) of the service users indicated non-disclosure of use of TRM modalities to their orthodox health care providers citing reasons such as stigmatisation and the failure in the part of the physicians to make inquiry about TRM use. It is recommended therefore that improved, effective and more open communication between patient and health care providers be prioritised. Patients' belief systems and standpoints should be respected; health care providers need to convey the potential for adverse effects and drug interactions in relation to traditional therapies. Health care professionals ought to be fully notified about TRM use as part of their history taking and clinical assessments. This could serve as means to avoid serious advent effects and negative interactions between TRM and OM modalities used.

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5.4.3 Communication between TMPs and OMPs through referral mechanisms

The relationship between TMPs and their orthodox counterparts is not always forthright due to potential misunderstandings and misconceptions about each other. For example, health authorities may object to collaboration with traditional healers as their roles are often conflated with negative images of charlatanism and sorcery, which are opposed to modern notions of biomedicine. The study has unraveled that poor communication in a form of inter-referral interactions rarely occurred between THs and OMPs irrespective of the fact that certain diseases were better handled by a particular health care system. Instances where interactions existed through inter-referrals, they were no official and synchronised.

It is therefore recommended that there should be an effective and smooth communication through officially sanctioned and well-coordinated referral mechanisms between the health care providers. The GOG through MOH Ghana Health Service Division (GHSD) must, as a matter of urgency, establish a patient referral system between the OMPs and TMPs to protect, promote and enhance the health care delivery for patients/clients. This will serve as an antecedent to the smooth integration of traditional and orthodox medical systems. It should be noted again that economic development wholly depends on a healthy population.

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5.4.4 Professionalisation and modernisation of TRM through education and formal training of TMPs

It was reflected in the study outcomes that education and training of medical practitioners are the cornerstone to fortifying modernisation of TRM. This was an accepted fact by all study subjects and therefore education and training for both TMPs and OMPs were unequivocally embraced as a major mechanism towards medical integration. Lack of basic education and training for practitioners will project major barrier to the acceptance of information and new technologies by the practitioners. Usually the safety, efficacy and general quality of traditional medicine is limited by the teething problems associated with preparation processes and recommended dosages. This study showed that most of the practitioners have never participated in any forum/seminar on each other and therefore had poor knowledge in this regard. There are no established institutions for training TMPs and their trainers. There is no TRM component in the syllabi for the training of orthodox medical practitioners and lack of motivation for orthodox practitioners who embark upon TMP training programmes.

It is therefore recommended that the MOH and GHS through the District Health Administration and District Health Management organise regular education and training workshops, forums and seminars for traditional health care providers in the study settings to upgrade their skills and knowledge of practice within the remit of the government with the view to strengthening the co-operation between TMPs and OMPs. Training curriculum should be developed for TMP training at district levels. Also, biomedical practitioners should be encouraged to study and practice TRM and vice versa. The TMPC should organise training programmes along the lines organised for TBAs to improve upon the practices and also restore the training sessions for the TBAs. These platforms could create awareness on the need to prepare medicines in more sanitary and hygienic conditions and through scientifically appropriate procedures. Also, medical administration based on "trial and error" should be avoided to avert the consequence of over and/or under dosages of medications. Altogether, the modernisation of TRM would be needed to inform quality of life of service users and/or patients.

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5.4.5 Registration and evaluation of efficacy and safety of TRM

The major teething challenge affecting the TRM practice is related to lack of information on TMPs as regards their qualification, registration, location, number of and the products used in their practices, exact efficacy, safety and quality of their medicines. These practices are not organised for training, registration and clinical trials for effectiveness. These allow the proliferation of too many vendors/peddlers in the system which promotes quackery and fake practices.

