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DEPARTMENT OF INFORMATION STUDIES**

**MEDIA FOR HEALTH INFORMATION DISSEMINATION TO RURAL
COMMUNITIES BY THE GHANA HEALTH SERVICE. A STUDY OF
THE SHAI OSUDOKU DISTRICT OF THE GREATER ACCRA
REGION**

BY

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**THIS THESIS IS SUBMITTED TO THE UNIVERSITY OF GHANA,
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DECLARATION

I, Philippa Pascalina Sokey, declare that except for references of other people's investigations which have been duly acknowledged, this dissertation is the result of my own research towards the degree of Master of Philosophy in Information Studies and to the best of my knowledge this dissertation either in whole or in part has not been presented for another degree elsewhere.

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DEDICATION

This work is dedicated to:
God almighty for His grace and mercies
and to my entire family



ACKNOWLEDGEMENT

I thank the Lord God almighty for the opportunity to pursue this course, and successfully seeing me through these months of study. My special thanks go to my supervisors, Dr. Emmanuel Adjei and Dr. Ebenezer Ankrah for their constructive criticism, suggestions, encouragement and willingness to discuss my work. I am grateful to all the lecturers in the Department of Information Studies for the knowledge imparted.

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To my family and friends, for their prayers, support, help and encouragement.

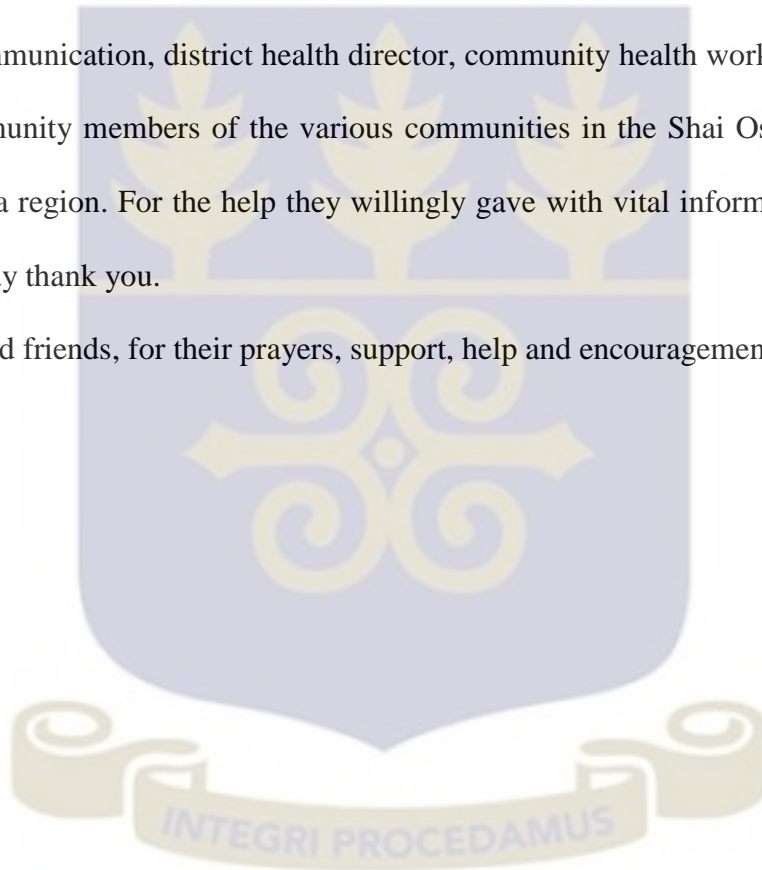


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LIST OF ABBREVIATIONS

- AMREF** – African Medical and Research Foundation
- ANCEFA** – African Network for Campaign for Education for All
- CHC** – Community Health Compounds
- CHPS** – Community-Based Health Planning and Services
- CIDA** – Canadian International Development Agency
- DIC** – The Divestiture Implementation Committee
- GAN** – Global Authentication Network
- GHS** – Ghana Health Service
- GMA** – Ghana Medical Association
- HIV/AIDS** – Human Immunodeficiency Virus/acquired Immunodeficiency Syndrome
- ICT** – Information Communication Technology
- IDEA** – International Development Association
- MDG** – Millennium Development Goals
- MDNet** – Mobile Doctors Network
- MOH** – Ministry of health
- MoTech** – Mobile Technology for Community Health
- NGO** – Non-governmental organisations
- NHIS** – National Health Insurance Scheme
- SES** – Socioeconomic status
- SMS** – Short Message Service
- TAPAE** – African Platform for Adult Education
- UNDP** – United Nations Development Program
- UNICEF** – The United Nations Children Fund
- WHO** – World Health Organisation

ABSTRACT

The study aimed at investigating media for disseminating health information to rural communities by the Ghana Health Service (GHS) in the Shai Osudoku district of the greater Accra region. Among the objectives of the study were to identify the media used by the Ghana Health Service (GHS) to deliver health information to the people in the district and to unravel the challenges encountered in provision and access to health information using media. A case study approach using the convenient and purposive sampling techniques was used to sample 210 community members within Shai Osudoku district, two directors with the Ghana health service and four community health workers. Descriptive and cross tabulation techniques were used to analyse the quantitative data while qualitative thematic content analysis method was used to analyse the interview data from Ghana health service staff. The outcome of the study revealed that, the Ghana health service mostly relied on print media namely leaflets, posters, billboard etc. and interpersonal channels like doctors, community health workers, family, friends, town cries, group discussions etc. The study also discovered that mobile technology for community health (MoTech) and telehealth are some of the emerging technologies being piloted and used in disseminating health information via the mobile phone to rural communities in the district. Challenges in disseminating health information to communities of the Shai-Osudoku included network connectivity, poor infrastructure, training and sensitization among others. The results of the study suggest that the GHS can enhance its role of disseminating health information by compensating the use of traditional media with the overwhelming advantages of using the new modes or mediums of media such as mobile phones to disseminate health information to rural communities. The study also recommends that future research focus on exploring potential mechanisms for monitoring the quality of health communication using social media.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Decentralized and accessible health knowledge has been one of the prominent goals of primary health care in developing countries. Yet, lack of knowledge and information remains a significant deterrent to health practices, leading to heightened health risk e.g., Kargbo, (2008); Rhine, (2006). An individual's access to information especially in health is considered one of the ways of minimizing the social and economic impact of preventable, non-preventable diseases and illnesses Aryee, (2014). Poor health status, a wide range of controlled, uncontrolled, preventable and non-preventable diseases and inadequate healthcare services are considered a major deterrent of human, social, and economic development in developing countries. Bras, et al, (2007). Considering the wide scope of health communication, scholars, practitioners, and policy makers recognize the significance of health communication to public health Rimel & Lapinski, (2009) and Sahiavo, (2007). Health information could be said to be recorded information in any format (oral, written or electronic. Its timely availability and accuracy is very crucial in health delivery. Health information in all its formats, be it health information management, health information system or health information technology, are all geared towards the goal of providing quality health care delivery. Because of the importance of health, Millennium Development Goals (MDG's) have three out of the eight goals directly related to health. Chetley et al., (2006).

These goals are:

- i. Reduce child mortality
- ii. Improve maternal health and
- iii. Combat HIV/AIDS, Malaria and other diseases

It is therefore not surprising that the search for, and usage of health information has become a great concern for both individuals and health care providers Kickbusch & Buse, (2001). For decades, the use of media has been recognized as an important tool for improving health. Nurmi (2013). Media is one of the means or channels of generally communicating information or entertainment in society, as newspapers, radio or television. (dictionary.com). Media technology has made communicating increasingly easier as time has passed throughout history.

In the last century, a revolution in telecommunications has greatly altered communication by providing new media for long distance communication. Modern communication media now allow for intense long-distance exchanges between larger numbers of people, many-to-many communications via e-mail, internet forums and teleportation. The spread of new technology could thus, be used to disseminate health information services to populations that have limited or no access to them until now Olla & Tan, (2008). On the other hand, many traditional broadcast media and mass media favor one-to-many communication (television, cinema, radio, newspaper, magazines, and social media). Gupta and Sinha, 2010 opines that there is a greater demand and need for accurate, relevant, rapid and impartial public health information by people, and a growing reliance on mass media as the main source of information. It is well known that mass media is an important social institution in any modern society. While it provides information among people at large so that there is acceptance of any idea to create interest; mass media displays information about health and makes people aware to prevent the spread of various diseases.

There are various types of mass media (magazines, television, internet, newspapers, etc.) Policy makers also obtain considerable amount of information from the media. In the words of Brown & Walsh-Childers (1994), news coverage of health “tends to ascribe the power to control individuals’ health to medical experts using high-technology equipment.” Studies

have also shown that, the news media tends to increase their coverage of health concerns as they affect the society's mainstream and/or the greatest number of people in their audience.

Kickbusch & Buse (2001), opine that information and communication technology can be harnessed systematically to improve the health of populations in developing countries. These technologies empower those who use information by providing them with a choice of information on the web. The current digital divide is more dramatic than any other inequity.

Rural communities in Ghana face several health related challenges including limited healthcare facilities and poor road conditions that make access to health facilities difficult.

Aryee, (2014). Health information and the visibility of research from developing countries is limited. Print and electronic media according to Rice (2001) are a major source of health information tools and the new information communication technologies have accelerated the means of improving public health processes and health care delivery in terms of enhancing the dissemination of health information.

1.2 Ghana Health Service (GHS)

Two government bodies oversee health care infrastructure and delivery in Ghana. The Ministry of Health (MOH) and Ghana Health Service (GHS). Until 1996, the MOH oversaw the direct provision of health service delivery in Ghana. Today health service delivery is provided by the GHS. (www.moh-ghana.org). The Ghana Health Service (GHS) is a Ghana government body established in 1996 as part of the health sector reform in Ghana. The Ghana Health Service is a public body established under Act 525 of 1996 as required by the 1992 constitution. It is an autonomous executive agency responsible for implementation of national policies under the Ghana Health Service council. The mandate and objectives of the Ghana Health Service is to provide and prudently manage comprehensive and accessible health care service with special emphasis on primary healthcare at the regional, district and sub district levels in accordance with approved national policies. The objectives of the service are to

firstly, implement approved national policies for health delivery in Ghana. Secondly, increase access to good quality health service and thirdly, manage prudently resources available for the provision of the health service (www.ghanahealthservice.org). For achieving these objectives, its functions include:

- i. Developing appropriate strategies and set technical guidelines to achieve Ghana national policy goals/objectives
- ii. Undertaking management and administration of the overall Ghana health resources within the service
- iii. Promoting healthy mode of living and good health habits by people living in Ghana
- iv. Determining changes for Ghana Health Service within the approval of the Ministry of Health (MOH)
- v. Providing in-service training and continuing education in Ghana

The functions and objectives of the institution clearly points to providing an overall effective health care to the general populace. Availability of health information in its varying modes to rural communities who are mostly disadvantaged will equip them with the timely, relevant and efficient health information that will positively impart health promotion and disease control through health education.

1.3 Shai Osudoku District

Shai Osudoku is a rural district in the greater Accra region. Latest census figures from Ghana Statistical Service (2000) indicate that, 96,809 people live in the district. Out of this, 46,550 (48.2%) are males and 50,259(51.8%) are females. The district's proximity to Accra, the national capital and Tema, the harbour and industrial city aids in its growth. This high percentage denotes that increased supply of technical and social infrastructure (especially those related to education and health) would be required to cope with extra demands of the dependent population. In 2000, forty-three (43%) of persons over six (6) years in the district had never been to school, while 50% of persons above fifteen (15) years were not literate.

However, this picture is different now especially with the introduction of the capitation grant and the school feeding programme. For administrative purposes and to facilitate health services delivery, the district has been sub-divided into four health sub-districts, which coincide broadly with the traditional areas namely; Dodowa, Prampram, Great Ningo and Osudoku sub-districts. Dodowa, New Ningo, Afienya, Asutsuare, Lekpongunor, Ahwia, Doryumu, Kordiabe Mangochonya, Agomeda, Ayikuma, Mataheko, Osuwem, Natriku Ayetepa, Atrobinya, Agbekotsekpo, Volivo, Natriku are all communities under the district.

To improve health delivery system in the District, a number of health facilities have been strategically established in the district to increase accessibility to health care facilities and services. There are twenty-eight (28) health facilities in the district (Ghana Statistical Service, 2014; The Composite budget of the Shai Osudoku District Assembly, (2015). These comprise of a District Government Hospital at Dodowa, (22) CHPS Zones located at Kordiabe, Doryumu, Sota, Mokomeshitamohé, Kadjanya, Asutsuare SDA, Volivo, Agbekotsekpo, Abuvienu, Adakope, Ayikuma, Ayenya, Agomeda, Asutsuare junction (Lorlorvor), Osuwem, Tokpo, Agortor, Natriku, Kasunya, Chebitenya, Odumase and Dodowa Zongo. There are two (2) health centres at Asutsuare and Osuwem. The district also has one (1) private maternity home at Dodowa as well as a Quasi-Government Clinic at Kordiabe. Again, the District can boast of one ultra-modern district hospital with the capacity of one hundred and forty (140) beds, which is currently under construction. Some of the physical structures of health facilities in the district need rehabilitation. Staff accommodation is inadequate in all the health facilities in the district. Ghana Statistical Service, (2014); The Composite Budget of the Shai Osudoku District Assembly, (2015); www.ghanadistricts.com). Despite a district hospital and health posts scattered in the district, common diseases like malaria, HIV/AIDS, high infant mortality, maternal health etc. are still very high and prevalent. This could be

attributed to, among many reasons, inadequate health education to promote good health and disease control.

1.3.1 Description of the Study Area

The Shai Osudoku District is located between Latitudes 5°54' and 6°05' and Longitudes 0°05' E and 0°20' W. It is situated in the South-eastern part of Ghana in the Greater Accra Region and is bordered in the North-West by Yilo and Manya Krobo Districts. It also shares boundaries with, Akwapim-North District on the West and Kpone Katamanso District on the South-West, with Ningo Prampram district on the East. The Central Tongu district occupies the North- Eastern boundary. The district has a total land area of about 968.36 square kilometres, representing 29.84% land space of the Greater Accra Region The Composite Budget of the Shai Osudoku District Assembly, (2015).

The district has Dodowa as its capital. Based on LI 2137, Dangme West District was split into two in June 2012 to have Ningo Prampram District and Shai-Osudoku District. It shares boundaries with the North Tongu District to the Northeast, Yilo and Lower Manya Districts to the North-West, Akwapim North District to the West, Kpone Katamanso District to the South-West, Ningo Prampram District to the South and the Ada West District to the East. The Volta River washes the North-eastern portions of the district. Ghana Statistical Service (2014). The figure below is the district map to indicate the communities that participated in the study.

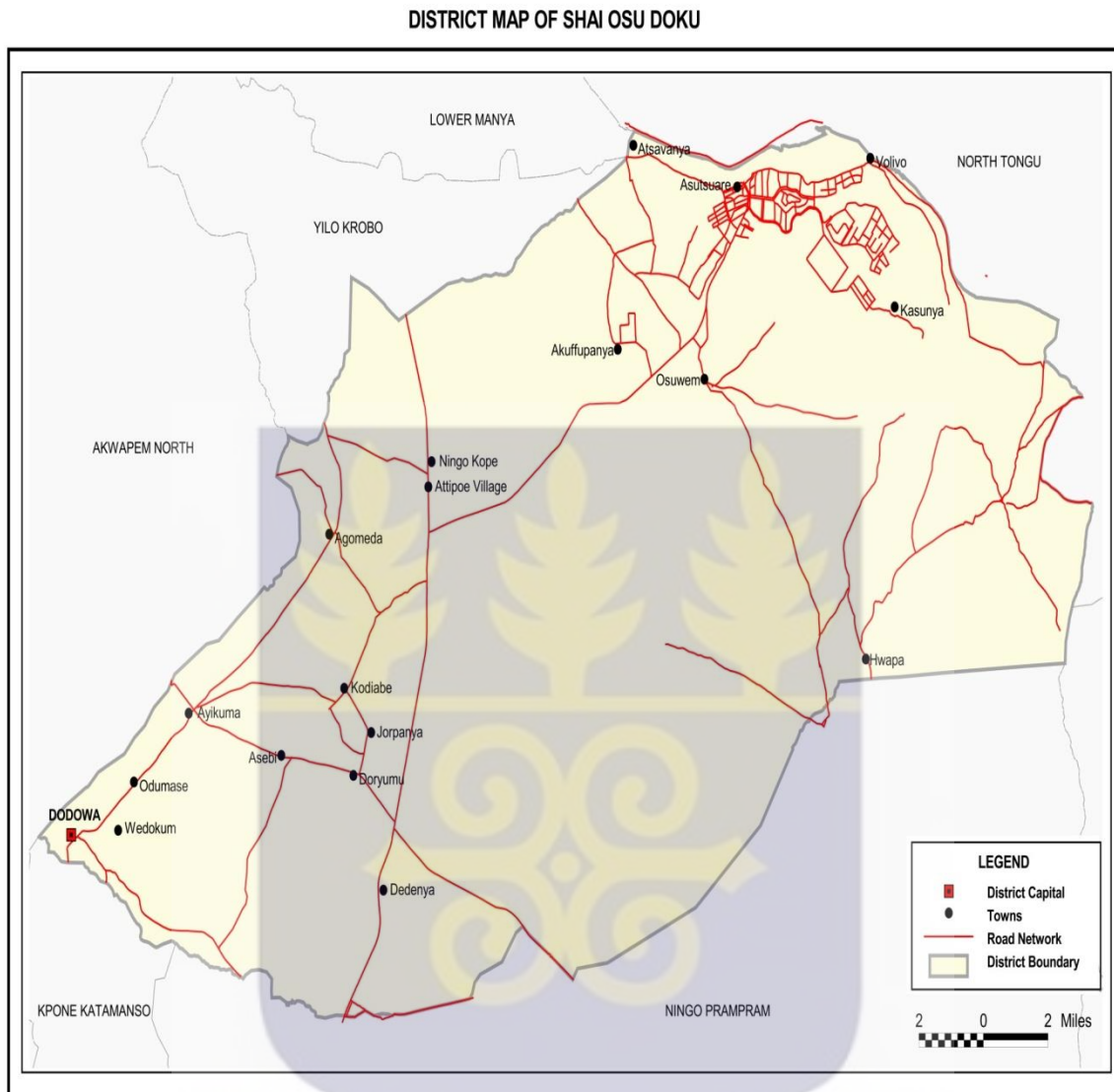


Figure 1.1: Map of Shai Osudoku district

Source: GIS office, Geography Department, University of Ghana, Legon

1.4 Statement of the Problem

The Ghana Health Service is currently having trouble with the dissemination and provision of health information or education to the Ghanaian populace Ghana Health Service Annual Report, (2008). This is to some extent, attributed to the growing population, the complexity of modern day diseases, and the ill utilization of the media as a medium in championing the

cause of spreading health information. The difficulty in providing quality health care, making available health information to equip especially rural communities to enable them access, evaluate and use effectively available information to provide good quality healthy living is currently the bane of Ghana Health Service. (www.ghanahealthservice.org).

Wakefield (2010), writes that, large portions of the population usually are exposed to health promotion messages through the media as a conduit. Mass media campaigns are favourable because they are capable of communicating information, increasing awareness and affecting large number of people. Mass media interventions can produce positive health changes on a grand scale by enforcing positive health behaviors among individuals. The Ghana Health Service have for years, used mostly informal medium and print media to disseminate information. The problem is that the GHS is not taking full advantage of the mass media, specifically the electronic media which is effective, efficient and timely tool to disseminate health information to a wider group and to under privileged rural communities who lack behind in basic health amenities and adequate and timely health information. Aryee (2014) states that rural communities in Ghana face several health care challenges including limited healthcare, and health information provision. Despite their usefulness in disseminating health information, health information providers are not adequately exploring the tremendous roles media play and how its benefits can be harnessed to provide effective, efficient and available health information in varying forms to those who need it. It was against this background that the researcher undertook this research to investigate media used in disseminating health information to rural communities. The study also sought to ascertain whether the Ghana Health Service utilizes the current technological advancement in media to disseminate health information.

1.5 Purpose of the Study

The purpose of the study is to investigate media for disseminating health information to rural communities by the Ghana Health Service (GHS) in the Shai Osudoku district, in the greater Accra region. And also identify which electronic mode of media that best provide relevant and adequate health information to rural communities in the Shai Osudoku district.

1.6 Objectives of the Study

The specific objectives of the study are:

1. To identify the media by which the Ghana Health Service delivers health information and media used by community members to access health information in the district.
2. To investigate the benefits of using media and emerging technologies to disseminate and access health information
3. To find out the challenges encountered in providing and accessing health information using media.

1.7 Research Questions

To meet the above objectives, the study sort answers to the following questions:

1. What media does the Ghana Health Service and community members use in delivering and accessing health information to rural communities?
2. What are the benefits of using media and emerging technology to disseminate and access health information?
3. What challenges confront the Ghana Health Service and community members in disseminating and accessing health information?

1.8 Scope and limitations of the Study

The scope of the study was limited to the Shai Osudoku district in the greater Accra region and the GHS, which is one of the major bodies mandated to provide health service to the citizens. The researcher faced a lot of constraints and limitations in the course of conducting the study and some of these are;

- i. The researcher had wanted to conduct a longitudinal study in which the community would have been studied for a long period so that any change can be recorded but had to resort to cross-sectional study.
- ii. Getting the respondents to come out freely and answer the questionnaire was a problem. Most of them said they were busy and could not make time. They had to be persuaded by the researcher and some even turned the researcher away.
- iii. Travelling to some of the communities was a problem due to the distance, its remoteness and poor road network.

These constraints notwithstanding, the researcher still carried out the research and gathered the necessary data.

1.9 Significance of the Study

This research was conducted in a location with communities that are rural and remote, and where cultural believes, still play a major role in the promotion of health. It offered the researcher an outsider various opportunities to understand not only cultural diversity but also the ability to delve into issues pertaining to other parts of rural Ghana, specifically health issues confronting individuals living in both remote and overly culturally sensitive countries. This study will provide an avenue for policy-makers to employ findings from the research to develop strategies and working policies to assist individuals in rural and remote areas, not only in Ghana, but also in other sub-Saharan countries.

The findings of the study was also to benefit the Ghana Health Service, Ministry of Health, developing agencies and policy makers by enhancing their understanding of the possible modes of promoting and disseminating health information to rural communities and modes that can reach a larger audience and be effective. Important to note is that, this study is relevant in numerous ways. Taking into cognizance how access to relevant information has a social-constructivist characteristic in terms of individual needs and differences, the use of electronic media will enable individuals to cultivate interest in seeking, evaluating and using health information to address varying health issues.

A point of interest to note is that, research on broadening access to timely health information and healthcare services through technology, by the inclusion of mobile phones in rural communities with limited healthcare facilities. Amidst cultural domination in terms of access to healthcare services, and a low level of both general literacy and health literacy rate, is virtually non-existent. The study added to knowledge in terms of how technological devices and their capabilities of transcending the limits of the original utilitarian profit motive of the designer and subscriber of the tool. Thus, individuals (subject) are able to use an electronic mode of media (tool) to inquire about their medical conditions or access information regarding their health (object) in order to promote healthy living (outcome).

Another significant finding is adding on to literature by unearthing challenges in connection with the use of electronic health in health-related activities. The study also identified some challenges with regard to the use of electronic media in disseminating health information and these are potential research problems that future researchers can investigate.

In addition, the findings of the study has added to literature in ways of handling health inequities in remote communities by conducting capacity-building projects. Furthermore, the study would enhance the understanding of development agencies and policy-makers in developing ways of promoting adult education and means of addressing issues bothering on patients' privacy and confidentiality. The development agencies expected to benefit from the findings of this study, include African Network Campaign for Education for All (ANCEFA), African Medical & Research Foundation (AMREF), Canadian International Development Agency (CIDA), International Development Association (IDEA), The African Platform for Adult Education (TAPAE), United Nations Development Programme (UNDP), The United Nations Children's Fund (UNICEF) and World Health Organisation (WHO). The results of this study is to help promote collaboration between local and foreign development agencies as well as government and local residents interested in good governance and citizens' empowerment concerning the best strategies adopt in planning and implementing effective health information dissemination.

1.10 Organisation of the Work

This research is presented in six (6) chapters.

Chapter One: This chapter covers introduction and background to the study, statement of the problem, purpose of the study, objectives of the study, research questions, scope and limitations of the study, significance of the study.

Chapter Two: This chapter looks at is review of literature pertinent to the study, while focussing on aspects such as the empirical and theoretical perspective.

Chapter Three: This chapter of the study outlines the methodology used for the study, looking at research design, selection of cases and subjects, population, sample size and technique, data collection instrument, data collection procedure and method used for data analysis

Chapter Four: This chapter presents analysis of the data as well presentation of results.

Chapter Five: A discussion of results from the findings is presented in this chapter

Chapter six: The final chapter presented the summary of the findings, conclusion and recommendations.



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CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The health issues of individuals in a community are fundamentally determined, in part, by functional health literacy, cognitive consciousness and accessible health information at their disposal. Nutbeam, (2008).

These are affected by the cultural settings, educational opportunities, behavioral skills gained and socio-economic factors that support social life in the community. It is now an acceptable fact that health behaviour has connections to health outcomes and these connections in turn are dependent on issues related to health literacy. DeWalt et al., (2004), cognitive awareness, healthcare services, available information concerning health and decision-making process at the personal level. Apart from the individual micro-level are the political-atmosphere and policy processes that are required to establish certain resources that affect quality of life for all its citizens, comprising information resources Glanz et al, (2008). Health education in substance is crucial in bridging the knowledge gaps created because of the inequalities in social opportunities. Despite the fact that this process may be somehow slow, it has been established as the most efficacious method of preventing disease than any other intervention Glanz et al, (2008).

Parker (2000), educational levels in majority of the communities in developing and developed countries have been considered low and has been contrived as a factor accounting for the poor health outcomes in these communities. A good example is the case of Nigeria, where the adult literacy rate in 2008 was reported to have been sixty-six point eight percent (66.8%). It can be said that both educational exposure and functional literacy are social factors responsible for the process of acculturation within a given group of people. The term acculturation could be considered as a social transition that can facilitate bridging the break

between native traditional culture and advance scientific culture. Nutbeam (2008), posits that, the fact that individuals in rural communities without much education or literacy may have difficulty in understanding the scientific ideas involved with health action, constitute an important consideration in health literacy. DeWalt, et al. (2004), mention that absence of functional health literacy is a crucial factor responsible for a significant proportion of individuals in the rural communities failing to adhere to medical directives for health maintenance. In profiling prostate cancer literacy among men in a rural area of Nigeria, a research result has it that general awareness among men was ridiculously low and probably contributed to the poor outcome of the disease in the community. Atulomah, et al, (2010).

At the individual or personal level, health education most significantly includes; instructional activities that provides information concerning health in such a way that through social relationships it can tactically change individual health behaviour. Glanz, et al, (2008). Beyond this, education about health consists of organisational efforts, policy directives, economic supports, as well as mass media and community-level programming which provides it with an ecological perspective. Glanz, et al, (2008). Health literacy is therefore an essential result expected from health education activities and is primarily related to free flow of information and processing. Health literacy can be said to be the main means of mass communication (broadcasting, publishing and internet) regarded collectively. (www.oxforddictionaries.com). Media, according to the oxford dictionary, is the main ways that large numbers of people receive information and entertainment that is television, radio, newspaper and the internet and mobile phones. Media can also be said to be a collective outlets or tools that are used to store and deliver information. Integrating media into health communication campaigns and activities will allow health communicators to leverage social dynamics and networks to encourage participation and conversation all of which can help spread key messages and influence health decision-making. Information and Communication

Technology (ICT) is increasingly providing us with the tools and knowledge that we need to improve healthcare, enabling solutions that benefit patients as well as health care professionals and institutions in both the private and public sectors worldwide.

Importantly, the understanding of health and health policy by the public is not from their direct experience. Health and illness discussions are common in the print media, TV, film, and the Internet King & Watson (2005). Friedman (2004) asserts that the media channels, including print journalism, advertisements, fiction films, TV appearances, documentaries, and computer technology impact on the healthcare system and individuals' utilization of that system. Obviously, media representations of health and illness have a direct bearing on our understanding of the awareness of illness, health, and healthcare and affect health beliefs, health behaviors, healthcare practices, and policy-making. Seale, (2002, 2004).

In addition to shaping overall understandings, Abrams & Maibach (2008) avers that mass media play a crucial role in promoting public health. Wallack (2000), in his study also argued that, media can be a delivery machinery for finding the right data to the correct people in the proper direction at the proper time to promote personal change and that they can be a machinery for increasing involvement in civic and political life and social capital to encourage societal change. In this contemporary rich media landscape, and particularly with the advancements of Information and (ICTs), increasing efforts are underway to integrate mass media strategies into health education, promotion, and the blueprints of disease prevention Parker & Thorson (2009). At the same time, scholars have documented mass media's reach to select audiences and specific, limited, and moderate effects in determining the knowledge system on health, attitude, and behaviour. Atkin & Salmon, (2010). To appreciate fully the role of mass media in facilitating the discourse of health education and promotion, and disease prevention, health communicators need to use multiple mass media and interactive digital media channels and carry out carefully designed media strategies to

reach targeted audiences. There are academics whose interest is known to assessing the character or essence of mass media in health communication. For example, Finnegan & Viswanath (2008) have studied the effects of media function on health outcomes and effects of planned employment of media to achieve health outcomes in many areas. The programs advanced to encourage changes in healthy behavior and prompt treatment of illness have demonstrated the utility of mass media channels in the advancement of wellness and disease prevention efforts. Thus campaigning against alcohol consumption, tobacco, drug use, minimizing harmful effects of violent television, addressing eating disorders, promoting physical activity, curbing aggressive behavior and violence and promoting responsible sexual decision making among other areas. Strasburger & Wilson (2002).

This section of the study takes a critical perusal into media through which health information is disseminated to people in their respective communities particularly those in the rural communities. Themes revealed under this section included:

- i. Theoretical Perspective
- ii. Media for health information dissemination
- iii. Media for health information dissemination in Africa and rural communities
- iv. Media for health information dissemination by the Ghana Health Service(GHS)
- v. Benefits of using media and emerging technologies to disseminate and access health information to rural communities
- vi. Challenges of providing, accessing and using health information in rural communities
- vii. Summary

2.2 Theoretical Perspective

This section reviewed pertinent theories postulated in communication. This is relevant to help place the study in perspective of existing knowledge in communication of health information.

These are presented as follows:

2.2.1 Communication Theory Adapted from World Health Organisation, 2012

Most often, the theoretical explanation given to the concept of Communication encompass, the individual or entity communicating, the mediums used, targeted audience and the intended effects. The World Health Organisation sums it up by asserting that Communication theory typically explores “who says what, in which channels, to whom, and with what effects” WHO, (2012). Messages intended to reach a wider audience can take the form of simple pamphlet to a complex production sometimes accompanied by airing a series of television broadcasts supported by an interactive website and phone-in resource. In the lens of WHO (2012), communication mediums are principally used by health educators. This endeavor is most often premised on the intention of informing the public on attitudes that usually compromise or protect human health, clarification of perceptions and beliefs in health phenomena’s, the promotion of action and the description of services of prevention. Bernhardt (2004) defines public health communications as the “scientific development, strategic dissemination, and critical evaluation of relevant, accurate, accessible, and understandable health information, communicated to and from intended audiences to advance the health of the public”. In the lens of the World Health Organisation, health communication should principally entail environmental perspective accompanied by strategies geared towards the individual, group or community and towards a context for media advocacy. Bernhardt (2004) is of the view that when communication do not reflect the elements from the social and physical environment, they may not be able to withstand the tendency of

changing individual's behaviours and the compensation of information deficit. According to them, the tendency of a message to influence the beliefs or behaviours depends on the characteristics of the target audience. For example, their eagerness for change, the procedure through which information is processed, the difficulty of the health issue, etc. Freimuth & Quinn, (2004). WHO (2012) avers that, repeated exposure to a message, especially when it is delivered through multiple channels, may intensify its impact on targeted audience. This theory is appropriately situated in the central theme of this study. It assumes that a certain percentage of the target audience will be exposed to a message being disseminated and that same fraction would be engaged by it. Thus, the beliefs, attitudes, actions and inaction of a particular group of people have the tendency of being altered with the consistent dissemination of a particular message. This theory captures the central theme of the study since it seeks to investigate the use of media for disseminating health Information to rural communities principally indigenes of the Shai Osudoku district. Therefore, it investigates who says what, through which channel, to which people and what effect this information has had on rural communities under study.

2.3 Media for Health Information Dissemination (HID)

Communication scholars. Johnson & Meischke, (1991) have generally classified two main sources of health related information, interpersonal and mass media sources. According to Johnson & Meischke (1991), the interpersonal sources related with health include doctors, nurses, family and friends, health groups, voluntary organisations, and other professions allied to medicine. These kinds of sources of information channels that are face-to-face in nature are preferred to convey information, and teaching complex skills that need two-way communications between individuals Parrott, (2004). The mass media is also another source of health information, which includes; TV, radio, posters, books, magazines and newspapers, videos and the internet Mills & Sullivan, (2000). In the view of Mills & Sullivan (2000) and

Parrott (2004), media related sources normally offer broad coverage for communication of messages to reach a vast number of the target audience quickly and frequently.

Petro and Clark (1984), in their study maintain that sources of information are best understood and regarded as sources by individuals in an attempt to respond to their questions. People's use of information sources is dependent on their socio-economic and demographic characteristics. They use it satisfying their instant information needs, and to answer questions about their own health or the health of someone who is important to them Pietro & Clark, (1984). Furthermore, they contend that an individual who consults multiple sources has greater chances of making a health decision about his/ her own health than the ones who depend on a single source. Studies in general, for example that of Cutilli (2010) and Gombeski.et al. (1982) indicate that individuals who have high literacy level access health information from any written source such as newspapers, magazines, books, or brochures whereas those with low literacy level access health information from television and radio and other interpersonal sources. Individuals seek health information from many sources and the health information seeking behavior of individuals have been greatly studied in many countries. Most of the health information studies have approached this issue by examining how individuals seek and obtain information about health and illness. A chunk of the studies broadly considered sources of health information in a certain population across countries. The researcher found two studies examining the sources of health information. One study which was undertaken using European citizens, and the other using United States citizens. Both studies demonstrated that citizens from both regions sought most health information from interpersonal sources. Spadaro,(2003).

A study conducted by Spadaro (2003) investigates citizens from European Union source of health information and found out that majority of Europeans use health professionals (pharmacists, doctors, etc.) as their primary sources of health information. A similar study

conducted in the United States shows that doctors, nurses, and other health professionals were selected as the primary source of health information by a greater portion of the citizenry. Connell & Crawford's (1988), research involving two Pennsylvania counties on how they obtain their health information in relation to age and gender noted that, the youngest and oldest age groups received and preferred printed materials as their primary sources on health information whereas the middle age groups preferred television. Connell & Crawford, (1988).

Printed materials were cited as the most regularly mentioned sources of health information for women, while no particular health information source was predominant for men. Connell & Crawford (1988). Various researches examine the relationship between sources of information and race. The most significant difference among researches on race in the usage of sources reflects the black and white socio economic status. A study conducted in the United States by Nicholson et al., (2003) on race and information, found out that the majority of white women i.e. 64% used newspapers and magazines as sources of health information, while the minority which accounts for only forty-four (44%) of the black women used these information sources. The outcome of study further indicates more than forty (40%) of the white women used computer-based resources, compared with only one fifth of their black counterparts, Nicholson et al., (2003). White women used information from health institutions three times more frequently than black women. Nicholson et al., (2003) did. Similarly, Ye and his cohorts, Ye et al., (2009), examined black and white adults on their choice of primary information sources related to cancer. As their research documented, white women use print media, computer-based resources, and health policy organisations as their sources for health information whereas, black women were more likely to seek health information from family, and friends. The two studies show that whites use more information technology based sources while blacks highly rely on interpersonal sources. Studies on

sources of health information focusing on various health issues have also been published from developing countries including Africa. Pigato, M. (2001), examines the link or connection between information and communication technology and information in sub-Saharan Africa and South Asia. As this research reveals, the poor and people living in rural areas where there is no developed information technology, use informal sources of information. For instance, folks residing in the rural communities in Nepal and India use informal networks than formal sources of information and depend on as well as trust informal networks like family, friends and village local leaders for their information needs. Pigato, (2001). On the contrary, formal sources like Non- Governmental Organisations, newspapers, politicians, and schoolteachers are considered least trusted sources of information. Pigato, (2001).

Similarly, a study by Gavvani, (2010) indicates that among the health information seekers in Iran, passive ones are more than the active ones. The outcomes of the study showed that the television and group discussions were the available resources for seeking health information. The study also reveals that the respondents mostly explored search engine in searching for information on health. "Google" or "Yahoo" was identified as the search engines. Also, results indicated that among persons going to public libraries, a certain section of the population search their information on health by visiting public libraries and making good use of information sources like medical magazines and books among others. Catalán-Matamoros, (2011), in his study points that mass media are intensively used in public health in Spain. He further posits that, a colossal amount of money goes into the output and distribution of various media through which health information is disseminated for example, newspaper articles, brochures, and radio and television programs annually. To Catalán-Matamoros (2011), these media is absorbed at all strata of public health with the aim of

having three effects. Firstly, learning of accurate health information and knowledge, secondly the changing of healthy attitudes and values and thirdly organisation of new health behaviour.

Wathen & Harris (2006), examine the health information seeking experiences of rural dwellers in Ontario, Canada. In their study, they found out that women were active information seekers for their own health and for the health of their family members. The Ontario rural women identified friends and family as sources of information, which assist them when they are seeking information regarding health. Wathen & Harris, (2006).

Contrary to the above finding, Hossain, & Islam (2012), explored the information needs and sources of health information among rural women in Bangladesh and came to the realization that the broadcast media are the primary sources of health information for the rural women in that country. Most available sources of health information for women residing in the rural areas of Bangladesh were radio and television, and these media used by women for entertainment purposes as well as other sources of information including health and aspects of life. Hossain & Islam, (2012).

Aaronson et al. (1988), wanted to know why women often look for pregnancy related information in the United States of America. Their study revealed that a greater number of women gave priority to health care providers and books as important sources of information on health. Their research also examines the relationship between information sources and socio economic status of pregnant women and reveals that women of higher socioeconomic status (SES) were mostly depended on books and less on family as compared to those women of lower socioeconomic status. Davies & Bath (2002), conducted a study in an attempt to find out the interpersonal sources of health and maternity information for Somali women living in the UK and the study reveals that women prefer and make use of information from a wide range of interpersonal sources. Accordingly, most of women highly rely on information from general practitioners and from information sought in health visits as their primary sources.

They consulted information sources like friends and neighbours too. Davies & Bath, (2002). However, women prefer community health forums organised by health professionals where professionals are invited to address different kinds of health issues. Davies & Bath, (2002). Furthermore, informal interpersonal health sources, which are considered as an easily accessible way by women provides the means through which further information, could be consulted and referred to .Davies & Bath, (2002).

Shikawa & Yano (2008), in their systematic review disclosed that most people only use their physicians as a medium for information, without conferring with other media as data supplements. Similarly, Koo, Krass & Aslani (2006), add that adult patients with low health literacy, who are suffering from rheumatic pain or other health-related illnesses, show no interest in seeking written information on medicine. Regarding information of individuals concerning their health from either personal or professional sources, Kutner, Greenberg & Paulsen (2006), avers that individuals with basic or low health literacy tends to employ radio, television, and healthcare professionals but people with higher level of health literacy employs the print sources for example health brochures, newspapers, books and magazines for health information.