To attain incorporation of TRM into national health care programmes and systems, we should be able to distinguish qualified practitioners and practices. Although, most aspects of TRM have proven efficacious and safe in dealing with the health problems, it is recommended that proper evaluation mechanisms be put in place by the government through centres for clinical pharmacology and therapeutics, such as NMIMR, Faculty of Pharmacy, KNUST, CSRPM, Biochemistry Department, University of Ghana, Chemistry Department, University of Cape Coast to ensure that the quality of TRMs is standardised. These should be certified by the FDA to streamline herbal drugs and products. TMPs should be encouraged by TMPC to register and routinely license their practices with Traditional Medicine Practice Council with the view to enhancing the practice and eliminating quacks and charlatans in the world of TRM practice. Further, there should be a full force of the law by the government and TMPC to punish the unauthorised practitioners who put the name of TRM practice into opprobrium.

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5.4.6 Inclusion of TRM on the NHIS Drug Plan

TMPs and their medicines are usually first consulted and applied, as they are typically known and familiar to the people they serve, their affordability, their ability to dispense medication for symptoms, and to provide locally understandable and culturally apposite explanations of disease causation to their clients. The research brought to light that herbal medical unit has been established and inaugurated in four health care facilities in the study region. It was realised that only 22 out of 279 TRM-users accessed health care from these herbal units despite people's general preference for herbal and other TRM modalities as a results of the full cost recovery that clients must meet. Efforts must be made to introduce NHIS on herbal medicines dispensed in these facilities through the inclusion of herbal medicines on the NHIS Drug Plan. The efforts of the government

health delivery institutions such as MOH, GHS and FDA, vis-à-vis research institutions such as CSRPM will be golden in this regard. This will redefine the attractiveness of the TRM in order to serve majority of patients for conditions that cannot be handled properly by the orthodox medicine. The potential part of the TRM as alternative and/or complementary could therefore be illuminated. This will serve as a conduit to promote the integration process of medical systems.

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5.4.7 Procuring full integrative medicine

The idea to incorporate TRM into the national health care system was born about four decades ago upon the recognition of the vital roles TRM plays in the health care delivery system. This was done through various strategies including the formation of the Ghana Psychic and Traditional Healers Association in 1961 and the establishment of the CSRPM in 1975. In 1991, the government established a unit for the coordination of TRM which is now called Traditional and Alternative Medicine Directorate. This was then followed by the setting up of the FDA in 1992 to certify the sale of TRM products to the public. In 2000, the government enacted the TMPC Act (Act 575) for the establishment of Traditional Medicine Council which is responsible to register all TMPs. All successive governments have contributed their quota towards the integration process.

However, full integration still remains elusive. It is recommended therefore that practice should back the theory by investing in training of practitioners and clinical evaluation of herbal medicines at the remit of the government. Again, an Alternative Medicine Bill should be passed in parliament to catalyse the process. The process should be decentralised at district and local levels to have the feel of individual participation. Full integration of TRM into the OM is needed to serve as a facilitator to achieving the long

awaited goals of health service delivery and the "health for all policy" as explicated in the Alma Ata Declaration and to accelerate the actualisation of health-related MDGs.

5.5 Suggestions for Further Research

The contribution of this study is acknowledged, albeit the findings have significant implications for future studies. In the first place, it was found that disclosure of TRM use to orthodox health care providers was poor among respondents. This has the propensity for drug interactions and advent effects. Future study should therefore consider ways of improving patient-physician communication on TM utilisation.

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Second, the study has demonstrated that efficacy and safety of TRM are major motivations for TRM utilisation based on the respondents' perspectives. To build on this, research is needed on the plausible clinical trials and scientific tests to ascertain the actual potency and quality of TRM. This will entail a more thorough understanding of the role of TRM in the health care delivery system in Ghana.

Third, the current research found that there is no statistically significant difference in TRM utilisation between rural and urban prefectures in Ghana. Future research must investigate why urban denizens continue to patronise various modalities of TRM given the presence and advances of conventional health facilities and personnel of various levels and grades.

Finally, the study has expounded the pattern of use of TRM and the potential factors influencing TRM utilisation amongst the general population in the Ashanti Region. To improve our understanding of this subject, research must to expand and focus on the perspectives of sub-groups of the population such as the elderly, children and women to bring out uniformity in TRM utilisation.