Non-print sources here include information technology, for example, mobile telephones, tablets, PCs, and Internet, as indicated by Prensky (2004). Components, like sound/video calling, picture taking, and spilling television have made correspondence and access to data much less demanding and more moderate. So also, Benigeri & Pluye (2003) express that in health, Internet and mobile phones are viewed as real changes in the dispersal of healthcare service administrations and medical information, with a guarantee of transferring knowledge and data from health experts to the overall population and the other way around. Cline and Haynes (2001) notice three primary ways that people might utilize the Internet to get to online health data to: (i) hunting down health data; (ii) taking an interest in wellbeing care

groups; and (iii) collaborating with health experts. Adding to Internet use, Dutta-Bergman (2004) reveals that as a rule, people who utilize this medium will probably be health cognizant and participate in numerous health related-exercises and practices. These practices might include, consuming a balanced diet, taking part in customary exercise, and going for consistent check-ups, which is in sharp contrast to people who do not access the Internet for health purposes.

2.4 Media for Health Information Dissemination in Africa and Rural Communities

A study that investigates the dissemination and spread of health data in Africa demonstrates that numerous African nations use distinctive techniques and channels to disperse health information to most communities. Anasi, (2012). In numerous African nations, print, broadcast and other group channels have been generally utilized as method for sharing health information and advancing different sorts of health issues. Anasi, (2012). Besides utilizing the solid oral communication, health messages are conveyed as melodies, show, stories, and talks. Anasi, (2012). In the far rural towns of Africa, town messengers as well as group and religious leaders. Anasi, (2012) disperse health information. In addition, religious and global philanthropic associations join in the generation and sharing of health information. Anasi, (2012).

Momodu's (2002) study, examines the Nigerian rural communities' health information needs and their information seeking behavior. Information sources identified in the rural communities include radio, television, newspapers, health extension workers and health agents. Momodu, (2002). This research further indicated that rural communities look for information to handle the incidence of epidemic outbreaks, to identify the best treatment options, to get good health facilities and to entreat the government to support them in their health problems. Momodu, (2002). Women in particular were found to be interested in seeking information on pre and post-natal care and on immunization facilities for their

children and themselves. Momodu, (2002). Identified, as barriers to health information dissemination in Edo State of Nigeria, were illiteracy and language barrier.

Another study in Nigeria by Popoola (2000) examines consumer health information needs and services. As the study demonstrates, most Nigerians in the study use informal source of health information and the information obtained from these informal sources are found to be less reliable and accurate. Omotoso et al. (2013) also explored the health information needs of Nigerian students and found that students' health information needs are diversified. The study further hints that the respondents look for information on various issues including sexual health, physical exercise, medications, alcohol, and body care. However, in spite of the high needs of information, the outcome of the research found that there is low usage of and less accessibility of information sources for students.

Nwalo & Stella (2010) additionally investigated the availability of reproductive health data by in-School Adolescent young women in Nigeria. The study reveals that parents are the most open sources of health information while the web was identified as the slightest available source of reproductive health information. The findings of the study uncovered that the students took delight in relying on interpersonal and mass media sources of reproductive health information to protect themselves from sexually transmitted infections, to make healthy decision on reproductive health matters and for self-knowledge and protection of undesirable pregnancy.

In a cross-sectional quantitative study by Andualem, Kebede & Kumie, (2013), majority of the respondents acknowledged the need of health information in their normal activities. Per the responses, 54.0% of respondents did not have access to health information. Only 42.8% of respondents had access to health information on the internet. The following were considered as barriers to health information accessibility. This include; geographical, organisational, personal, economic, educational status and time.

Tsehay (2014) also explored the maternal health information sources of women residing in five villages in Ethiopia. A qualitative research paradigm was used and focus group discussions and in-depth interviews utilized. The outcome of the study revealed that lack of knowledge, perceived personal risk of health problems, and seeking a healthy life are the main factors that motivate women to seek for information. The study further documents how women have sought and used varieties of interpersonal and media related sources to meet their maternity information needs during the process of their reproductive life. In addition, all maternity sources, health extension workers and health professionals were identified as the most usually used and reliable sources of health information.

In a study that investigated the information needs and information-seeking behavior of rural dwellers residing in three non-urban villages in Botswana, Mooko found that rural dwellers need various kinds of information on socioeconomic issues including health care services, poverty and economic development. Their needs seem to reflect the overall situations that the women face in the society. As the findings further show, women needed health information that will make them more effective and improve their general health and family issues Mooko, (2005). The study also found out that among the rural folks, medical practitioners were mostly consulted in case they want to seek information on health whereas printed materials, political leaders, and sales representatives were the least consulted. Mooko, (2005). Nwagwu & Ajama (2011) examine the health information needs, sources and information seeking behavior of people living in rural Nigeria. Using data collected through focus group discussion and a questionnaire the research reveals that women owned and used radios more than other sources and they sought health information mainly for themselves and their children. Nwagwu & Ajama, (2011). More than ninety (90 %) respondents reported that they needed information about malaria, of which they received most of the information from friends and families. Nwagwu & Ajama, (2011). As the research further explains, the

respondents relied on traditional sources for health information and visited health services when they are seriously sick. Nwagwu & Ajama, (2011).

Interestingly, Naanyu et al., (2013) in their study in Kenya, the respondents used public media and health care providers as their major sources of health information for family planning issues. Furthermore, the research indicated that health care providers most at times share or spread health information using the health education sessions and pregnancy follow-ups visits in which most of the women participated. Naanyu et al., (2013).

Einarsdóttir, Passa & Gunnlaugsson, (2001) conducted a study to explore local ideas about cholera and the dissemination or spreading of official health educational messages for cholera prevention and to assess whether such messages contributed to changed behavior in the population in Guinea-Bissau. The findings of the study revealed that, local preventive rituals performed contributed significantly to the awareness of the epidemic. Radio and word-of-mouth communication are regarded as the most important sources of information on cholera, however, posters and television did not effectively get to the population.

Omogor (2013) also conducted similar study in Nigeria to explore the channels of health information acquisition and dissemination among rural dwellers. The descriptive research approach was employed in the study. It revealed that town-criers, marketplaces, socio-political meetings, traditional festival, lecture and exhibition, television, radio, and newspapers are vehicles of information that are used to get and distribute health information among rural inhabitants.

In addition to the above studies on African Continent, Nwagwu & Ajama, (2011) carried out a study in Nigeria to address the health information needs, sources, and information seeking behavior of women living in a rural palm plantation community. The survey exposed that, nine out of every ten of the respondents reported that they needed health information about malaria, which they obtained mainly from friends, families or chemist shops. The survey also

reported that, the women relied on traditional sources of information, and they practiced self-medication guided by prior diagnosis and visited the hospital when their health condition was deteriorated. Omedo, et al (2014) also opines that communication campaigns influence health behaviors and create awareness for disease control interventions, which may ultimately improve health care.

2.5 Media for Health Information Dissemination in GHS

Numerous studies have been conducted on precise aspects of health communication in Ghana. Generally, these studies demonstrate that conveying health information to rural Ghanaian requires fusing into a community that incorporates introducing material in a way that rural persons are acquainted with and making space for exchange and input from community members. Cultural awareness on most occasions, influence the way that medical information is successfully imparted in Ghana. For example, while comparing the utilization of customary medication with Western biomedical drug, Ghanaians commonly tend to utilize traditional medicine since it is completely incorporated in Ghanaian ways of life and they are comfortable with it than biomedical medicine. Aries, Joosten, Wedgda & van der Geest, (2007). This preliminary comprehension of the weight given to known information sources is the main part of Ghanaian culture that should be understood when conveying biomedical health information to the populace

Similar study conducted by Wolf & Bond (2002) affirms that peer education trends to increase the behavioral change of adults and adolescents to 1.74% due to the similarities that may exist between the educator and the target.

In Ghana, these demographic similarities, along with trends toward the familiar, can be observed in effective health communication. Within the later part of the 1940s, when health communication to the Ghanaian people by the government began, attempts at showing film clips and using other innovative technology was not successful. It was only through the

utilization of specially designed puppet shows and performances directed to the specific ethnic groups that the expected conduct and awareness level change happened Du Sautoy, (1958). The best communication strategy for developing countries is based on the idea of integration with the community. According to Ford, Abimbola, Renshaw & Nkum, (2005), the participation, self-determination and the inclusion principle adopted had a fundamental impact on understanding why certain health behavior was wrong. Such problems with just increasing understanding embrace the fact that a mere understanding of an issue does not lead to a change in behavior and that consciousness singly does not hold people responsible for their own health. Ford, Abimbola, Renshaw & Nkum, (2005) further avers that, permitting people to deliver input on how health data is going to help them change by both talking over different communication channels to be used and setting goals for desired change together provide such responsibility. Through these works, it is clear that the closer a message is to the culture, expectations, and lifestyle of individuals and the more integrated advert campaign is, the more effective health information can be passed on to the Ghanaian public.

There have been some studies carried out to identify the best communication channels to reach Ghanaians. Hill, Kirkwood, Kendall, Adjei, Arthur & Agyemang, (2007). In their study on the application of a vitamin procedure of health information dissemination in a Ghanaian village, revealed that radio is the best way to communicate because, although majority of Ghanaians do not personally own a radio, most have access to one. In addition, their study further revealed that information sources such as radio, town cries, and market announcements were very much popular and more effective compared to TV, billboards, newspapers, amongst others. Hill, Kirkwood, Kendall, Adjei, Arthur & Agyemang, (2007).

By examining this data and the more traditional, less mass media-oriented methods were the most popular among rural Ghanaians, adds credence to another study conducted on the importance of folk-media as a communication channel. Folk media is a medium that uses

communication methods already in place in certain villages to discuss important issues, consisting of health education, disease prevention and care. Since this type of communication is totally embedded in the culture of a specific community, it turns to increase the belief and trust of the audience and thereby increases the likelihood of its effectiveness. Panford, Nyaney, Amoah & Aidoo, (2001).

A specific example of this situation was seen in the successful Stop Aids Love Life HIV/AIDS prevention campaign. This campaign according to Hopkins, J. (2003) used song and dance through multiple media channels like TV, radio, to reach Ghanaians across the country. The song was sung in many different languages for example English, Ga, and Twi amongst others, and the campaign was a success by promoting the use of Abstinence, Being Faithfull and condom use thus the ABC of prevention. Moreover, it must be noted that this message increased the individual views on HIV risk, causes and prevention. Also testimonies from Ghanaians living with HIV or AIDS” were used as a source of health information. Hopkins. J. (2003). The study further revealed that this form of health campaign was one of the successful health communication strategies since it employed different strategies, used different languages and different media platforms as well as live testimonies.

Bosompra (1987) also conducted a case study on two Ghanaian villages and explored the rural dwellers sources of health information in relation to popularity and credibility. The study reveals that conversation was the famous but least trusted source of health information. However, the radio came second both in terms of popularity and credibility, whereas information from health officers was found to be the first and most reliable. Bosompra, (1987). An interesting finding among the mentioned African focused studies on sources of information is that most of Africans sought and relied heavily on information from interpersonal source than other channels.

With an expected two thousand doctors serving a populace of about 24 million inhabitants, doctors in Ghana need a dependable correspondence framework for leading meetings and referring patients Kay, Santos & Takane, (2011). With backing from New York University and in a joint effort with a mobile telephony supplier in Ghana, and Switchboard (a US-based non-benefit making association) the Ghana Medical Association (GMA) lunched the Mobile Doctors Network (MDNet)/Medicareline program in Ghana in 2008. This service also gives free mobile to-mobile voice and text service to every one of the doctors in Ghana as of now enrolled with the Association. More recently, a restricted mass SMS service has been enabled, permitting GMA to send data to doctors about national crises and gatherings, and in addition to contact specialists within a particular specialty. Kay, Santos & Takane, (2011) also asserts that, this service provides patients the opportunity to assess health information using their mobile phones.

Overall, previous research has proved the importance of using folk-media, incorporation and culturally apt channels during health campaigns in Ghana. In addition, information being disseminated by personal contact during peer education is tremendously effective, although the impact on public health initiatives has not been examined. In all, integration, appropriate channels and personal contact have been shown to be truly effective Ghanaian communication strategies.

2.6 Benefits of using media and emerging technologies to disseminate health information.

In addressing the above research objective, one hundred and one (101) respondents assert to media and emerging technology providing a variety of sources to choose from. Concerning widening access 123 responded in the affirmative with 143 responding yes to available timely health information during emergencies. One hundred and forty-four agreed that use of visuals

helped in their understanding of health issues and finally 124 affirm that use of mobile phones to communicate with health workers was an advantage. Findings indicate high response rate in the affirmative from respondents regarding the benefits of media to disseminate health information. Findings are in line with Moorhead's (2013) study that social media provide health information on a range of conditions to the general public patients and health professionals, she asserted that communication can provide answers to medical questions and also allows information to be presented in modes other than text as well as bring health information to audiences with special needs; for example, videos can be used to supplement or replace text and can be useful when literacy is low. A range of social media platforms can facilitate dialogue between patients and patients, and patients and health professionals. Acheampong (2012) in his assertion also state, "ICT has assisted in driving down healthcare costs and improved the delivery and effectiveness of healthcare services through help in disease management, improved patient safety and decision support for practitioners.

Benefits of media and emerging technology like mobile phones in disseminating health information was high and the findings indicated respondents were aware of the benefits. Two hundred representing 96.2% answered in the affirmative, five representing 2.4% said no, with three 1.4% not giving an answer. A high response of 96.2% in the affirmative attest to respondents being aware of the advantages of media and emerging technologies like mobile phones and internet to promote and disseminate health information. Which confirms Acheampong's (2011) assertion that "The internet has become a very useful infrastructure in utilising the opportunities of the digital revolution. Technological convergence and the development of multi-media services and increasing business applications of the internet have made access and usage a fundamental issue in the participation in the information society". However, media and use of new technologies can be fully harnessed if ICT and

technological models are put in place and inculcated into daily lives of the rural folks, which brings to focus Lucas's (2008) discussion of the role that recent advances in information and communication technologies (ICTs) could play in improving health systems in developing countries, but limited independent analysis of existing applications. Combining a case study approach with a general discussion of the issues, this paper attempts to assess the potential benefits of a diverse range of ICT innovations and some of the constraints they will need to overcome. Four broad areas are considered: improvements in traditional health information systems; computer-aided diagnosis and treatment monitoring; a range of applications generically labelled 'telemedicine'; and the use of ICT to inform general populations on health and healthcare. The final section speculates on the possible medium-term impacts of ICT in terms of improving the performance of existing systems, allowing scope for radical innovations, or even change information and communications technology for future health systems in developing countries.

2.7 Challenges of providing, accessing and using health information in rural communities

NORC at the University of Chicago (2010) has it that there has been considerable amount of documentation regarding general barriers to adoption and implementation of health information technology. Additionally, access to modern communication technologies and medical assistance is a problem for the majority of people living in developing countries, particularly in rural communities. Clifford et al., (2008).

Findings from a study conducted in Ghana by Aryee (2014) shows a considerable use of mobile phones for disseminating and seeking of health information in rural communities in Ghana. Findings from the study show that health-related activities performed on and with mobile phones include;

- (i) inquiring about health concerns from friends, family, or healthcare personnel
- (ii) practicing teleconsultation, and telehealth with health help lines that address specific health issues such as pregnancy and cholera outbreak;
- (iii) clarifying any health symptom before travelling to healthcare centres
- (iv) scrutinizing counterfeit medications entering the country

However, this platform or media used for accessing health information has numerous drawbacks. Haddon & Vincent (2007) note the cost of phone service as the biggest challenge for individuals, especially among youth, to use the device for any form of activities. There are several daunting challenges with regard to the use of mobile phones in health-related activities. According to Michael (2006), in Egypt, these factors are; cost, perceptions of risk, reliability of telephone systems in health facilities, safety, liability, and cost recovery for unknown contacts as well as information and services provided at a distance, lack of understanding and use of a range of functions available through mobile phones and poor quality of health services. A systematic literature review conducted by Déglise, Suggs & Odermatt (2012) on the use of the SMS feature for disease prevention in developing countries such as India, Kenya, and South Africa, identified main barriers to include language, timing of messages, mobile network fluctuations, lack of financial incentives and data privacy. Individuals living in the rural areas. Odotola, (2003) frequently experience these deep-rooted factors and the daunting challenges involved in employing the device to perform health related activities. In addition to the above challenges, other controlling factors include a person's age, gender, level of education, individual innovativeness National Research Council, (2011), the community's cultural practices Van Biljon & Kotzé, (2008), and the nature of information content sought Chetley, Davies, Trude, McConnell, Ramirez, Shields, et al., (2006). These factors, in the view of van Biljon & Kotzé, are referred to as social constructs. Rashotte (2006) defines a social construct as a change in an individual's thoughts,

feelings, attitudes, or behaviours that results from interaction with another individual or a group. On the other hand, the influence includes;

- (i) cultural practices and interests of an individual, such as beliefs, about using for example mobile phones to get important information about health as a mode of promoting a healthy lifestyle. Gerber et al., (2009); Green & Potvin, (2002); Nutbeam, (2000);
- (ii) demographic information of an individual and the kind of health information to access on the mobile phone;
- (iii) an individual's security and privacy of information

According to the National Research Council (2011) and to Ouma, Herselman & VanGrauen (2011), several factors come together to influence the delivery of m-Health services within communities in particular. In most cases, these elements do not operate in isolation; rather, a combination of two or more, many of which are uncontrolled elements such as demographic, environmental, and socio-economic status. The challenges/factors are categorized under three main clusters:

Socio-economic and demographic factors including: (a) age; (b) level of education; and (c) income. Technological features and service impacts, Cultural beliefs and practices about health including: (a) individuals' beliefs about health care in general; and (b) beliefs about access to health information.

Socioeconomic factors, according to Kwon & Chidambaram (2000), are a major mediating factor that may have influence on the adoption of various media platforms for accessing health information. Cline & Haynes (2001) sum these variations of access to health information based on socio-economic factors and name this factor the digital divide. Socio-economic status affecting device usage includes variables akin to an individual's job status,

level of education, and income of most people in the rural communities. In addition, Ojo (2006) states that a high level of illiteracy, poverty, and absence of basic infrastructure prevents most people from adopting most new media device for accessing health information. One major barrier to the implementation of any media platform to access health information in rural communities in Ghana be it radio, television and more recently mobile phones is a reliable network system to access health information and transmit data from health personnel to patients and vice versa. Biljon & Kotzé, (2008); Jeng, Chen, Yin, Yang, Tsai, & Yeh, (2004). The network is perceived to be about how useful and easy the device is to an individual in terms of its features and reliability. Biljon & Kotzé, (2008). For Chetley et al. (2006), the problem with connectivity involves access to electricity, solar power options, and network connectivity. Similarly, Ashraf, Gine & Karlan (2005) observe that sometimes, an undependable phone network for example makes it difficult to maintain or use the device, especially in rural and other medically underserved communities. Idowu, Cornford & Bastin (2008) assert that most traditionally hard-to-reach individuals are without an electrical power supply. Hence, it becomes difficult to maintain the device.

Bukachi & Pakenham-Walsh (2007) describe these factors as traditional obstacles. These include lack of resources, such as poor infrastructure and road network, and inadequate political commitment to and support for information accessed on the Web for health purposes. Malhotra & Galletta (1999) add another influencing factor known as individuals' attitudes toward technological usage. In other words, employing a mobile phone to execute an activity may largely depend on personal preference and the importance of that activity to an individual. Parveen & Sulaiman (2008) note that adopting for example mobile phones as a new media to execute any form of activity, either health-related is probably dependent on the individual's acceptance of the devices as explorative and learning tools.

In the modern technological world, the establishment of a literate society and a system for the continuous exchange of ideas is very necessary. Olayide (1990) observes that rural people lack amenities like roads, good water supply, schools, health centres and markets. He again asserts that lack of indigenous capabilities for the acquisition and spreading of information have been creating great hindrances in many developing countries.

They also have difficulties in building sound information systems and the reason is not ignorance of what should be done but insufficient ability to translate good intention into operational activities. Lack of knowledge of how to use proper instructional materials such as books, radio sets, films, slides, television, records and cassette players to mention only a few, This can hinder effective communication and acquisition of new skills. Ochogwu (1998) opines that Nigerian information service is based on the experience of professionals the users of the information are hardly consulted before acquisition.

Omogor (2013) also observes that, inadequate knowledge of the information needs of users constitutes formidable barriers to information communication. He further opines that, information agents seem to be ignorant of users information needs. He also notes that, lack of cooperation among related information systems form hindrances to the flow of information. Adeniyi (2007) observes that the requisite information for development has become extremely segmented, divisive and uncoordinated. For information to achieve the desired results in the rural communities, the sources that provide for the flow of information should not be monopolized and politicized. Availability as well as accuracy and currency of information is necessary to the rural dwellers.

Mtega & Ronald (2013) also investigated the factors influencing accessibility of rural information services in Tanzania. Categorically, the study revealed the kinds of information services provided in rural areas, identified the sources of information used by rural people and determined the hindrances to accessibility of information services in rural areas in

Tanzania. The methodology used in the study was a meta-analysis methodology where studies on information services in rural areas in Tanzania were analysed. It was discovered that there were several information sources used in rural areas starting from simple face-to-face communication to modern interactive ICTs including the mobile phones. Even though there are a considerable number of sources of information available, several factors limited the accessibility of information services in rural areas. Findings of the study show that high illiteracy levels, poor/unreliable information infrastructure, low income, absence of electricity and high cost of ICTs have negatively affected the accessibility of information services in rural areas. The usage of technical languages in repackaging information, inadequacy of time to access information and geographical isolation also serve as barriers to accessing of information services in rural areas.

2.8 Summary

The review has revealed that health information is very important to public health and the wellbeing of every society. The study discovered that, several media are being used by health services in terms of health information dissemination. The revelations show that, both the print and the not print media and electronic media serve as information source for people. The review showed that, people living in rural communities mostly use the radio and television as their source of health information. The review has shown that, since the early 2000's Ghana has implemented m-health utilizing the new technology thus mobile phones to disseminate health information. Thus, the MoTech, SMS for Life and Mobile Health are tapping into the proliferation of the device's usage to promote health literacy and this has been used in the three Regions of Ghana. Aryee, (2014) who investigated the use of mobile phones to perform health services in Ghana evidences this. The review uncovered some challenges associated with health information dissemination as well as usage and some of these challenges includes lack of electricity in rural communities, unstable networks and

more importantly the cost involve in getting a new device for example mobile phones as well as the maintenance of the device.



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CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter looks at the methods, tools, procedures and mode of data collection for the study. It explains the research design, selection of case, and selection of subjects, population, sample size and sampling technique, data collection instruments, mode of data collection and presentation of results.

3.2 Research Design

A research design provides the appropriate framework that specifies how data relating to a given problem should be collected and analysed to expand knowledge and understanding.

This study employed the case study approach. According to Yin, (1984), case study research is an empirical inquiry that investigates a contemporary phenomenon within its real life context; when the boundaries between phenomenon and context are not evident; and in which multiple sources of evidence are used. Neville (2007) postulates that case studies offers an opportunity to study a particular subject, e.g. one organisation in depth, or a group of people, and usually involves gathering and analysing information; information that may be both qualitative and quantitative. Neville states that case studies can be used to formulate theories, or be descriptive, illustrative, experimental and exploratory. In this study, a descriptive case study approach was adopted. This type of case study is used to describe an intervention or phenomenon and the real-life context in which it occurred. Yin, (2003).

3.3 Selection of Cases

This study focused on Shai Osudoku district. This is because the district has all the variables of a rural district. The district has a land size of 968.36m² which represents twenty-nine point eight four percent (29.84%) of the land space of the Greater Accra region. Dodowa is the capital of the district and has a population of 55,741 according to the 2013 Population Census (GSS, 2014). Most of the inhabitants of the district, 76.4%, live in the rural communities whilst a few of them, 23.6% live in the urban and peri-urban communities. In order to improve access and better health delivery, the government has established twenty-eight (28) health facilities in the district. Twenty-four (24) of these health facilities are Community-based Health Planning Services (CHPS) compounds and an ultra-modern one hundred and forty (140)-bed hospital recently commissioned by the President of the Republic in the district capital Dodowa. It was therefore imperative to find out the media used for health information dissemination by the Ghana Health Services, and how it has influenced the various communities in terms of their health information literacy. The researcher also investigated communities in the Shai Osudoku district of the greater Accra Region. Permission was sought from the director of communication division of the Ghana Health Services, district health directorate and opinion leaders of some of the communities under the study.

3.4 Selection of Subjects

The categories of subjects for the research were designated to capture health professionals working at the Communication and information directorate, the district health director of the Ghana Health Services in the district, community health workers who work in the rural communities in the districts under study and members of the selected communities chosen for the research.

3.5 Population

When conducting research, it is important to identify the population group. The population is a collection of all elements from which a sample group is drawn. Gillham (2009). The population for a research consist of all the subjects intended to be studied and that include all the possible cases. The population for the research included the director in charge of health communication of the Ghana health service, District director of health and community health workers from selected communities within the district. The study population also included members of the various communities in the district.

The target population of the study were folks living in the Shai Osudoku district who come to Dodowa hospital, community members of five (5) of the twenty-four health CHPS zones within the Shai Osudoku district. The total population for the Shai Osudoku district according to the statistical services report of 2014 stood at 55,741. This comprised 27,146 males representing 48.7% and 28,595 females representing 51.3%.

3.5.1 Population for Quantitative Data

The study focuses on the Shai Osu-doku district, and it would have been ideal to consider its entire population. However, due to limited time and other resources the population was limited to the numbers of individual in the district within the ages of 25 to 64 year. The aforesated age group adds up to 19066 (Ghana Statistical Service, 2014), which served as the population for the quantitative aspect of this study.

3.5.2 Population and Sample Size for the Interviews (Qualitative)

The total population of the community health workers were forty-four. Each CHPS zone has two (2) community health workers working in the zones and compounds. One community health worker was chosen from the five CHPS for data collection. The total sample size for the interview is therefore six (6) [see Table3.1].

Table 3.1: Population for the Interview

Staff Categorization	Number
District Director of Health	1
Director of Communication	1
Community health workers	4
Total	6

3.6 Sample Size for the Quantitative Study

The sample of the study included two health directors, namely District health director and Director of the Communication Department, Ghana health service. In addition to that, five (5) community health workers were selected making up seven. Six were however available on the day of interview. Two hundred and ten (210) community members were also selected for the study. The rationales for using the sample more than 200 were to; (a) obtain adequate responses that can be representative for generalization when possible (Gay, 200; Yount, 2006), and (b) obtain a statistical significance, such as reducing sample error and confidence interval of the study (Gay, 200). Considering the population size of 13493, a sample size of 210 is considered apt, as per Yount's (2006) rule of thumb for sample selection. According to the rule, a population size of more than 100000 is realistically and significantly represented by a percentage (1%) of that population. In this regard, 1% of the current's study population of 19066, is 191. This therefore served as the basis for deciding on a sample size of 210.

3.7 Sampling Technique

The research was undertaken using the convenience and purposive sampling techniques. Convenience sampling also known as Haphazard Sampling or Accidental Sampling is a type of nonprobability or non-random sampling where members of the target population that meet certain practical criteria, such as easy accessibility, geographical proximity, availability at a

given time, or the willingness to participate are included for the purpose of the study. Quantitative data using questionnaires was collected from community members thus using the convenience sampling method. On the other hand, purposive sampling technique, also called judgment sampling, is the deliberate choice of a participant due to the qualities the participant possesses. A non-random technique does not need underlying theories or a set number of participants. Simply put, the researcher decides what needs to be known and sets out to find people who can and are willing to provide the information by virtue of knowledge or experience. Bernard, (2008). This involves identification and selection of individuals or groups of individuals that are proficient and well informed with a phenomenon of interest. Creswell & Plano Clark, (2011). In addition to knowledge and experience, Bernard (2008) and Spradley (1979), note the importance of availability and willingness to participate, and the ability to communicate experiences and opinions in an articulate, expressive, and reflective manner. It is based on these variables that the purposive sampling was chosen for the directors and health workers.

3.8 Data Collection Instruments

Data collection instruments are fact-finding strategies. They are the tools for data collection. These include questionnaire, interview, observation, books, organisation information, related journals etc. This study used both questionnaire and interview to collect data. The questionnaire was used because of the large sample size of the community members scattered in the health CHPS zones and GHS staff were interviewed to gain in-depth understanding of the media GHS uses to disseminate health information in their various health centres in the district.

3.9 Data Collection Procedure

The researcher with the aid of research assistants' administered questionnaires to respondents in the study area. For the qualitative data collection, an interview schedule with the two directors and four community health workers were scheduled and the researcher personally interviewed the respondents. The interviews were scheduled at the convenience of respondents and lasted between forty-five minutes to one hour.

3.10 Data Analysis

This section describes how data retrieved from the field was analysed for discussion and interpretation.

3.10.1 Quantitative Data Analysis

Both descriptive, chi square and cross tabulation techniques were used to analyse the data. Descriptive statistics such as mean, percentages, standard deviation as well as chi-square test of independence were used to investigate how variables such as “age group, gender, educational level, marital status and current employment status” influence individual knowledge on health information and media by which information is disseminated to them by Ghana Health Service. Administered questionnaires were examined to check completeness, accuracy and consistency of the responses in order to detect and eliminate errors. The Statistical Package for Social Sciences (SPSS) version 21.0 was employed to process the quantitative data. The data was processed into statistical tables and charts for interpretation and discussion.

3.10.2 Qualitative Data Analyses

The researcher utilized a qualitative thematic content analysis method to analyse the interview data from the Ghana Health Service staff. Thematic content analysis involves

generating frequency counts of the dominant themes in a data that guides to analysis. The analysis further involves identifying themes from the transcript and comparing those themes to the study purpose and existing literature (Vaughn et al, 1996). The researcher then organised the data for coding. The coded data was grouped into the recurrent or commonly emerging ‘themes’, patterns and structures. The themes were merged into categories with similar content and further analysed manually in line with the objectives of the study. Since qualitative research claims to represent participants’ own perspectives, or subjective experiences of their worlds, it is important to consider the extent to which the qualitative research report reflects the perspectives of those it claims to represent. In effect, the researcher used quotations (i.e. participants’ own words) put side by side with descriptions and interpretations.

3.11 Pre-testing

Pre-testing in research is recognized as an essential element. The objective of the pre-test was to test the questionnaire and the interview schedule by piloting, the definition of its concepts and the instructions for filling out the questionnaire and answering to interview questions. It was also to find out the capability of the questionnaire, the instruments provided as well as the adequacies and completeness of the responses and how respondents understood the questions. The district public relation officer at the district health office as well as two community workers working at the Dodowa hospital were interviewed. Ten community members were randomly chosen in various communities and questionnaire administered. Experience from the pilot was used to improve data collection tools and data collection.

3.12 Ethical Consideration

The purpose of the study is to contribute to existing knowledge in the area of health information dissemination to rural communities. In view of this, respondents were duly informed about the study before they participated. In conformity with the University of Ghana standards, respondents' confidentiality and non-disclosure of information provided for the study were assured. Therefore, respondents were not required to provide names on both questionnaires and interview schedule. A letter of introduction introducing researcher to the directors of the communication department and district health directorate was obtained from the head of department of information studies. A personal contact with respondents was however established in order to solicit their co-operation.

3.13 Summary

Shai Osudoku District was the case selected for the study. It is a large district with scattered rural communities. The case study method guided the research. Director for communication of GHS, district director of health for the district, community health workers working in the various communities selected for the study and community members. Questionnaires were used to solicit for information from 210 community members and interviews were scheduled with director of communication of the GHS, district director of health of the shai Osudoku district as well as community health workers working in the selected communities used for the study. Convenient and purposive sampling techniques was employed in this study. Data was analysed using the SPSS version 21.0 for the qualitative data and thematic content analysis for the qualitative data.

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CHAPTER FOUR

DATA ANALYSES

3.10 Introduction

This chapter presents the results of the analysis of the data gathered from both interviews and questionnaires. Questionnaire were used quantitative data collection from communities in the Shai Osudoku district. Two hundred and ten (210) questionnaires were administered, of which two hundred and eight (208) were filled and returned. This meant that only two (2) of the questionnaire were not returned. This nonetheless indicates that the questionnaire had a very high response rate of 99%. For the health workers, five were selected from the five CHPS compounds. Descriptive statistics such as percentages, pie charts and bar graphs were used to present the results, as well cross-tabulation used to investigate how variables such as “age group, gender, educational level, marital status and current employment status” influence individual knowledge on health information and mode of media by which information is disseminated to them by Ghana Health Service. For the qualitative interviews conducted was analysed using the thematic content analysis. Two directors as well as five community health workers were selected from the five communities selected for the study in the district. Four of the five selected community health workers were available for the interview, thereby making the total number of respondents six.

3.10.1 Demographics

Demographics are important characteristics of a population. Characteristics such as race, ethnicity, gender, age, education, profession occupation, income level, and marital status are all typical examples of demographics that are used in research. In designing a research, the researcher needs to assess who to include and how to breakdown the overall research data

into meaningful groups of respondents. The researcher thus collected demographic data on respondents and is analysed and presented below.

As illustrated in Figure 4.1 below, out of two hundred and eight (208) respondents, one hundred and seven (107) of them were males representing approximately fifty-one point four percent (51.4%), while the remaining one hundred and one (101) respondents representing forty-eight point six percent (48.6%) were females. *Looking at the number of the respondents presented above, it is very clear that the representation of both males and females are not much varied as expected in a male dominated society.*

3.10.1.1 Gender

Gender is considered a critical factor in assessing health information. In this light, this current subsection analysis the gender of the respondents.

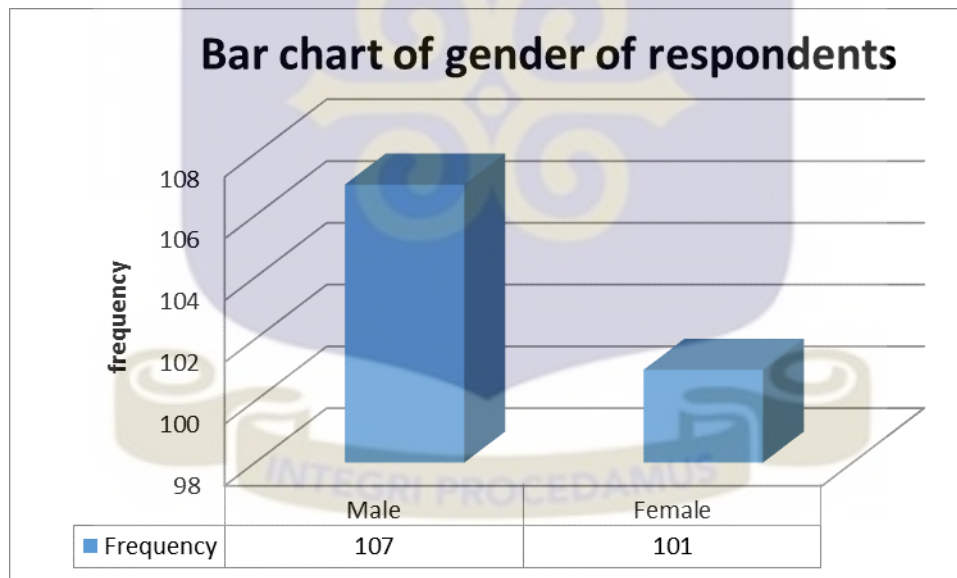


Figure 4.1: Gender distribution

3.10.1.2 Age

This section presented an analysis of the ages of the respondents in relation to other variables identified for the study. For example, results from the age distribution in the table below allowed for further analysis and interpretations concerning the age group that preferred particular media in accessing information.

Table 4.1: Age Distribution

	Frequency	Percent
18-30 years	88	42.3
31-40 years	47	22.6
41-50 years	49	23.6
Over 50 years	24	11.5
Total	208	100

As captured in table 4.1 above, out of the total of two hundred and eight respondents (208) respondents, eighty-eight (88), representing forty-two point three percent (42.3%) were between the ages of 18-30 years. Forty-seven (47) respondents representing twenty-two point six percent (22.6%) were between the ages of 31-40years, forty- nine (49) respondents representing twenty-three point six percent (23.6%) were between the ages of 41-50 years and twenty-four (24) respondents representing eleven point five percent (11.5%) were over 50 years old. *Majority of the respondents were between the ages of 18-30 years showing a very youthful population living in the district.*

3.10.1.3 Marital status

A descriptive analysis of the marital status of the respondents is presented in the table below. The results from this analysis is used to further test if the marital status of the respondents affects their choice of medium in accessing health information.

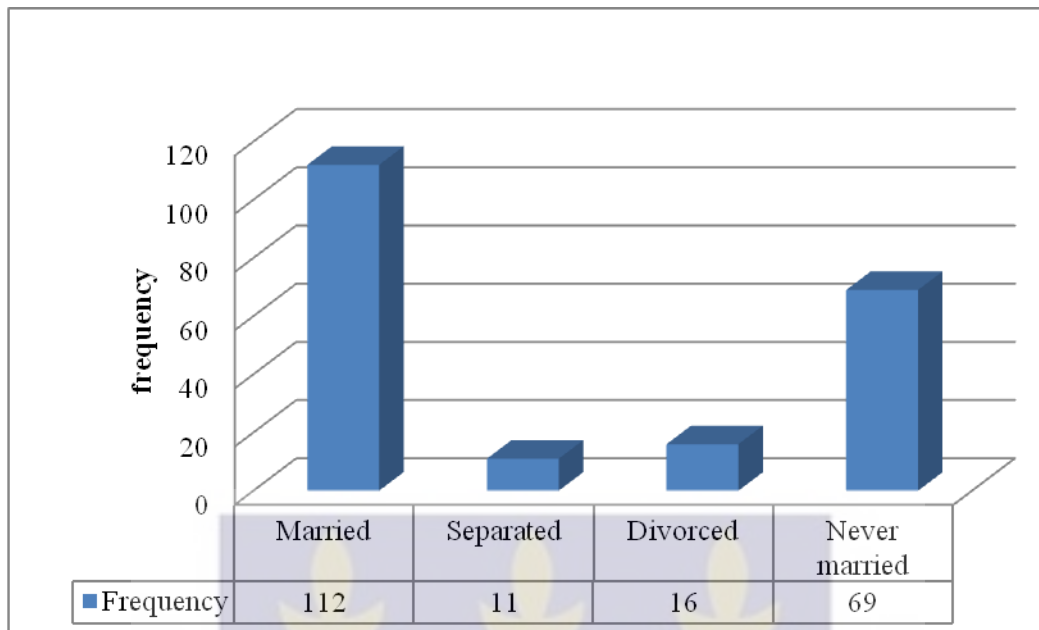


Figure 4.2: Marital Status

In Figure 4.2 above, the marital status of the respondents is indicated. One hundred and twelve (112) respondents were married, eleven (11) were separated, sixteen (16) were divorced, and sixty-nine (69) respondents were never married. *It can be observed from the figures presented above that, married people constitute the majority, which is more than half of the total number of the respondents (112 out of 208).*

3.10.1.4 Educational Level

An analysis of the educational levels of the respondents were also deemed necessary, as it may characterise the choice and challenges a respondent may face in accessing health information. Consequently, the Table 4.2 presents a descriptive analysis of the educational levels of the respondents.