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APPENDICES

APPENDIX A

INTRODUCTION AND INFORMED CONSENT FORM

Dear Respondent,

I am a Master of Philosophy Candidate at the Department of Geography and Rural Development, Kwame Nkrumah University of Science and Technology (KNUST), Kumasi. I am conducting a study to examine the factors influencing traditional medicine utilisation in the Ashanti Region, Ghana. Your district and community have been selected as study areas. I wish that you take full participation in the survey through interviews/ questionnaire administration. The information you provide will be used in a research activity designed to produce scientific knowledge. It will also help health care professionals provide quality, safe and effective treatment for the people of Ghana in general and members of this community in particular.

However, participation in this study is completely voluntary and you reserve the right to decide not to respond to certain questions or withdraw at any time in the course of the interview/ questionnaire administration without any penalty. By signing or thumb printing this form, you are giving your consent to participate in the study. Notice that whatever information you disclose will only be used for academic purposes and will be treated as strictly confidential as possible and that will be reported in a way that no one will know your specific answers.

If you have any question and queries concerning this research, please do not hesitate to contact me at +233208545052. You may also contact my Lead Supervisor, Dr. (Mrs.) Charlotte Monica Mensah (+23320773 2713) Co-supervisor, Ms. Lawrencia Pokuah Siaw (+233201185063) from Department of Geography and Rural Development, KNUST, Kumasi.

Thank you for your participation.
Sincerely,

SIGNED

Razak Mohammed Gyasi
Department of Geography and Rural Development
KNUST, Kumasi.

Signature/ Thumb Print of Respondent

APPENDIX B
THESIS QUESTIONNAIRE PROTOCOL FOR HEALTH SERVICE USERS/CLIENTS

SECTION A: BACKGROUND CHARACTERISTICS OF RESPONDENT

1.1 Age in years

1. < 20 [ ]
2. 20-29 [ ]
3. 30-39 [ ]
4. 40-49 [ ]
5. 50-59 [ ]
6. 60 and above [ ]

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1.2 Sex

1. Male [ ]
2. Female [ ]

1.3 Residential Status

1. Urban (Kumasi Metropolis) [ ]
2. Rural (Sekyere South District) [ ]

1.4 Marital status

1. Single/ Widowed/Widower/ Divorced [ ]
2. Married/Cohabitated [ ]

1.5 Educational status

1. Never-been-to school [ ]
2. Basic education [ ]
3. Secondary [ ]
4. Tertiary [ ]

1.6 Education of partner

1. Never-been-to school [ ]
2. Basic education [ ]
3. Secondary [ ]
4. Tertiary [ ]

1.7 Religious background

1. African Traditional Religion [ ]
2. Christianity [ ]
3. Islamic [ ]
4. Others.....

1.8 Employment status

1. Employed [ ]
2. Unemployed [ ]

1.9 Nature of occupation

1. Trading [ ]
2. Farming [ ]
3. Government employee [ ]
4. Artisan [ ]
5. Schooling [ ]
6. Others specify [ ]

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1.10 Working Experience

1. 1–5 years [ ]
2. 6–10 years [ ]
3. 11–15 years [ ]
4. 16–20 years [ ]
5. 21 and above [ ]

1.11 Tribe/Ethnicity

1. Akan [ ]
2. Ewe [ ]
3. Ga-Dangme [ ]
4. Mole-Dagbani [ ]
5. Guan [ ]
6. Gurma [ ]

1.12 Household size

1. ≤ 3 [ ]
2. 4-6 [ ]
3. 7-10 [ ]
4. 11–15 [ ]
5. 16-19 [ ]
6. 20 and above [ ]

1.13 Household monthly income level (in GH¢)

1. ≤100 [ ]
2. 101-300 [ ]
3. 301-500 [ ]
4. 501-1000 [ ]
5. 1001 and above [ ]

SECTION 2: PATTERN OF TRM UTILISATION

2.1 How did you learn about these herbs? (*Check all that apply*)

1. From a family member [ ]
2. From a friend or acquaintance [ ]
3. From literature/ books [ ]
4. From media/ television/radio [ ]
5. From doctor or other health care provider [ ]
6. Other (please specify).....