Table 4.2: Educational Level of Respondents

	Frequency	Percent
Graduate education	65	31.3
Secondary education	76	36.5
Primary education	28	13.5
Informal education	23	11.1
No formal schooling	16	7.7
Total	208	100.0

Table 4.2 represents the level of education of the respondents. Out of two hundred and eight (208) respondents, sixty-five (65), representing thirty-one point three percent (31.3%) respondents highest level of education was graduate education. Seventy-six (76) respondents representing thirty-six point five percent (36.5%) highest level of education was secondary education. Twenty-eight (28) of the respondents' highest level of education was primary education representing thirteen point five percent (13.5%), twenty-three (23) of the respondents thus eleven point one percent (11.1%) for informal education and the remaining sixteen representing seven point seven (7.7%) respondents had no formal schooling. Looking at the figures presented above on educational levels of the respondents, one would not be wrong to say that a high number of respondents are educated. Thus, one hundred and sixty-nine (169) persons out of two hundred and eight (208) have had some form of formal education, twenty-three (23) of them with informal education and the remaining sixteen (16) have had no formal education. *With the high level of education amongst responses, the assumption is that health information literacy level will be high, however results from the finding indicates most of the respondents are not health information literate.*

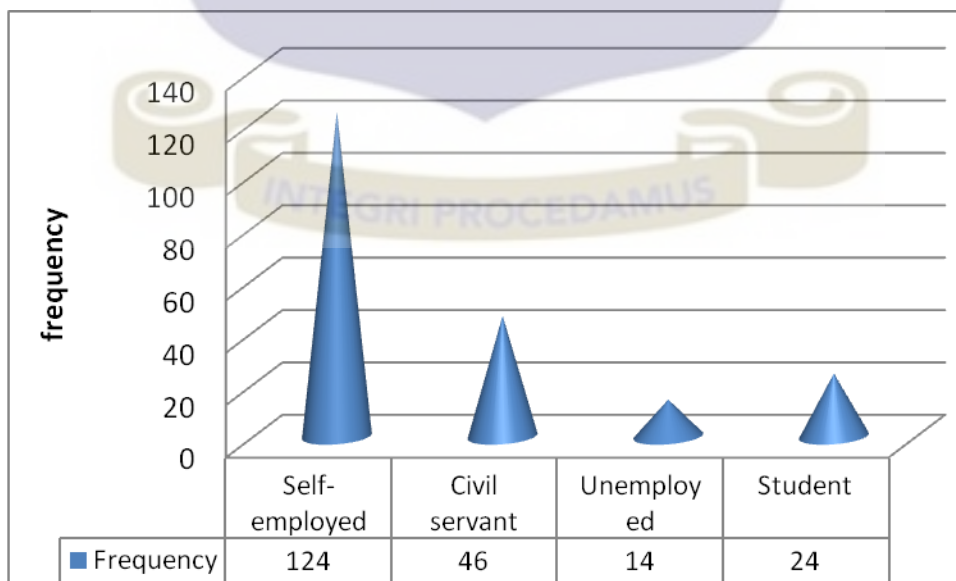


Figure 4.3: Employment Status

From Figure 4.3, out of two hundred and eight (208) respondents, one hundred and twenty-four (124) were self-employed, forty-six (46) were civil servants, fourteen (14) were unemployed and the remaining twenty-four (24) respondents were students. It is obvious from the statistics on the employment status of the people that majority of them are self-employed and minority are unemployed. *These responses from respondents indicates that high percentage of them are in some form of employment and earning some income which is important if they are to acquire and use modern technologies like mobile phones to access health information.*

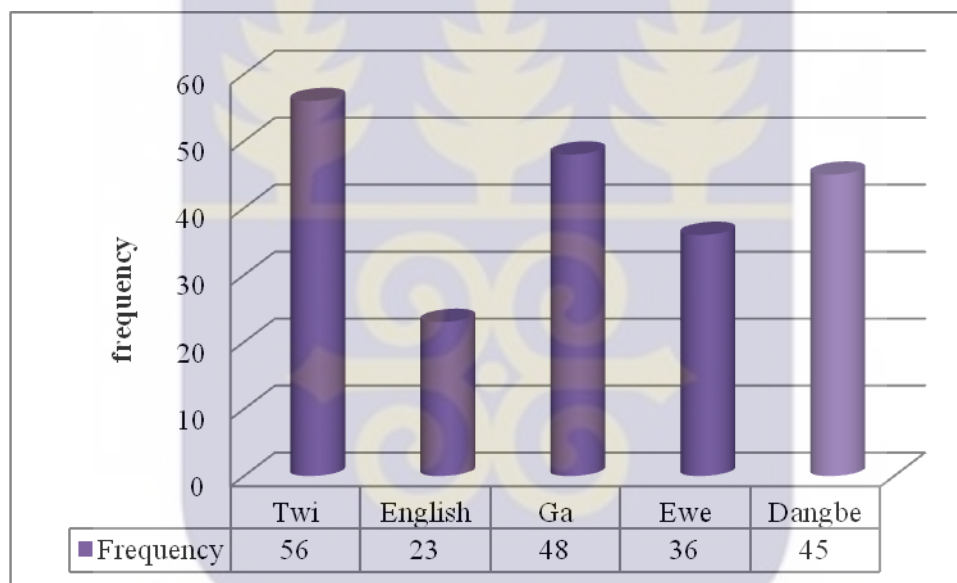


Figure 4.4: Languages Spoken

In figure 4.4 above, when respondents were asked what other languages they speak apart from their local dialect, fifty-six (56) of them said they speak Twi aside their local dialects, forty-eight (48) respondents speak Ga apart from their local dialect, thirty-six (36) also speak Ewe and forty-five (45) speak Dangbe aside their local dialect. *This indicates that varying languages are spoken in the district and that service providers should take into cognizance the languages in which they disseminate health information.*

4.2.7 Children

The percentage of the respondents that constitutes Children are analysed in this subsection. This analysis is informed by the idea that children may have a different ‘taste’ when it comes to media choices and challenges faced in accessing and disseminating health information.



Figure 4.5: Respondents with Children

Figure 4.5 above, summarises the responds on whether or not the respondents have children. Out of two hundred and eight (208) respondents, one forty-two (142) said they have children and sixty-six (66) said they do not have children. Thus, the number of respondents who have children are even more than twice the number of those who do not have children. *With such high rate of childbirth, findings are that issues with health and especially child health was high and that crucial and essential health information is essential to all the communities to reduce child mortality, improve maternal health and combat diseases.*

Table 4.3: Percentile Representation of Respondents with Children

	Frequency	Percent
0	66	31.731
1	18	8.654
2	25	12.019
3	39	18.750
4	34	16.346
5	13	6.250
6	10	4.808
7	2	0.962
8	1	0.481
Total	208	100.000

Source: Field data 2016

From Table 4.3, it was revealed that the number of children the respondents have ranges from 0 to 8 children. Where 0 represent the respondents that have no children and they were sixty-six (66) respondents. Eighteen (18) respondents have one (1) child, twenty-five (25) of respondents have two (2) children, thirty-nine (39) of the respondents have three (3) children and there was a respondent with eight (8) children.

Table 4.4: Community Representation of Data Subjects

	Frequency	Percent
Kodiabe	15	7.212
Ayikuma	15	7.212
Doryumu	15	7.212
Ayenia	16	7.692
Agomeda	17	8.173
Dodowa	130	62.500
Total	208	100.000

Source: Field data 2016

Majority of the respondents lived in Dodowa and they were one hundred and thirty (130) respondents representing 62.5%. Seventeen (17) of the respondents were from Agomeda, sixteen (16) were from Ayenia and fifteen (15) respondents were from Kodiabe, Ayikuma

and Doryumu each. The observation was that though many of the respondents lived in the district capital, most of the community members travelled to the capital to do business or visit the main Dodowa hospital for their health checks because it is well resourced.

Table 4.5: Views about health and health literacy

		Frequency	Percent
Going for regular check-ups(n=208)	Strongly disagree	7	3.4
	Disagree	7	3.4
	Neutral	8	3.8
	Agree	76	36.5
	Strongly agree	110	52.9
Ability to access and use health information effectively (n=207)	Strongly disagree	3	1.4
	Disagree	6	2.9
	Neutral	14	6.8
	Agree	86	41.5
	Strongly agree	98	47.3
Taking proper medication(n=206)	Strongly disagree	3	1.5
	Disagree	2	1.0
	Neutral	10	4.9
	Agree	92	44.7
	Strongly agree	99	48.1
Practicing family planning(n=206)	Strongly disagree	5	2.4
	Disagree	14	6.8
	Neutral	20	9.7
	Agree	75	36.4
	Strongly agree	92	44.7

Table 4.5 sought the views of the respondents on how and whom they considered a health literate person. Going for check-ups, Accessing and using health information, Taking proper medication, practicing family planning. Out of two hundred and eight (208) respondents, one hundred and one (110) strongly agreed that a person is considered to be health literate when

he/she goes for regular check-ups. Ninety-eight (98) respondents strongly agreed that a person is considered health literate when he/she access and use health information effectively. In addition, ninety-nine (99) respondents strongly agreed that a person is considered health literate when he/she takes proper medication and ninety-two (92) respondents strongly agreed that a person is considered health literate when he/she practices family planning. *With regard to those who disagreed on the positions that for one to be considered as health literate when he or she goes for regular check-ups, accesses and use health information, takes proper medication and practices family planning are 19, 5, 9 and 14 respectively while the neutral people are 8, 14, 10 and 20 respectively. Taking all the responses or statistics into consideration, respondents' knowledge about a health literate person are varied. Respondents were asked about their views on living healthy, their responses were; a healthy living is by going on regular check-ups and taking proper medications. Some of them defined healthy living as eating a balanced diet as well as having enough sleep and exercising regularly.*

Table 4.6: Search for Health Information

	Frequency	Percent
Poor	14	6.8
Fair	30	14.6
Good	68	33.0
Very Good	61	29.6
Excellent	33	16.0
Total	206	100.0

As indicated in the table 4.6 above, in rating respondents' ability to look for health information to prevent them and family from contracting unwanted diseases and illness, fourteen (14) respondents said it was poor. Thirty (30) rated their ability as fair, sixty-eight (68) said it was good, sixty-one (61) respondents said it was very good and thirty-three (33) rating their ability to look for health information as excellent. *This suggests to a considerable*

degree that the ability of the people to look for health information may be dependent on their health information literacy level.

Table 4.7: Trustworthiness of accessed information

	Frequency	Percent
Very unlikely	6	2.9
Somewhat unlikely	6	2.9
Not sure	48	23.2
Somewhat likely	71	34.3
Very likely	76	36.7
Total	207	100.0

In table 4.7 above, respondents were asked if it is likely, health information they obtain is trustworthy before acting on it. Out of two hundred and seven (207) respondents, seventy-six (76) representing thirty-six point seven percent (36.7%) said it is very likely. Seventy –one representing thirty-four point three percent (34.3%) respondents said it is somewhat likely, forty-eight representing twenty-three point two percent (23.2%) were said not certain. Six representing two point nine (2.9%) were somewhat unlikely and the remaining six also representing two point nine (2.9%) answered very unlikely. *Considering the responses given, to a very high extent, it is right to conclude that the people are likely to authenticate or trust the information offered to them and act on it.*

Table 4.8: Mode/Medium for obtaining health information

		Frequency	Percent
hospital/physician/nurses/public health(n=208)	Yes	188	90.4
	No	19	9.1
	Don't know	1	.5
friends and families(n=207)	Yes	179	86.5
	No	27	13.0
	Don't know	1	.5
radio/television(n=205)	Yes	193	94.1
	No	10	4.9
	Don't know	2	1.0
Posters leaflets and billboards(n=207)	Yes	100	48.3
	No	94	45.4
	Don't know	9	4.3
	Not applicable	4	1.9
Mobile phones and internet(n=207)	Yes	80	55.1
	No	114	38.6
	Don't know	9	4.3
	Not applicable	4	1.9

Source: Field data 2016

About table 4.8 above, respondents were asked whether they have used any of the following: hospital/ physician/ nurses/ public health, friends and families, radio/ television, posters/ leaflets/ billboards mobile phones and internet. The responses were yes, no and did not know. Concerning hospital/ physician/ nurses/ public health, one hundred and eighty-eight (188) out of the two hundred and eight (208) said yes, nineteen (19) said no and the remaining one person did not know. With friends and families, out of two hundred and seven (207) respondents, one hundred and seventy (179) said yes, twenty-seven (27) said no and one person did not know. As to obtaining information on health on the radio/television, one ninety-three (193) out of the two hundred and eight (208) respondents said yes, ten (10) said no and two (2) said they did not know. In addition, in response to obtaining health

information through posters, hundred (100) out of the two hundred and seven (207) respondents said yes, ninety-four (94) said no, and nine (9) said they do not know and the remaining four (4) said not applicable. Finally, out of two hundred and seven (207) respondents were asked whether they use mobile phones and internet to obtain health information, one hundred and four (114) said yes, eighty (80) said no, nine (9) said they didn't know and the remaining four (4) respondents said not applicable. *A clear indication that mobile phones and internet was obviously the less use in accessing health information compared to other mediums. This could be due to the limited access of the service.*

Table 4.9: Likely sources to seek for health information

	Frequency	Percent
Health brochures/leaflets	33	15.9
Family/friend/health provider	77	37.0
Radio/Television	75	36.1
Mobile phone	15	7.2
Internet	8	3.8
Total	208	100.0

Source: Field data 2016

In table 4.9 above, when asked which of the following sources respondents are most likely to use when seeking information regarding health, two hundred and eight (208) respondents, seventy-seven representing thirty-seven percent (37%) respondents said they are most likely to contact a family/friends/health member first with any question about health. Seventy-five (75) respondents representing thirty-six point one percent (36.1%) said they would use radio/television. Thirty-three (33) representing fifteen point nine (15.9%) said they will first refer to health brochure/leaflets, fifteen (15) representing seven point two (7.2%) will use mobile phones eight (8), representing three point eight (3.8%) said they will contact the internet. This implies that, family/friends/health providers and radio/television were identified as the main sources respondents will contact for health information as indicated in

the high response of 37% and 36.1%. *Findings from study indicate that respondent accessed available resources and media because of its availability and not accessing the emerging technologies was a result of non-availability.*

Table 4.10: Electronic and emerging technologies

		Frequency	Percent
Mobile phones	yes	105	50.5
	No	103	49.5
Television	yes	163	78.4
	No	45	21.6
Internet	yes	103	49.5
	No	105	50.5
Radio	yes	132	63.5
	No	76	36.5

As illustrated in table 4.10 above, respondents' views were sort on emerging new technologies, and were asked if mobile phones, television, internet and radio are likely to promote health education, make accessible health information and improve healthcare in the rural areas in the district. Of the two hundred and eight (208) respondents, one hundred and five (105) representing fifty point five percent (50.5%) answered in the affirmative to mobile phones and the remaining one hundred and three (103) representing forty-nine point five percent (49.5%) said no. With television, one hundred and sixty-three representing seventy-eight point four (78.4%) out of 208 respondents said yes and forty-five (45) representing (21.6%) responded no. With regard to the use of the internet, one hundred and three representing forty-nine point five percent (49.5%) said yes and the remaining one hundred and five representing fifty point five percent (50.5%) said no. Finally, with the radio, out of two hundred and eight (208) respondents, one hundred and thirty-two representing sixty-three point five percent (63.5%) responded in the affirmative and the remaining seventy-six representing thirty-six point five percent (36.5%) said no. *The figures or responses provided*

above suggest that about sixty point seven percent (60.7%) of the respondents recognized the role of the electronic and emerging technologies thus mobile phones, television, internet and radio are likely to promote health education and improve the dissemination of health information in the rural areas.

Table 4.11: Information about MoTech

		Frequency	Percent
Please have you heard anything about MoTech, a project initiated by Ghana health Service and Ministry of Health?	Yes	43	20.7
	No	165	79.3
Have you ever sent or received health information via your mobile phone	Yes	58	27.9
	No	150	72.1
Would you like to receive health information through your mobile phone	Yes	173	83.2
	No	35	16.8

As presented in table 4.11 above, respondents were asked if they have heard about MoTech. Majority of the correspondents representing 79.3% said they have not heard about MoTech. Seventy-two point one percent (72.1%) of the respondents said they had not sent or received health information via their mobile phone. When asked would you like to receive health information through your cell phone, 173 of the respondents representing 83.2% said yes and the remaining 35(16.8%) respondents said no. The above responses imply that, majority of the respondents had poor knowledge as far as MoTech, a media employed by Ghana Health Service to disseminate health information. MoTech technology for community health in Ghana is project by the Grameen foundation. Even though MoTech is been utilized in the three regions, it is clear that the respondents in this study had little or no knowledge about the system.

Table 4.12: Mobile phone and Health Information Dissemination

		Frequency	Percent
Mobile phones have become a new way of learning	Strongly disagree	5	2.4
	Disagree	7	3.4
	Neutral	10	4.8
	Agree	96	46.2
	Strongly agree	90	43.3
Using mobile phone to look for information from nurses and doctor is easy and accurate	Strongly disagree	10	4.8
	Disagree	18	8.7
	Neutral	97	46.6
	Agree	33	15.9
	Strongly agree	50	24.0
Lack of health information is as a result of low health literacy level	Strongly disagree	86	41.3
	Disagree	16	7.7
	Neutral	48	23.1
	Agree	10	4.8
	Strongly agree	48	23.1
Mobile phones can promote health education among individuals in the rural communities	Strongly disagree	13	6.3
	Disagree	12	5.8
	Neutral	28	13.5
	Agree	95	45.7
	Strongly agree	60	28.8
I am more likely to use the phone to ask more about my health status and any relevant health information	Strongly disagree	15	7.2
	Disagree	14	6.7
	Neutral	17	8.2
	Agree	73	35.1
	Strongly agree	89	42.8

In table 4.12 above, ninety-six (96) respondents agreed that mobile phones have become a new way of learning. Ninety-seven (97) respondents remain neutral that, using mobile phone to search for information from nurses and doctor is easy and accurate and ninety-five (95) respondents agreed that mobile phone could promote health education among individuals in

the rural communities. *With statistics presented in table 4.12 above, it is clear that the use of mobile phone will aid in the dissemination of health information in the rural areas.*

Respondents were asked to answer yes or no to whether they think there are benefits to be derived from use of media and emerging new technologies to provide and access health information. Of the two hundred and eight respondents 200 representing (96.2%) answered in the affirmative, five representing (2.4%) said no with three (1.4%) not giving an answer. *A 96.2% answering in the affirmative attest to respondents being aware of the advantages of media and emerging technologies like mobile phones and internet to promote and disseminate health information*

Table 4.13: Benefits of media and emerging technologies in accessing health information

		Frequency	Percent
Variety of sources to choose from(n=208)	Yes	101	48.6
	No	39	18.7
	Not sure	52	25
	Not Applicable	16	7.7
Widens access(n=208)	Yes	123	59.1
	No	50	24.0
	Not sure	30	14.4
	Not Applicable	5	2.4
Available timely health information to use in emergencies(n=208)	Yes	143	68.7
	No	38	18.3
	Not sure	23	11.1
	Not Applicable	4	1.9
Use of visuals helps in understanding messages better(n=208)	Yes	144	69.2
	No	31	14.9
	Not sure	21	10.1
	Not Applicable	12	5.7
Use of mobile phones to communicate with health workers regarding any information regarding their health(n=208)	Yes	124	53.9
	No	41	19.7
	Not sure	37	17.8
	Not Applicable	6	2.9

Table 4.13 above represents the findings of the study on benefits of media and emerging technologies for health information dissemination. Frequencies from respondents to outlined benefits were high. One hundred and one (101) assert to media and emerging technology providing a variety of sources to choose from. Concerning widening access 123 responded in the affirmative with 143 responding yes to available timely health information during emergencies. One hundred and forty-four agreed that use of visuals helped in their understanding of health issues and finally 124 affirm that use of mobile phones to communicate with health workers was an advantage. *Findings indicate high response rate in the affirmative from respondents regarding the benefits*

Table 4.14: Limitation to accessing Health information

		Frequency	Percent
Limited information source(n=207)	Yes	105	50.7
	No	39	18.8
	Not sure	50	24.2
	Not Applicable	13	6.3
Lack of understanding(n=205)	Yes	115	56.1
	No	54	26.3
	Not sure	31	15.1
	Not Applicable	5	2.4
Lack of electricity to recharge phone battery/ or use television(n=208)	Yes	123	59.1
	No	59	28.4
	Not sure	23	11.1
	Not Applicable	3	1.4
Low network connectivity(n=206)	Yes	122	59.2
	No	51	24.8
	Not sure	26	12.6
	Not Applicable	7	3.4
Lack of funds(n=208)	Yes	87	41.8
	No	78	37.5
	Not sure	37	17.8
	Not Applicable	6	2.9

From Table 4.14, one hundred and five (105) respondents said limited information source has limited them from searching for or receiving health information. One hundred and fifteen (115) respondents also said lack of understanding has limited them from looking for or receiving health information. To one hundred and twenty-three (123) of the respondents, lack of electricity to recharge phone battery/or use is preventing them from receiving health information. One hundred and twenty-two (122) of the respondents averred that low network connectivity is an obstacle to their ability to receive health information. Eighty-seven (87) of the respondents expressed that lack of funds is actually limiting them from getting health information. Statistically, only fifty-three point three eight percent (53.38%) of the respondents agreed to the factors mentioned above as inhibiting them from receiving health information while the remaining forty-six point six two percent (46.62%) respondents were those who responded no, not sure and not applicable. *From the above table, it is obvious that, the respondents have numerous challenges in their attempt to access health information.*

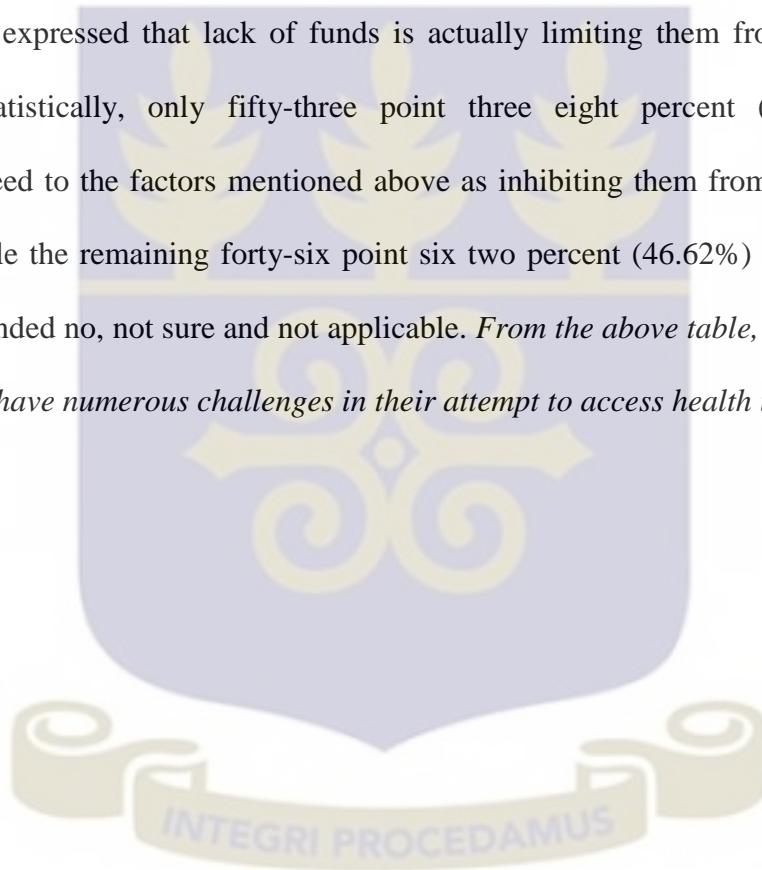


Table 4.15: Interpreting health information

		Frequency	Percent
I need help with hospital reading materials(n=208)	Always	51	24.5
	Often	22	10.6
	Sometimes	83	39.9
	Occasionally	29	13.9
	Never	23	11.1
I have problems learning about my medical conditions(n=207)	Always	42	20.2
	Often	25	12.0
	Sometimes	97	46.6
	Occasionally	27	13.0
	Never	16	7.7
I have difficulty understanding written information from a doctor(n=208)	Always	80	38.5
	Often	23	11.1
	Sometimes	59	28.4
	Occasionally	24	11.5
	Never	22	10.6
I have difficulty taking the right dosage of my medication(s)(n=208)	Always	38	18.3
	Often	27	13.0
	Sometimes	72	34.6
	Occasionally	32	15.4
	Never	39	18.8

As captured in table 4.15 above, the study reveals that, fifty-one (51) respondents attest to always having challenges with interpreting hospital reading materials, forty-two (42) respondents said they always have problems learning about their medical conditions and eighty (80) respondents said they always have difficulty understanding written information from a doctor. The figures presented above suggest that, people normally encounter some challenges interpreting accessed health information. Thus, on average, only twelve point zero five percent (12.05 %) of the respondents said they never experienced the above-mentioned challenges in their quest for health information. These responses is an indication that

respondents have difficulty in interpreting the specified health information because they might not be information literate.

Table 4.16: Mode/Medium of health information

		Frequency	Percent
would you prefer video as a format for seeking health information	yes	168	80.8
	no	20	9.6
would you prefer books as a format for seeking health information	yes	69	33.2
	no	119	57.2
would you prefer pamphlets as a format for seeking health information	yes	42	20.2
	no	146	70.2
would you prefer audiocassette as a seeking format for health information	yes	98	47.1
	no	90	43.3
would you prefer magazines as a format seeking for health information	yes	47	22.6
	no	139	66.8
would you prefer newspapers as a format for seeking health information	yes	65	31.3
	no	123	59.1
would you prefer computer and CDs as a format for seeking health information	yes	47	22.6
	no	141	67.8
would you prefer mobile phone voice and text communication as a format for seeking health information	yes	112	53.8
	no	76	36.5

In Table 4.16, respondents were asked in which mode/medium they would prefer the information. Eighty point eight percent (80.8%) of the respondents preferred it in videos format. Fifty-three point eight percent (53.8%) of the respondents preferred cell phone voice and text communication. Thirty-three point two percent (33.2%) of the respondents preferred books as a format for putting information across, 20.2%, 22.6% 47.1%, 31.3%, 22.6% of the respondents preferred pamphlets, magazines, audio cassette, newspapers and computers CDs respectively, as formats for seeking health information. *More respondents from presentation*

of findings indicate that respondents preferred the electronic media of health information dissemination.

As presented in table 4.17 below, respondents were asked to rate the performance of the Ghana Health Service in terms of health information dissemination in the rural communities in the country. Fifty, (11.3%) of the respondents said they are good, thirteen point seven percent (13.7%) respondents said they are very good, five point four (5.4%) of them rated it as excellent, nineteen point six (19.6%) also rated it as average and the remaining eleven point three (50%) scored it as poor. *These findings suggests that Ghana Health Service though providing health information is not doing too well especially in the rural and therefore more room for improvement.*

Table 4.17: Performance rating of Ghana Health Service

	Frequency	Percent
excellent	11	5.4
very good	28	13.7
good	23	11.3
average	40	19.6
poor	102	50.0
Total	204	100



Table 4.18: Highest level of education

		Graduate education	Secondary education	Primary education	Informal education	No formal schooling	Total	P-value
A person is considered to be health literate when: Going for regular check-ups	Strongly disagree	2	2	2	1	0	7	0.122
	Disagree	4	2	0	0	1	7	
	Neutral	1	3	3	1	0	8	
	Agree	22	36	11	5	2	76	
	Strongly agree	36	33	12	16	13	110	
A person is considered to be health literate when: has the ability to access and use health information	Strongly disagree	1	1	1	0	0	3	0.078
	Disagree	2	2	1	0	1	6	
	Neutral	3	6	2	2	1	14	
	Agree	22	36	19	7	2	86	
	Strongly agree	37	30	5	14	12	98	
A person is considered to be health literate when: Taking prescribed medication	Strongly disagree	0	2	1	0	0	3	0.034
	Disagree	0	1	0	0	1	2	
	Neutral	3	5	1	1	0	10	
	Agree	24	40	17	9	2	92	
	Strongly agree	38	26	9	13	13	99	
A person is considered to be health literate when: Practicing family planning	Strongly disagree	3	2	0	0	0	5	0.192
	Disagree	3	6	3	1	1	14	
	Neutral	5	12	3	0	0	20	
	Agree	24	27	13	8	3	75	
	Strongly agree	30	27	9	14	12	92	

Table 4.18 above reveals how individual educational level influences a person's view on how he/she considers a person to be health literate using chi-square test of independence. The P-value of "A person is considered to be health literate when: Taking prescribed medication" is 0.034 which is less than 0.05(5% significant level). The cross tabulation of it shows that more of the secondary educated, forty (40) respondents agreed "A person is considered to be health literate when: Taking prescribed medication", while more of the graduate educated respondents, thirty-eight (38) strongly agreed that "A person is considered to be health literate when: Taking prescribed medication". A clear indication that though literacy levels in the district is high, respondents do not know who an information literate is. To the respondents the information literates are those who can perform the above task. Respondents, basically, do not know that an information literate should be able to access, retrieve and use that information effectively for the purpose for which it was sort.

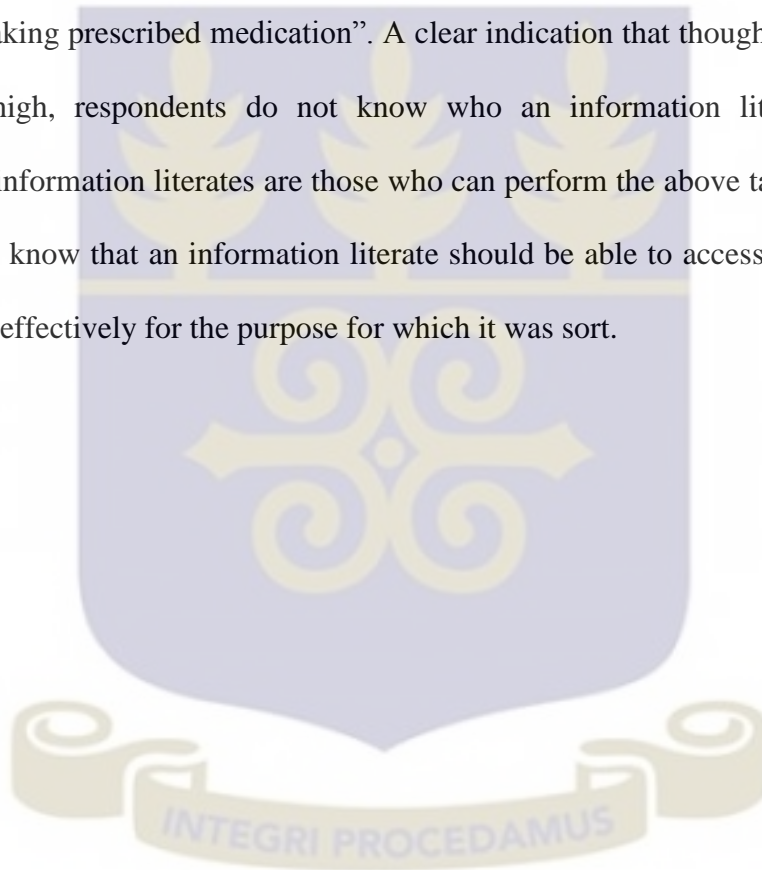


Table 4.19: Educational levels and modes of seeking health information

		Highest level of education					Total	P-value
		Graduate education	Secondary education	Primary education	Informal education	No formal schooling		
Have you used hospital/physician/nurses/public health to obtain health information	Yes	63	69	26	16	14	188	0.003
	No	2	7	1	7	2	19	
	Don't know	0	0	1	0	0	1	
Have you used friends and families to obtain health information	Yes	53	60	27	23	16	179	0.089
	No	12	14	1	0	0	27	
	Don't know	0	1	0	0	0	1	
Have you used radio/television to obtain health information	Yes	62	69	26	21	15	193	0.720
	No	3	4	0	2	1	10	
	Don't know	0	1	1	0	0	2	
Have you used posters leaflets, billboards to obtain health information	Yes	38	43	13	4	2	100	0.006
	No	22	30	13	17	12	94	
	Don't know	3	1	2	1	2	9	
	Not applicable	2	1	0	1	0	4	
Have you used mobile phones and internet to obtain health information	Yes	44	45	17	4	4	114	0.001
	No	15	29	9	17	10	80	
	Don't know	4	1	1	1	2	9	
	Not applicable	2	0	1	1	0	4	

From Table 4.19 the p-values of using hospital/ physician/ nurses/ public health, posters and bill boards are 0.003, 0.006 and 0.001 respectively which is less than 0.05 (i.e. 5% significant level). This means that using hospital/physician/nurses/public health, posters leaflets and billboards to obtain health information depends on educational level and from the cross tabulation, it is clear that the graduate respondents responded in the affirmative.

Table 4.20: Educational level and emerging technologies

		Highest level of education					Total	P-value
		Graduate education	Secondary education	Primary education	Informal education	No formal schooling		
Mobile phones	yes	31	40	15	12	7	105	0.943
	no	34	36	13	11	9	103	
Television	yes	41	59	26	22	15	163	0.001
	no	24	17	2	1	1	45	
Internet	yes	49	40	6	6	2	103	0.000
	no	16	36	22	17	14	105	
Radio	yes	37	52	18	15	10	132	0.727
	no	28	24	10	8	6	76	

From table 4.20, the p-values of television and internet are 0.001 and 0.000 respectively, which is less than 0.05. Therefore, educational level influences how respondents believe that television and internet are likely to promote health understanding and improve healthcare system. It is clear from table 4.20 that more of the respondents with secondary education mentioned television as likely to promote health understanding and improve healthcare system and more of the graduates mentioned internet as likely media to promote health information and improve healthcare delivery.

Table 4.21: Health information via mobile phone

	Highest level of education					Total	P-value
	Graduate education	Secondary education	Primary education	Informal education	No formal schooling		
Yes	57	69	23	14	10	173	0.002
No	8	7	5	9	6	35	

From Table 4.21 the p-value of respondents on whether respondents would like to receive health information via their mobile phones 0.002. This implies that, respondents would like to receive health information through their mobile phone depends on the educational level. In addition, more of the respondents with graduate and secondary levels of education responded in the affirmative.

3.11 Section B: Qualitative Analysis from the Interview Data

3.11.1 Introduction

The study sought to assess the media employed by GHS in the dissemination of health information to rural communities in Ghana and used the Shai Osudoku district as the case for the study. Both quantitative and qualitative data was collected from the respondents and the quantitative data has been analysed above. Below is the analysis of the qualitative data, which was collected through participant interviews that sought to solicit an in-depth view from the respondents on knowledge and views on the dissemination of health information by the Ghana Health Service. The qualitative data has been analysed thematically to reflect the objectives of the study and be in line with the stated research questions. Since six (6) respondents were interviewed for the qualitative analysis, the discussion focused on the six (6) respondents interviewed. Again, in order to avoid ambiguity and confusion, and to conceal their identity during the analysis, all the respondents were given code names to help

identify each one of them and how they responded to the questions. The first respondent is called Person A; the second is called Person B, the third Person C, the fourth Person D, the fifth Person E and last respondent Person F.

3.11.2 Analysis of Data

What media does GHS use in disseminating or delivering health information to rural communities?

Participants were asked what modes of media was employed by GHS in disseminating health information to rural communities. Person A stated that GHS used mainly the interpersonal modes like health workers, community durbars and forums, as well as the print media like posters, leaflets handouts, posters, billboards etc. He mentioned that radio and television are resources that were used frequently. Recently GHS is exploiting new technologies like mobile phones. Person B said “health workers, community durbars and forums, town cries, use of information services department vans with loud speakers, radio, and television”. Person C, D, E and F said, “Listed radio, television personal visits, durbars, outreach programmes, and mobile phones as the main modes of health information dissemination to the communities”.

These findings is in line with the findings of Omogor (2013), who conducted a study in Nigeria on the channels of health information and acquisition dissemination among rural dwellers. Used a descriptive research approach and revealed that town-cries, market places, socio-political meetings, television, radio etc were the channels employed in disseminating health information. Numerous researchers including Bosompra (1987) indicate that most of Africans sought and relied heavily on information from interpersonal source than other channels. However with advancement in new technologies it is recommended that GHS harness the full interactivity of disseminating health information using electronic modes like mobile phones.

What challenges does the GHS and community members' face in disseminating and accessing health information?

On the challenges that they face when disseminating health information to rural communities, Person F stated, "Language barrier, cultural practices and poor road networks". Person E also mentioned, "Poor road networks, scattered communities, bad cultural practices". Person D pointed out "Lack of resources such as books, pamphlets etc. and poor road networks". Person C also named "Poor road networks, under staffed personnel as some of the major problems". Person B stated, "Funding issues and network connectivity as well as poor road networks" and Person A stated, "Poor road networks, taboos and some cultural practices of the people". From the above narration, that poor road networks to the various communities, bad cultural practices and inadequate staff are some of the recurring challenges that health workers in the district face. This they said negatively hinders their efforts in their quest to adequately educate the people through effective, efficient, and timely health information dissemination. Recommendations are that service providers tackle network connectivity problems, address poor infrastructure, provide adequate funding to aid in the use of the electronic mediums of media to promote health and disseminate health information.

On whether they can share with the interviewer what they think health literacy is, Person A said, "health literacy is knowledge about health and its benefits." Person B said "Need and access to health information and using it when needed." Person C also reiterated that "Knowledge about health information and using it when needed." Persons D, E and F all converged on the common view that health literacy is "knowledge about health and how to use it when needed." There is the common theme of knowledge about health information and its usage when needed in the responses of all the respondents. This shows that all the

interviewees consented that health literacy is knowledge about health information and its usage.

On some of the health policies and programs in place to promote health education among individuals, Person F revealed that “NHIS, Family Planning, Maternal and child health and Immunization, health education.” Person E, C, B and A repeated the same things in a different order, Person D stated that “health policies that aim at partnering with NGOs to educate the people about preventable diseases.” This is an indication that the policies and programs are in place to promote health education; government health intervention programmes such as the NHIS, Free Child and Maternal care, Immunization and Family Planning, health information dissemination are the main policies that have been rolled out to promote health education among individuals. It also shows that government policies are the main guiding principles for health care professionals in the district and by extension, the country. In connection with health information dissemination, health workers visit various districts and villages to interact and educate with the people on these programs and policies. They mostly organise seminars and forums to educate members of the district, especially women, about the essence of family planning and personal hygiene.

With regards the number of such programs which are government initiatives, and those that are non-governmental initiatives, Person A stated, “All are government initiative.” Person B said “Most of these programs are government initiatives but in partnership with NGOs.” Person C was also of the view that “Most or all are government initiatives but with support from NGOs.” Person D, E and F were also of the view that “All are government initiatives but with support from NGOs.” This shows that all the respondents agree that all these programs and policies are government initiatives but with a large support from NGOs. This is an indication that NGOs play a major role in healthcare delivery in the country.

MoTech, technology for community health in Ghana is a Grameen Foundation initiative. This core aim of the project is to ensure health information delivered over a mobile phone, as a means to improve someone's health and improve quality of care received. The mobile technology is a software application that runs on mobile phones. This is used by both community health workers and members of the community.