2.2 How often do you use traditional medicines?

1. Daily [ ]
2. Weekly [ ]
3. Monthly [ ]
4. Annually [ ]
5. Others.....

2.3 How many times have you used TRM or consulted TMP in the last three times you were sick?

1. None [ ]
2. Once [ ]
3. Two times [ ]
4. Three times [ ]

2.4 How do you usually obtain your traditional medical products? (*Check all that apply*)

1. Consult TMP [ ]
2. Self-application [ ]
3. Buy from Chemical shop/ Pharmacy [ ]
4. Buy from drug vendors/peddlers/ open markets/buses [ ]
5. Others.....

2.5 What motivate you to use traditional medicine?

1. .....
2. .....

2.6 Do you sometimes take herbs/TRM at the same time as you take orthodox medication?

1. Yes [ ]
2. No [ ]
3. Don't know [ ]

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2.7 If yes, do you inform your health care provider?

1. Yes [ ]
2. No [ ]

2.8 Do you think there may be a problem if you take TRM and orthodox medicines together?

1. Yes [ ]
2. No [ ]
3. Don't know [ ]

2.9 How far do you travel/walk to access traditional medicine (How easily is TRM accessible)?

1. About 1 to 2km away [ ]
2. About 3 to 4km away [ ]
3. About 5 to 6km away [ ]
4. About 7km or more away [ ]

2.10 How much does it cost you to have treatment at the traditional health care centre?

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

2.11 On average, how long does it take for TRM to cure/treat illness?

.....
.....

SECTION 3: USER SATISFACTION OF TRM USE (PSYCHOSOCIAL FACTORS).

3.1 Are traditional medicines effective in treating, curing and or preventing diseases?

1. Yes [ ]
2. No [ ]

3.2 How would you rate the efficacy/efficiency of traditional herbal medicines?

1. Poor [ ]
2. Satisfactory [ ]
3. Good [ ]
4. Very good [ ]

3.3 Are traditional medicines safe when used to treat diseases?

1. Yes [ ]
2. No [ ]

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3.4 How would you rate the safety of use of traditional medicines?

1. Poor [ ]
2. Satisfactory [ ]
3. Good [ ]
4. Very good [ ]

4.5 How would you rate the flexibility of use of traditional medicines?

1. Poor [ ]
2. Satisfactory [ ]
3. Good [ ]
4. Very good [ ]

3.6 How do you rate the attitude/ affective behaviour of TMPs towards their clients?

1. Poor [ ]
2. Satisfactory [ ]
3. Good [ ]
4. Very good [ ]

3.7 What is your level of comfort when accessing traditional health care (during the use of TM
or consulting TMP)?

1. Poor [ ]
2. Satisfactory [ ]
3. Good [ ]
4. Very good [ ]

SECTION 4: HEALTH-RELATED DATA AND NATIONAL HEALTH INSURANCE STATUS

4.1 How would you rate your current state of health?

1. Poor [ ]
2. Satisfactory [ ]
3. Good [ ]
4. Very good [ ]

4.2 Do you have any chronic/non-communicable diseases/conditions?

1. Yes [ ]
2. No [ ]
3. Don't know[ ]

4.3 Have you enrolled for national health insurance?

1. Yes [ ]
2. No [ ]

4.4 Apart from national health insurance, do you have any form of insurance?

1. Yes [ ]

2. No [ ]

4.5 If yes, what kind of insurance is it?

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

4.6 Why did you register for the health insurance?

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

4.7 Do you still use traditional medicine, having enrolled on the national health insurance scheme?

1. Yes [ ]
2. No [ ]

4.8 Offer reasons for your response in question 4.7.

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

4.9 Are you able to renew your national health insurance status on regular basis?

1. Yes [ ]
2. No [ ]

4.10 Offer reasons for your response in question 4.9

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

SECTION 5: FULL INTEGRATION OF TRM INTO MAINSTREAM HEALTH CARE

5.1 Do you endorse full integration of TRM and OM?

1. Yes [ ]
2. No [ ]

5.2 Why do you think TRM should be integrated into the mainstream national health system?

.....
.....