On how the MoTech phones operate in sending and receiving health information, Person A said, "MoTech phones by community health workers to monitor antenatal patients in the rural communities via SMS text messages, as well as to provide and generate reports. Person B said, "It is used to send vital information on antenatal and postnatal information to expectant mothers". Person C said he has not seen it before but has heard about it. Person D said, "It was a pilot project, which allows health workers send and receive SMS on health related issues." Person F said, "It is used to monitor and send videos and messages from the villages on health issues especially issues concerning pregnant women". This shows that the MoTech system is helping a lot in healthcare information dissemination in the district.

On how the MoTech initiative has helped the people in the rural communities in terms of accessing health information, Person F said, "We are now able to reach community members with relevant, important lifesaving health information". Person D also said, "It has helped in sending health information to the people. Health workers can now also share information easily". Person B was also of the view that, "It has helped in promoting tremendously healthcare information". Person A said, "It makes educating community members easier since they can now watch videos and pictures related to health topic". *All these show that each of the respondents consider the MoTech initiative as very relevant in providing reliable and efficient healthcare information to the people in spite of all the challenges it faces.*

Again, on whether they can state any health-promotional activity they will like to see implemented, Person A said, "I will like to see an effective MoTech across the country since

it is a very good mode of health information dissemination despite challenges”. Person B also said, “This initiative be taken from the pilot and implemented nationwide”, Person C was also of the view that “More health promotions and education that will lead to disease prevention”. Person E said, “Intensify community outreach programmes through talks, announcement etc.” whilst Person F said, “More education on personal hygiene and the massive implementation of the MoTech initiative”. *It can be deduced from the answers above that almost all the respondents are calling for a nationwide implementation of the MoTech initiative since it is a very good project and as such, every community in the country need to benefit from it. This shows that the respondents consider the MoTech initiative very effective and will like to see it being taken from the pilot basis and implemented nationwide. It is believed that this will greatly enhance and improve healthcare information dissemination.*

When the question was asked if the respondents will recommend the use of mobile phones for accessing health information, all the respondents answered in the affirmative but gave various reasons for their answers. On their reasons for answering in the positive, Person F stated that, “It can be used in emergencies”. Person E also said that, “It will help people in remote areas call health professionals during emergencies and again, it will help in sharing information among health workers”. Person D said, “It will help to easily disseminate information”. These were the same reasons that the other respondents gave. This shows that the use of mobile phones have become very necessary in healthcare delivery since it can help relay relevant information during emergencies. Thus, all the respondents encouraged the use of mobile phones by health workers and the people who visit health centres.

Again, on the information that they will recommend to be added to the existing health information, Person A stated that “Videos on hand washing and its advantages need to be added”. Person C said, “Old health information like Malaria, Cholera etc. need to include new ones like Ebola, Meningitis etc.” Person D also said, “Information on Ebola and

Meningitis needs to be added whilst maintaining the old information on Malaria, AIDS, and Cholera etc.” Person E said “Disease Surveillance” and Person F said “Things concerning diseases be explained in our local language”. *All these show that there are varied views on what they think should be included in the health information but education on Ebola and Meningitis always stands out. This shows that even though the respondents consider a number of issues very salient, they still consider public education on Ebola and Meningitis to be very important.*

On whether they have any information they will like to share which will aim at promoting health education, Person A said “Health information can be promoted through dramas, health talk shows, the use of mega phones in public places as well as mobile phones and internet etc.” Person B also said “Health information should be looked at in terms of its availability and effectiveness”, Person C said, “All community based programmes should be funded either by the government or NGOs since this will go a long way to help them achieve their goals”. Person D also said “Will advocate for more community health workers and more CHIPS compounds in order to serve the rural communities”. Person E said, “I wish MoTech will be implemented nationwide”. Person F also said “Will recommend government dedicate more resources to information dissemination on health”. *Even though all the respondents have different views on what can be done to promote health, they all touch on information dissemination as a sure way of promoting good health among the people. To this end, it is required that the government dedicate more resources in getting timely information to the people on health issues rather than wait for the disease to set in before government spend money to fight it.*

On the format that they will prefer health information to be disseminated to the people, Person A stated that “Since most of the people are illiterates, visual will be better”, Person C also said that “face to face talk, videos, audios in local languages and mobile phone use”.

Persons D, E and F all agreed on visual modes of health information dissemination as well as use of mobile phones. *They affirm that print media to the remote towns is less effective as compared to the interpersonal modes and electronic media. From the interview, interviewees suggested that language is very crucial in disseminating health information, such, it should be considered when disseminating health information to a particular group of people.*

3.12 Summary of Analysis

Data Analysis is the process of systematically applying statistical and/or logical techniques to describe and illustrate, condense and recap, and evaluate data (www.ori.hhs.gov/education/products/). According to Shamoo & Resnik (2003) various analytic procedures “provide a way of drawing inductive inferences from data and distinguishing the signal (the phenomenon of interest) from the noise (statistical fluctuations) present in the data”. Data from the field was thus analysed and presented in this chapter. For the quantitative data, the SPSS version 21.0 was employed to process the data. In addition, the results were presented in figures, graphs, tables. To investigate how variables such as age, gender, educational level influenced once knowledge or search for information, data was analysed using the chi-square of independence and the cross tabulation. Demographically, out of the 208 respondents who answered the questionnaire, 107 representing 51.4% were males and 101 representing 48.6% were females. Respondents level of education overall was high as indicated in the table 4.2.

Analysis of the qualitative data indicate Interpersonal channels, print some electronic media were widely used by GHS to disseminate health information to the communities. The health professional stated poor network as the main challenge that they are facing in disseminating information to the people. They also stated poor road network and negative cultural practices as some of the main challenges. It was also observed that health professionals make use of

the interpersonal as well as the electronic media in disseminating health information to the populate in the communities CHPS compounds.



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CHAPTER FIVE

DISCUSSION OF THE FINDINGS

2.9 Introduction

The focus of the study was to investigate the media used for disseminating health Information to rural communities by the Ghana Health Service (GHS) in the Shai Osudoku district, in the greater Accra region. This chapter of the study discussed the findings of the study in relation to previous studies. Typically, the goal of this chapter is to discuss, interpret and describe the significance of the findings in the previous chapter. This was done in light of what extent literature holds on the research problem under study, hence providing new insights about the problem.

2.10 Discussions of Study

This discussion covers the following thematic areas: media used in delivering health information; media used in accessing health information by folks in rural communities; challenges of disseminating and accessing Health Information; and the benefits associated with the use of media and emerging technologies in accessing and disseminating health information.

2.10.1 Media Used in Delivering Health Information to Rural Communities

As part of unearthing further knowledge on the media employed by health workers in disseminating and accessing health information, the following research question was posed:

- What media does the Ghana health service use in delivering health information to rural communities?

In an attempt to address the research question above, the researcher gathered and analysed qualitative data from the professionals of the GHS who provide these services. Respondents

indicated that the GHS employed the use of print, interpersonal modes and some form of electronic media to disseminate health information. The use of leaflets, posters, health workers, information services, town durbars, radio, television and mobile phones were a few of the channels they indicated. This concurs with the findings of Hill, Kirkwood, Kendel, Adjei, Arthur & Agyemang (2007), who reveal that information sources such as radio, town cries and market announcements were very much popular in rural communities. The findings indicate that use of some of the traditional media has proven ineffective in reaching rural folks because it does not reach a wider population and therefore health information is still inadequate. This is evident in the work of Raut (2011) who asserts that mass media campaigns have had inconsistent outcomes. According to Atkin and Salmon (2010), to fully appreciate the role of mass media in facilitating disease prevention, health communicators need to use multiple mass media and interactive digital media channels and carry out carefully designed media strategies to reach targeted audience. It is therefore recommended that GHS intensify and reinforce its usage of the electronic media like radio, television and mobile phones, which reaches a wider audience and cut down on print media.

The findings of the findings indicate that, sixty-three (163) respondents said they consider information dissemination through television to be most effective. One hundred and thirty-two (132) respondents also said radio is the most effective medium of health information and one hundred and five (105) respondents said mobile phone use is the most relevant information dissemination process in the Ghana Health Service health information delivery system. This is so because people consider visual information to be a more relevant form of message delivery thus most of the respondents choosing television. Studies conducted on the best communication channels for the Ghanaians have come out with various findings. In a study by Hill et al (2007), on the application of a vitamin procedure of health information dissemination in a Ghanaian village, the outcome of the study revealed that radio is the best

way to communicate because, despite the fact that majority of Ghanaians do not personally own a radio, most have access to one. In addition, their study further revealed that information sources such as radio, town cries, and market announcements were very much popular and more effective compared to television, billboards and newspapers amongst others. Hill, Kirkwood, Kendall, Adjei, Arthur & Agyemang, (2007).

It is believed that since this type of communication is totally embedded in the culture of a specific community, it turns to increase the belief and trust of the audience and therefore increases the likelihood of its effectiveness. Panford, Nyaney, Amoah & Aidoo, (2001). Bosompra, (1987) also conducted a case study on two Ghanaian villages and explored the rural dwellers sources of health information in relation to popularity and credibility. The study reveals that conversation was the famous but least trusted source of health information. However, the radio came second in terms of both popularity and credibility, whereas information from health officers was found to be the most reliable. Bosompra, (1987). Again, on other parts of the continent, a study by Nwagwu and Ajama (2011) examined the health information needs, sources and information seeking behavior of people living in rural Nigeria. Using data collected through focus group discussion and questionnaires, the research revealed that women owned and used radios more than other sources and they sought health information mainly for themselves and their children Nwagwu & Ajama, (2011). Also, Einarsdóttir, Passa, & Gunnlaugsson (2001) in their study to explore local ideas about cholera and the dissemination or spreading of official health educational messages for cholera prevention and to assess whether such messages contributed to changed behavior in the population in Guinea-Bissau found out that, local preventive rituals performed contributed significantly to the awareness of the epidemic. Radio and word-of-mouth communication is regarded as the most important sources of information on cholera, however, posters and television did not effectively get to the population. Einarsdóttir, Passa, & Gunnlaugsson,

2001). Omogor (2013), also conducted a similar study in Nigeria to explore the channels of health information acquisition and dissemination among the rural dwellers. The descriptive research approach was employed in the study. It revealed that: town-criers, marketplaces, socio-political meetings, traditional festival, lecture and exhibition, TV, radio, and newspapers are vehicles of information that are used to get and distribute health information among rural inhabitants. Omedo et al (2014) also opine that communication campaigns influence health behaviours and create awareness for disease control interventions, which may ultimately improve health care. All these studies confirm the findings of the current study in which it was found out that interpersonal modes as well as radio are major channels of health information delivery modes employed to promote health understanding and improve healthcare.

2.10.2 Media used in accessing health information by folks in rural communities

The above issue led to the formulation of the following specific research question in order to gain knowledge in resolving the research problem:

- What mode of media is used by members of the community to access health information and why?

In the quest to address the afore-stated research question, the findings indicated that mobile phones, internet and brochures/leaflets were the media less used in accessing health information. This was represented by 144 for mobile phones and internet as against 188 for the interpersonal sources. This could be due to the limited access of the service. A follow up question emphasized community members' media choices, with 37% likely to contact friends/family/health providers, 36.1% for radio/television. Fifteen point nine percent (15.9%) and 7.2% respectively for brochures and leaflets and mobile phones respectively. Findings from study indicate that respondent accessed available resources and media because

of its availability and not accessing the emerging technologies was a result of non-availability.

These findings is in line with other studies. Spadaro (2003) conducted a study to investigate the European Union citizens' source of health information and found out that the majority of Europeans use health professionals (pharmacists, doctors, etc.) as their primary sources of health information. It was established that rural communities residing in Nepal and India use informal networks than formal sources of information, depend on, and trust informal networks like family, friends, village and local leaders for their information needs (Pigato, 2001). On the contrary, formal sources like Non- Governmental Organisations, newspapers, politicians, and schoolteachers are considered to be a least trusted source of information. Pigato, (2001). Gavvani (2010) also indicated that among the health information seekers in Iran, the passive ones are more than the active ones. The outcomes of the study showed that the television and holding discussions with others were the available resources for health information seeking. The study also reveals that the respondents mostly explored search engine used in searching for information on health was "Google" or "Yahoo". Also, results indicated that among persons going to public libraries, a certain section of the population search their information on health by visiting public libraries and making good use of information sources like medical magazines and books among others instead of consulting health professional. Gavvani, (2010). Again, Wathen & Harris (2006), examine the health information seeking experiences of rural dwellers in Ontario, Canada. In their study, they found out that women were active information seekers for their own health and for the health of their family members. The Ontario rural women identified friends and family as sources of information and assist them when they are seeking information regarding health. Wathen & Harris, (2006). Hossain, and Islam, (2012) explored the information needs and sources of health information among rural women in Bangladesh and came to the realization that the

broadcast media are the primary sources of health information for the rural women in that country. Most available sources of health information for women residing in the rural areas of Bangladesh were radio and television and these modes of media serve as entertainment purposes as well as other sources of information regarding other aspects of life. Hossain & Islam, (2012). Davies & Bath (2002) in their study note that women prefer and make use of information from a wide range of interpersonal sources. Davies & Bath, (2002).

However inconsistent with various studies conducted along the same lines are Cutilli, (2010) and Gombeski.et al, (1982) who indicated that individuals who have high literacy level, access health information from any written source such as newspapers, magazines, books, or brochures whereas those with low literacy level consult health information from television and radio and other interpersonal sources.

Connell and Crawford's (1988) research involving two Pennsylvania Counties on how they obtain their health information in relation to age and gender noted that, the youngest and oldest age groups received and preferred printed materials as their primary sources on health information whereas the middle age groups preferred television Connell & Crawford, (1988). All these studies shows that people are more likely to use television/radio as the main means of obtaining health information based on their level of education and socio-economic status. Since most people cannot afford the bills that comes with visiting the hospital regularly to inquire of any complications, they resort to their television sets and radios to listen to health programmes that are given free of charge. Other studies have also come out with similar findings.

2.10.3 Challenges of disseminating and accessing Health Information

On factors militating against the health information dissemination and access among rural dwellers, one hundred and twenty-three (123) of the respondents stated lack of electricity to charge phones battery/or use electricity. One hundred and twenty-two (122) stated poor

network coverage, one hundred and fifteen (115) stated lack of understanding. One hundred and five (105) stated limited information source and eighty-seven (87) stated lack of funds. This shows that lack of electricity and poor network coverage are the main challenges facing folk leaving in the district. It has been stated that access to modern communication technologies and medical assistance is a problem for the majority of people living in developing countries, particularly in rural communities. Clifford et al., (2008). In this age of information communication technology, the use of mobile phones in healthcare delivery system has not only become relevant but also very necessary. Aryee, (2014). One of the biggest challenges confronting the use of the mobile phones for healthcare is network problems. From the qualitative data, most of the respondents stated network problem as the main challenge facing them. On the challenges that they face when disseminating health information to rural communities, Person F stated that “Language barrier, cultural practices and poor networks”. Person E also said, “Poor networks, scattered communities, bad cultural practices”, Person D said that “Lack of resources such as books, pamphlets, etc. and poor infrastructure and networks”. Person C also named “Poor network and under staffed personnel as some of the major problems”. Person B stated “Funding issues and network connectivity as well as poor electricity road networks” and Person A stated “Poor road networks, taboos and some cultural practices of the people”. From the above narration, it can be noted that poor road networks to the various communities, bad cultural practices and inadequate staff are some of the major challenges that health workers in the district are facing. This they said negatively hinders their efforts in their quest to educate the people. The network is perceived to be about how useful and easy the device is to an individual in terms of its features and reliability. Biljon & Kotzé, (2008). For Chetley et al (2006), the problem with connectivity involves access to electricity, solar power options, and network connectivity. Similarly, Ashraf, Gine, & Karlan (2005) observe that sometimes, an

undependable phone network for example makes it difficult to maintain or use the device, especially in rural and other medically underserved communities. Idowu, Cornford, & Bastin (2008) assert that most traditionally hard-to-reach individuals are without an electrical power supply. Hence, it becomes hard to maintain the device. Biljon & Kotzé, (2008); Jeng, Chen, Yin, Yang, Tsai, & Yeh, (2004). Bukachi & Pakenham-Walsh (2007) describe these factors as traditional obstacles. These include lack of resources, such as poor infrastructure and road network, and inadequate political commitment to and support for information accessed on the Web for health purposes. Malhotra & Galletta (1999) add another influencing factor known as individuals' attitudes toward technological usage. In other words, employing a mobile phone to execute an activity may largely depend on personal preference and the importance of that activity to an individual. Parveen & Sulaiman (2008) note that adopting for example mobile phones as a new media to execute any form of activity, either health-related is probably dependent on the individual's acceptance of the devices as explorative and learning tools.

In other studies, Haddon & Vincent (2007) noted, the cost of phone service as the biggest challenge for individuals, especially among youth, to use the device for any form of activities. There are several daunting challenges with regard to the use of mobile phones in health-related activities. According to Michael (2006), in Egypt, these factors are; cost, perceptions of risk, reliability of telephone systems in health facilities, safety, liability, and cost recovery for unknown contacts as well as information and services provided at a distance, lack of understanding and use of a range of functions available through mobile phones and poor quality of health services. A systematic literature review conducted by Déglise, Suggs & Odermatt (2012) on the use of the SMS feature for disease prevention in developing countries such as India, Kenya, and South Africa, identified main barriers to include language, timing of messages, mobile network fluctuations, lack of financial

incentives and data privacy. Individuals living in the rural areas frequently experience these deep-rooted factors and the daunting challenges involved in employing the device to perform health related activities. Odotola, (2003). In addition to the above challenges, other controlling factors include a person's age, gender, level of education, individual innovativeness. National Research Council, (2011), the community's cultural practices. van Biljon & Kotzé, (2008), and the nature of information content sought. Chetley, Davies, Trude, McConnell, Ramirez, Shields, et al., (2006). These factors, in the view of van Biljon and Kotzé, are referred to as social constructs. Mtega, & Ronald, (2013), also investigated the factors influencing accessibility of rural information services in Tanzania. Findings of the study show that high illiteracy levels, poor/ unreliable information infrastructure, low income, absence of electricity and high cost of ICTs have negatively affected the accessibility of information services in rural areas. Aryee, (2014) opines that rural communities in Ghana face several health care challenges including limited healthcare, and health information provision and this level of satisfaction demonstrated by respondents affirms the general health information system provided by the Ghana Health Service.

2.10.4 Benefits of using media and emerging technologies to disseminate health information.

In addressing the above research objective, one hundred and one (101) respondents assert to media and emerging technology providing a variety of sources to choose from. Concerning widening access 123 responded in the affirmative with 143 responding yes to available timely health information during emergencies. One hundred and forty-four agreed that use of visuals helped in their understanding of health issues and finally 124 affirm that use of mobile phones to communicate with health workers was an advantage. Findings indicate high response rate in the affirmative from respondents regarding the benefits of media to

disseminate health information. Findings is in line with Moorhead (2013) study that social media provide health information on a range of conditions to the general public patients and health professionals, she asserted that communication can provide answers to medical questions and also allows information to be presented in modes other than text as well as bring health information to audiences with special needs; for example, videos can be used to supplement or replace text and can be useful when literacy is low. A range of social media platforms can facilitate dialogue between patients and patients, and patients and health professionals. Acheampong (2012) in his assertion also state, “ICT has assisted in driving down healthcare costs and improved the delivery and effectiveness of healthcare services through help in disease management, improved patient safety and decision support for practitioners.

Benefits of media and emerging technology like mobile phones in disseminating health information was high and the findings indicated respondents were aware of the benefits. Two hundred representing (96.2%) answered in the affirmative, five representing (2.4%) said no with three (1.4%) not giving an answer. A high response of 96.2% in the affirmative attest to respondents being aware of the advantages of media and emerging technologies like mobile phones and internet to promote and disseminate health information. Which confirms Acheampongs, (2011) assertion that “The internet has become a very useful infrastructure in utilising the opportunities of the digital revolution. Technological convergence and the development of multi-media services and increasing business applications of the internet have made access and usage a fundamental issue in the participation in the information society”.