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5.3 Why do you think it is difficult to integrate TRM and OM fully?

.....

.....

5.4 In your view, what do we do to achieve full integration of TRM and OM?

.....

.....

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APPENDIX C

THESIS INTERVIEW PROTOCOL FOR TRADITIONAL MEDICAL PRACTITIONERS (TMPs)

SECTION 1: PRACTITIONER'S BACKGROUND CHARACTERISTICS OF TMPs

1. Name of District.....
2. Name of the village /community.....
3. Title.....
4. Age.....
5. Sex.....
6. Tribe / ethnic origin.....
7. District.....
8. Educational level.....
9. Name of Herbal clinic.....

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SECTION 2: INFORMATION ON PRACTICES OF TMPs

1. What is your specialty?

What common diseases do you treat or cure or manage?

How many people do you treat using your medical/herbal remedy within a year?

How fast can traditional herbs cure?

2. Did you learn this work or you inherited it? [Probe: in each case find out how the process was carried out; from whom was the knowledge acquired]

How did you become interested in your work?

Would you allow your children do this type of work? Why or why not?

How long have you been practising traditional medicine?

3. Who are your regular patients?

Do you have any special days for consultation? If yes, what are they and why?

What are the principal traditional diagnostic techniques you employ during practice?

SECTION 3: REGISTRATION, TRAINING AND REGULATION OF TMPs AND TRM PRACTICES

4. Is there any regulatory policy in your practice? [Probe: Find out which organisation regulates your activities. How are the regulatory measures carried out?]
Is there any precaution in your practice?
Are you registered with any health statutory body of the state? If yes why?
If no, would you be prepared to register? Why or why not?

SECTION 4: EFFICACY AND SAFETY OF TRM

5. How do you determine the effectiveness of your treatment?
Is there a way of doing follow-up of your treatment?

6. How safe is your treatment?
Where do you normally prepare your TRM?
Do you have measurement for your medication?
What type of measurement do you have?
Do you think your medications have adverse effect? Give reasons for your response.

7. Do you think level of education may have any role in your practice? Explain how.
[Probe: Do you intend to improve in your level of education?]
Would you accept any form of modern technology to improve your practice?

SECTION 5: COMMUNICATION BETWEEN TMPs AND OMPs AND MEDICAL INTEGRATION

8. Would you want to collaborate with medical scientist to investigate your herbal preparation [Probe: If you observe any adverse effect in your herbal preparation, would you be willing to report to nearby hospital]
Do you receive referrals from any Orthodox Medical Practitioners (OMPs)?
If yes, how usually is their condition when they are brought from the OMPs?
Do you refer patients to any orthodox medical practitioner (OMP) or hospital? Why or why not?

If yes, what kind of diseases was involved in the referral cases and under which circumstance?
Do you have intention of working hand in hand with orthodox Medical Practitioner?

9. Would you be prepared to join any scheme which advocates your integration into the mainstream system operated by the Ministry of Health (MOH)?

10. What are the perceptions, attitudes and reactions of people to traditional medical practice?

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APPENDIX D

THESIS INTERVIEW PROTOCOL FOR ORTHODOX MEDICAL PRACTITIONERS (OMPs)

SECTION 1: BACKGROUND CHARACTERISTICS OF OMP

1. Name of community.....
2. Age of respondent…….....
3. Sex…….....
4. Qualification / Title……....
5. Area of Specialty…….....
6. Number of years of practice……...

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SECTION 2: KNOWLEDGE OF OMPs ON TRADITIONAL MEDICINE (TRM)

1. Tell me about a time when you used traditional healing practices to treat/cure ailment.
2. Can you recall when you heard/saw a member of your family used traditional healing practices to treat/cure ailment. Please tell me about it.
3. Are there any medical conditions that you would consider using traditional therapies but not modern medical therapy? Give examples of such problems.
4. Share with me some reasons for your response given above.
5. Do your patients tell you about the traditional medicines they have used before visiting this hospital/clinic? If yes, what was the outcome? That is, was the traditional therapy helping to manage the illness or not?
6. Do you receive referrals from any traditional healers (TH)? Why do you think TH refer or do not refer patients to your hospital/clinic?
7. Do you have records on the referred cases? If yes, what types of cases were involved?
8. Have you ever recommended certain form of traditional medicine for your clients? If yes, what kind of illness was involved and under which circumstance? If no, why?

SECTION 3: ATTITUDES/PERCEPTIONS OF OMPs TOWARDS TRADITIONAL MEDICAL PRACTICE

9. How would you rate the efficacy or effectiveness of traditional herbal medicines and why?
10. How would you rate the safety of use of traditional herbal medicines? Please give reasons for your response.
11. Do you approve of TH and traditional therapies as of now? Why or why not?
12. Tell me about the contributions of TRM and TH to health care delivery system? Are there any importance of TRM/TH
13. Do you endorse full integration of TM into the mainstream national health care system? Why do you think TRM should be or should not be integrated into the mainstream national health system?
14. Despite all efforts, what are the reasons for the difficulty in the full integration of TRM into the national health care system in Ghana?
15. What are the prospects or the way forward of full integration of TRM into the national health care system?
16. In your view, what do we do to achieve full integration of TRM into the national health care system?

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APPENDIX E

DISSEMINATION OF STUDY RESULTS THROUGH PUBLICATIONS

Eight (8) scientific papers emerged from the thesis; viz.;

1. **Gyasi RM**, Mensah CM, Siaw LP. Predictors of traditional medicines utilisation in the Ghanaian health care practice: Interrogating the Ashanti situation. *Journal of Community Health*, 2015; 40(2): 314-325. Doi 10.1007/s10900-014-9937-4.

2. **Gyasi RM**, Siaw LP, Mensah CM. Prevalence and pattern of traditional medical therapy utilisation in Kumasi metropolis and Sekyere south district, Ghana. *Journal of Ethnopharmacology*, 2015; 161: 138-146. Doi.org/10.1016/j.jep.2014.12.004.

3. **Gyasi RM**, Mensah CM, Yeboah JY, Siaw LP. Quality control and standards of medicinal products: A committed agenda. *British Journal of Pharmaceutical Research*, 2015; 6(6): 385-388. no.BJPR.2015.080.

4. **Gyasi RM**, Asante F, Segbefia AY, Abass K, Mensah CM, Siaw LP, Eshun G, Adjei P O-W. Does spatial location matter? Traditional therapy utilisation among the general population in a Ghanaian rural and urban setting. *Complementary Therapies in Medicine*, 2015. http://dx.doi.org/10.1016/j.ctim.2015.04.007 (In Press).

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5. **Gyasi RM**. Relationship between health insurance status and the pattern of traditional medicine utilisation in Ghana. *Evidence-Based Complementary and Alternative Medicine* (Under Review).

6. **Gyasi RM**, Asante F, Yeboah JY, Mensah CM, Siaw LP. Pulled in or pushed out? Understanding the complexities of health beliefs and motivations for traditional medicine utilisation in Ghana. *Social Science and Medicine* (Under Review).

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7. **Gyasi RM**. Walking the policy talk: Integration of traditional medical practices into mainstream health care system in Ghana". *BMC Complementary and Alternative Medicine* (Submitted).

8. **Gyasi RM**. Differences between male and female up-takers of traditional medicine in the Ashanti Region, Ghana. *Journal of Biosocial Science* (Submitted).