However, media and use of new technologies can be fully harnessed if ICT and technological models are put in place and inculcated into daily lives of the rural folks, which brings to focus Lucas’s (2008) discussion of the role that recent advances in information and communication

technologies (ICTs) could play in improving health systems in developing countries, but limited independent analysis of existing applications. Combining a case study approach with a general discussion of the issues, this paper attempts to assess the potential benefits of a diverse range of ICT innovations and some of the constraints they will need to overcome. Four broad areas are considered: improvements in traditional health information systems; computer-aided diagnosis and treatment monitoring; a range of applications generically labelled ‘telemedicine’; and the use of ICT to inform general populations on health and healthcare. The final section speculates on the possible medium-term impacts of ICT in terms of improving the performance of existing systems, allowing scope for radical innovations, or even change information and communications technology for future health systems in developing countries.

2.11 Summary Discussion

Modernization and the advent of technology have really affected all facets of human lives and development. The world is now a globalized village where information and access to technology is no longer a luxury but rather a necessity. In this regard, it has been hypothesized that information and communication technology can be harnessed systematically to improve the health of populations in developing countries. Kickbusch & Buse, (2001). These technologies can now empower those who use information by providing them with a choice of information that is available either in electronic or print media. This digital divide is more dramatic than any other inequity in health information, and the visibility of research from developing countries is limited. Rice, (2001). It has been observed that the print and electronic media are a major source of health information and that they are accelerating the means of improving public health processes and health care delivery in terms of enhancing the dissemination of health information. Jareethum et al, (2008). It is no myth that most rural communities in Ghana face several health related challenges including limited

healthcare facilities and poor road conditions that make access to health facilities difficult. Aryee, (2014). Due to this, it has been suggested that the Ghana Health Service exploit the overwhelming advantages of using both print and electronic media (mass media) to disseminate health information if they want to achieve their core objectives since it is an effective tool for promoting and shaping public health and can also help advance peoples' health, Abroms & Maibach, (2008).



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CHAPTER SIX

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

The study set out to investigate the media employed by the Ghana Health service to disseminate health information to rural communities, specifically the Shai Osudoku district as well as the preferred media used by members of the communities to access health information. The study identified various media used in disseminating and accessing health information, the reasons and rational for those modes or mediums. The study also sought out to investigate if these modes or mediums media being employed are effective and efficient in disseminating and accessing health information. The study sought answers to the objectives set for the research. It presents the findings of the study in relation to the research questions of the study, the conclusions as well as recommendations of the study. This will allow future researchers identify gaps in the study and align their studies to cater for these gaps.

6.2 Summary of Findings

The study aimed at investigating the media for disseminating health Information to rural communities by the Ghana Health Service (GHS) in the Shai Osudoku district, in the greater Accra region. The specific objectives of the study were to identify the mode/medium by which the Ghana Health Service delivers health information to the people in the district and the media used by community members to access health information. It again tried to find out the challenges confronting the GHS and community members in accessing health information. Finally, it investigated the benefits or advantages of using media and emerging technologies to disseminate and access health information

Relevant data was collected from two hundred and eight respondents (208) using standardized questionnaire for the quantitative data. An interview guide was used to gather

qualitative data from two directors and four (4) community health workers who work directly or indirectly with the district. Of the two hundred and eight (208) respondents who answered the questionnaire, one hundred and seven (107) of them representing fifty-one point four percent (51.4%) were males whilst forty-eight point six percent (48.6%) of them were females. This shows that the study had a proportional representation of both male and female respondents. The other demographic information that was collected was age of respondents, marital status, level of education employment status and languages spoken. All these helped reflect a proportional representation of all members in the community used for the study.

Findings from the study established that Ghana Health Service relied mostly on print media like leaflets, pamphlets, interpersonal modes like friends, health workers and electronic medium like radio and television for disseminating relevant health information to the people in the district. It was also discovered that various software technologies using mobile phone was being used. Examples are MoTech and Telehealth. The MoTech technology system though in use, was not employed by Ghana Health Service in the whole of the district for disseminating and accessing health information because as it was piloted in some parts of the district. Challenges confronting the Ghana Health Service in disseminating health information from the findings were noted as poor network telecommunication connectivity, poor infrastructure like poor road networks, electricity and negative cultural beliefs, funding, low literacy among others and factors affecting health information dissemination and accessing. It was also established that community members, use radios and television since the radio sets are easily accessible as compared to the other forms of media. However inadequate or non-availability of electricity and limited telecommunication network accessibility did not make these mediums readily available to use when in need of health information. It was also discovered that though literacy rate was high in the community, both all members preferred the interpersonal sources and radio. And advocated for the electronic

sources including the mobile phone due to the visual images and since most of the radio, programmes are in their local languages and also that these channels can reach a larger population. Respondents believe that harnessing electronic media especially mobile phones will go a long way in disseminating and accessing health information effectively and to a wider population in a variety of channels.

6.3 Conclusion

The focus of the study was to investigate the media for disseminating health information to rural communities by the Ghana Health Service (GHS) in the Shai Osudoku district, in the greater Accra region. In view of that, these objectives were outlined; to identify the media by which the Ghana Health Service delivers health information to the people in the district, what media members of the community used to access health information. Researcher sought to find out the challenges confronting the Ghana Health Service and community members in disseminating and accessing health information. The benefits or advantages of employing media and new technologies was also investigated. Based on these objectives, both quantitative and qualitative data were collected from respondents and analysed using the relevant statistical packages and thematic analysis.

In inquiring about modes for seeking and accessing health information, participants were first asked when they search for health information about their health. From the findings, most participants seek or access health information when it is needed.

The most common sources of media identified from the study, were community, posters, and families/friends. These sources are in sharp contrast with what the literature says about individuals with a high level of education as being the best candidates who use healthcare centres as their sources of information, astonishingly, this was totally different in this study. This lends credence to the fact that both educated and uneducated were equally seeking medical attention when necessary from healthcare centres. The outcome of the study showed

that Ghana Health Service mostly use interpersonal, print medium for disseminating relevant health information to the people in the district. The use of mobile phones to disseminate and access information was identified. Among them, MoTech, Telehealth, etc which we discovered as still being piloted despite their overwhelming benefits. These It was also discovered that Ghana Health Service introduced and piloted. MoTech system in the district among their professionals and their clients. It was also revealed that the district faces many challenges pertaining to healthcare delivery. Poor infrastructure included but not limited to poor network connectivity, poor road networks, poor electricity connection, negative cultural beliefs, funding, sensitization, etc. In summary, participants use various means such as television, family, healthcare personnel, and mobile phones, to seek, access, and evaluate health information concerning their health. Respondents cited access to health information in varied forms, the wide area reach, timely relevant information to access and use of mobile phones to seek for health information or disseminate health information.

6.4 Recommendations

The scale of this debate is extensive and multifaceted at all levels. To generate achievable policy strategies and development targets regarding to timely effective and efficient health information dissemination, there is need for more case studies at all levels to allow further assessment dimensions of the subject. Exploring the following recommendations and future research strategies can facilitate the attainment of this goal.J

6.4.1 Use of media for health information dissemination

Rural communities in Ghana face several health related challenges including limited healthcare facilities and poor road conditions that make access to health facilities difficult. Aryee, (2014). Health promotion through health education using all available modes/medium

of disseminating health information is crucial, as extensive health education will not only equip communities but will aid in providing the needed information related to their health.

A clearer understanding of the range of mass media delivery channels, the changing and converging environment, the communication inequalities that exist, social, institutional, cultural and policy influences and new existing theoretical and methodological frameworks are all necessary to understand the complex influence of mass media on population health. Addressing these issues both in study and in practice, will undoubtedly help researchers and health professionals harness the best practices of communication and mass media. Viswanath, Wallington & Blake, (2009). Print and electronic media according to Rice (2001) are a major source of health information communication technologies, which have accelerated the means of improving public health processes and health care delivery in terms of enhancing the dissemination of health information. Jareethum et. al., (2008), asserts that the way forward is also to exploit the full interactivity of the print and electronic media, which allows rapid feedback and change to mould continuously information into useful knowledge. The Ghana Health Service can therefore exploit the overwhelming advantages of using not only print electronic media to disseminate health information. If they want to achieve their core objectives, as mass media not only play an important role in promoting and shaping public health, but is an important communication channel for advancing health, Abrams & Maibach (2008). The right mechanism for getting the right information to the right people at the right time to promote personal change. Wallack, (2000).

6.4.2 Personnel/Human Resource

Community health workers play tremendous roles in providing health care services to rural communities even in the remotest areas of the communities in which they work. They are critical intermediaries between higher-level health institutions and the community in need of medical care. Inadequate numbers of health personnel in the community affects health

delivery in these underprivileged communities. It is recommended that with the insufficient numbers of the community health workers serving large communities, the introduction and use of technologies like mobile phones will aid in their work and ability to reach a larger number of community members.

6.4.3 Use of Mobile Technology

The introduction of new technologies such as the MoTech is an effective tool that should be rolled out nationally to aid health workers in their service delivery. As it is, a system that will reach a wider coverage and aid in extensive health care delivery and health information dissemination which will aid in promoting health and combating the spread of diseases.

6.4.4 Training and Sensitization

Community health workers should be trained and equipped with the advantages and use of new technologies on how it will aid in their work. There should also be public sensitization programmes to educate people on how to use their mobile phones to interact with the health professionals in the district. This will ensure that the people are always in touch with their healthcare providers so they can easily solicit for any information on their health. Individuals must do investigations on the use of mobile phones as a tool to seek and access health information to promote health literacy and improve healthcare delivery in the district and across the country.

6.4.5 Network connectivity and infrastructure

The use of the new technologies can be effective and sustainable if the problem of poor telecommunication network connectivity and inadequate infrastructure is addressed. It is therefore recommended that Ghana Health Service in partnership with service providers work toward enhancing and providing efficient and extensive telecommunication network which will allow all these new technologies to be accessed and used effectively in rural

communities. Active communication systems as well as available electricity connection should be a vital agenda that should be pushed in these rural communities.

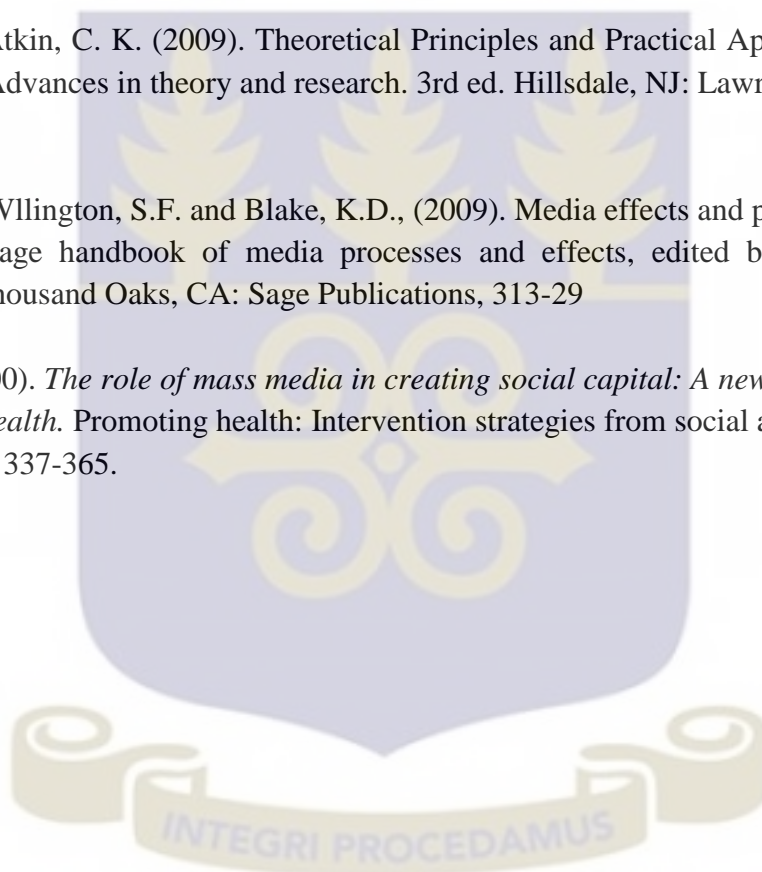
6.4.6 Expanded research

In addressing the gaps in the literature, recommendations for future health information and communication research should focus on robust and comprehensive evaluation and review, using a range of methodologies and research priorities as highlighted below:

- i. To determine the impact of media for health information communication in specific population groups with large sample sizes (representation of population groups).
- ii. To determine the relative effectiveness of different mass media applications for health information dissemination using rural communities.
- iii. To determine the longer-term impact on the effectiveness of media for health dissemination and communication using longitudinal studies.
- iv. To explore potential mechanisms for monitoring and enhancing the quality and reliability of health communication using social media.
- v. To investigate the risks arising from sharing information online and the consequences for confidentiality and privacy, coupled with developing the most suitable mechanisms to effectively educate users in the maintenance of their confidentiality and privacy.
- vi. To determine how media and emerging technologies like mobile phones can be effectively used to support the patient-health professional relationship.
- vii. To explore the potential of media especially electronic media to lead the change for healthy lifestyle to inform health communication practice.

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APPENDIX A QUESTIONNAIRE FOR COMMUNITY MEMBERS

TOPIC: MEDIA FOR HEALTH INFORMATION DISSEMINATION TO RURAL COMMUNITIES BY THE GHANA HEALTH SERVICES.A STUDY OF THE SHAI OSUDOKU DISTRICT OF THE GREATER ACCRA REGION.

QUESTIONNAIRE FOR COMMUNITY MEMBERS

The questionnaire is to seek your knowledge on health information and media by which information is disseminated to you by the Ghana Health Services. The information being sought is purely for research purposes and will not be disclosed to any person. Please be as sincere and respond to answers as best as you can in your answers. Thank you

SECTION A: DEMOGRAPHIC INFORMATION

1. Sex: Male Female

2 Age group (Please check)

18–30 31–40 41–50 Over 50

3. Marital status (Please check)

Married Separated Divorced Never married other (please specify)

4. Do you have children?

Yes → How many?

No

5. Highest level of education (Please check)

Graduate education Secondary education Primary education Informal education

No formal schooling other (specify)

6. What is your current employment status?

Self-employed Civil servant Unemployed Student

Other (please specify)

7. What other language(s) do you speak apart from your local dialect?

Akan English Ga other (please specify)

SECTION B: Views about health and health literacy

8. Do you value your health?

Yes No

9. A person is considered to be health literate when:

	SD	D	N	A	SA
Going for regular check-ups					
Ability to access and use information effectively					
Taking proper medication					
Practicing family planning					

10. When would you say you are practicing a healthy living?

.....

SECTION C: VIEWS ABOUT HEALTH INFORMATION

11. How would you rate your ability to look for health information to prevent you and your family from contracting unwanted diseases and illness? **(Please circle one)**

Excellent	Very Good	Good	Fair	Poor
5	4	3	2	1

12. How likely are you to determine if the information you obtain is trustworthy before using it?

Very Likely	Somewhat likely	Not sure	Somewhat unlikely	Very unlikely
5	4	3	2	1

13. Mode/Media for accessing health information

	Yes	No	Don't know	Not applicable
Hospitals, physicians, health workers				
Family, friends				
Radio, television Mobile phones & internet				

Other (please specify).....

14. Why is it important for individuals to look for health information?

.....

15. Have you used any of the following to obtain health information?

	Yes	No	Don't know	Not applicable
Hospital/physician/nurses/public health				
Friends and families				
Radio/television				
Posters, leaflets, billboards				
Mobile phones and internet				

Other (please specify).....

16. Which of the following sources are you most likely to contact first when you have any question about your health?

Health brochure A family member A healthcare provider A friend

Internet Radio Television Internet

SECTION D: VIEWS ON MOBILE PHONES AS A NEW MEDIA FOR HEALTH INFORMATION ACQUISITION

17. I believe that emerging technologies likely to promote health understanding and improve healthcare system is/are (Please check all that apply)

Mobile phones Televisions Internet Radio

18. Please have you heard anything about MOTeCH, a project initiated by Ghana health Service and Ministry of Health?

Yes No

19. Have you ever sent or received health information via your cellphone?

Yes
 No

20. Would you like to receive health information through your cellphone?

Yes
 No

21. Please respond to all questions as best as you can. Please check (√) the response that best describes your perspective about the following statements.

SD = Strongly Disagree, **D** = Disagree, **N** = Neutral/No opinion, **A** = Agree,

SA = Strongly Agree

	SD	D	N	A	SA
Mobile phone has become a new way of learning.					
Using mobile phone to look for information from nurses and doctors is easy and accurate.					
Lack of health information is as a result of low literacy level.					
Mobile phone can promote health education among individuals in the rural communities.					
I am more likely to use the phone to ask more about my health status and any relevant health information.					

SECTION E: CHALLENGES FACING COMMUNITY MEMBERS IN ASSESSING HEALTH INFORMATION

22. Have any of the following limited you from looking for or receiving health information? Please check (✓)

	Yes	No	Not Sure	Not Applicable
Limited information source				
Lack of understanding				
Lack of electricity to recharge phone battery/ or use television				
Low network connectivity				
Lack of funds				

23. Please check (✓) the response that best describes your perspective about challenges involving access to health information in regard to the following statements.

	Always	Often	Sometimes	Occasionally	Never
I need hospital reading materials.					
I have problems learning about my medical conditions.					
I have difficulty understanding written information from a doctor.					
I have difficulty taking the right dosage of my medication(s).					

SECTION F: RECOMMENDATIONS FOR PROMOTING HEALTH EDUCATION AND BENEFITS OF ELECTRONIC MEDIA TO ACCESS HEALTH INFORMATION

24. Can you tell me about any health-promotional activities that you would like to see taking place?

.....

25. In which format would you prefer the information?

videos books pamphlets

audiocassette magazines newspapers,

computers and CDs, mobile phone voice and text communication)

26. What other health information do you wish you had?

.....

27. How would you rate the performance of the Ghana Health Service in terms of health information dissemination in the rural communities in the country?

Excellent Very good good average poor

28. What are the benefits of using electronic media to access health information?

.....

.....

.....

APPENDIX B INTERVIEW GUIDE

INTERVIEW GUIDE FOR GHANA HEALTH SERVICE /MINISTRY OF HEALTH EXECUTIVE AND HEALTH CARE WORKERS

TOPIC: MEDIA FOR HEALTH INFORMATION DISSEMINATION TO RURAL COMMUNITIES BY THE GHANA HEALTH SERVICES. A STUDY OF THE SHAI OSUDOKU DISTRICT OF THE GREATER ACCRA REGION.

INTERVIEW SCHEDULE

This interview is to seek your knowledge on health information and media by which information is disseminated to you by the Ghana Health Services. The information being sought is purely for research purposes and will not be disclosed to any person. Please be as sincere and respond to answers as best as you can in your answers. Thank you.

1. Can you share with me what you think health literacy is?
2. Could you share with me some of the health policies and programs currently in place to promote health education among individuals?
3. How many of these programs are governmental initiatives and how many are non-government initiatives?
4. What modes/media is GHS employing to disseminate health information?
5. What are some of the Challenges in using these modes of media?
6. What are the benefits in using mass media to disseminate health information?
7. Could you share with me how the MoTech phone operates in sending out and receiving health information
8. What are/were some of the challenges with the implementation MoTech?
9. How has this process helped the people in rural communities in terms of accessing health information?

10. Can you tell me about any health-promotional activities that you would like to see taking place?
11. Do you recommend the use of the mobile phone for accessing health information be continued? If yes why? If no, why not?
12. What other health information would you recommend be added to the existing information?
13. Do you have any more information you would like to share with me about promoting health education?
14. Can you please tell me some of the challenges you face when disseminating health information to rural communities?
15. Which format would you prefer health information to be disseminated to rural communities? (e.g., videos, books, pamphlets, audiocassette, magazines and newspapers, computers and CDs, mobile phone voice and text communication)?

