UNIVERSITY OF GHANA, LEGON

DEPARTMENT OF INFORMATION STUDIES

INFORMATION BEHAVIOUR OF PREGNANT WOMEN ATTENDING ANTENATAL IN TAMALE METROPOLIS.

JOANA DANGO

(10550243)

THIS THESIS IS SUBMITTED TO THE UNIVERSITY OF GHANA, LEGON, IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTERS OF PHILOSOPHY (MPHIL) DEGREE IN INFORMATION STUDIES.

JULY, 2018.

DECLARATION

I hereby declare that except for references to other people's work which have been duly acknowledged, this thesis was done by me.

Signature ……. Date ……

Joana Dango

(Student)

Signature ……. Date ……

Prof. Harry Akussah

(Supervisor)

Signature ……. Date ……

Dr. Musah Adams

(Co-Supervisor)

DEDICATION

This work is dedicated to my husband and my lovely kids Joanita Elikem Ofosu Boakye and Edem Ofosu Boakye Gyimah.

ACKNOWLEDGEMENT

I am very grateful to my supervisors Prof. Harry Akussah and Dr. Musah Adams who contributed their time, knowledge and expertise in helping me shape the content and presentations of my work. I am particularly thankful to Prof. Harry Akussah for helping me select my topic for this thesis and guiding me at every stage of my work. I am so grateful to Alhaji I.K. Antwi, former University Librarian of the University for Development Studies who persuaded me to undertake the programme. I am also grateful to the current University Librarian, Mr. Thompson for the support given me. To Mr. Asiedu and Mr. Ebenezer Danso; I say God bless you so much for the support, your words of encouragement and believing in me.

I am particularly grateful to the Directors of the various hospitals used for the study, the Gynaecologist at Tamale Teaching Hospital and the midwives interviewed at Tamale Teaching Hospital, Tamale West Hospital, and the Seventh Day Adventist Hospital. A big thank you to all the pregnant women at the three hospitals used for the study. Your patience and support are well appreciated.

My final thanks go to my wonderful family who was solidly behind me in every stage of this work.

TABLE OF CONTENT

LIST OF TABLES

LIST OF FIGURES

LIST OF ACRONYMS AND ABBREVIATIONS

TTH	Tamale Teaching Hospital
TWH	Tamale West Hospital
SDA	Seventh Day Adventist Hospital
ANC	Antenatal clinic
WHO	World Health Organisation

ABSTRACT

Information is vital to every aspect of life. Societies depend on information to build up their way of lives, likewise pregnant women. Readily available health information is vital for the growth of knowledgeable and effective systems for improving health concerns in the society. Information helps pregnant women to make informed decisions. A Mixed method approach was used to carry out the study. Questionnaire was used to collect data from 148 pregnant women from three hospitals namely; Tamale Teaching Hospital, Tamale West Hospital and the Seventh Day Adventist hospital, interviews were conducted for three midwives, one from each hospital and a Gynaecologist at the Tamale Teaching Hospital. The findings of the study revealed that antenatal lessons were the most used sources of health information and the least was newspaper and popular magazines. The information needs of pregnant women included healthy baby, diet, medication among others. The most highly rated need was having a healthy baby and the least was sex relationship. The main challenges that were identified include lack of funds, non-use of internet and attitudes of some midwives. The study recommends that management of the hospitals set aside an office to be manned by a midwife at the entrance of every antenatal clinic where the midwife would be solely in charge of consultation on health information provision. Most pregnant women will prefer staying in the house due to lack of funds which negatively affect their information behaviour. The study recommends that government pays more attention to the free maternal health policy to enhance access to quality healthcare.

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

Information has been accepted and recognised as a survival input of man. It plays a significant role in every aspect of life irrespective of the situation or circumstance. According to Alemna and Skouby (2000), information is essential to every aspect of society. Information is considered a resource that is naturally needed in all human activities. One can readily conclude that information is essential in human life, thus a rudimentary human requirement which has overriding importance to every person (Olarongbe et al., 2013). Popoola (2006) defined information as "facts, news, opinions, messages, symbols, signals, and processed data that are capable of improving the knowledge state of a user on a random phenomenon". This knowledge may possibly contain accounts of people in a society that have been widely accepted as a social network.

Alemna (2000) is of the view that information in our modern civilization is considered a strategic resource that has equal importance as land, capital, labour, and entrepreneurship. To buttress this fact, he emphasized that, the twenty-first century had witnessed outstanding development as evident in the significant increase in technology. The technological advancement has led to information overloads which makes it difficult for users to choose from the many information provided online. This makes researchers, students, professionals, scientist and pregnant women to try to sift through several sources of information until the right information is obtained.

Wilson (2000) notes that an individual may come across manual information in the form of a newspaper or a library or with computer-based systems such as the web, in the process of looking for information. Information could be obtained from different sources, including journals, books, friends/relatives/peers, and persons at the workplace, professional advisors, health promotional programmes or the Internet. Despite the abundance of information sources including health information sources, the health of pregnant women remains a foremost concern in the world.

Information behaviour according to (Wilson, 2000) is the totality of human behaviour in relation to sources and channels of information, including both active and passive information seeking, and information use. It defines the way people seek, manage, give, need and use information in diverse situations. Information behaviour is the micro-level of behaviour employed by the searcher in interacting with information systems of all kinds, be it between the seeker and the system, or the pure method of creating and following up on a search. Bates (2010) also described information behaviour as the ways in which people interact with information, especially the means through which people try to find and use information. For the purpose of this study, information behaviour can be described as the many ways in which pregnant women seek information for use and conduct searches as well as make informed decisions concerning pregnancy-related issues.

Wilen (2016) observed that pregnant women having access to reliable and factual information about pregnancy is crucial. Midwives during antenatal, therefore, must make available latest researched information which will empower pregnant women in informing

their choices about health, bodies, and babies. The absence of useful information in the life of a pregnant woman will lead to distress. The absence of information at the antenatal will compel those who can afford it to seek voluntary classes at private health institutions. The availability of information helps pregnant women to manage mixed feelings about pregnancy childbearing or labour and post-partum depression.

The health of a woman is very essential to the socio-economic settings of developing countries. Women are naturally caregivers, and for this reason, it is important they maintain some control regarding health decisions. Most often women are responsible for seeking health information about themselves, their children and other family members.

The pressure of looking for information is high for first-time mothers than women who have gotten pregnant and have more than one baby. The kind of help women get in terms of information gives them the assurance that they are ready for the transition to parenthood. The hunt for information during pregnancy can increase the health awareness of pregnant women. If a pregnant woman is able to acquire this kind of knowledge, she could interact easily with health service providers, and undertake preventive health care behaviours as well as improved self-care capabilities.

Pregnant women need to search and acquire information necessary for a healthy living if they want to adequately live a healthy life and ensure the safe delivery of their babies. The hunt for information, however, begins with the identification of a deficit in knowledge, for which the individual makes a determination to bridge. Unfortunately, the abundance of information due to technological advancement makes it difficult for pregnant women who

try seeking for information themselves. Most pregnant women use whatever information they come across concerning pregnancy without their evaluation, they assume that whatever is put out as information is from a trusted source hence reliable. Midwives must constantly search for current and credible information online and from researched sources to keep them abreast with current issues concerning pregnancy. When acquired information that is reliable is passed onto their patients, they may in one way or the other be able to compare and differentiate the trusted sources from the untrusted sources (Wilen, 2016).

Pregnancy-related information among women attending antenatal care are likely to be sought in different ways. Women are more likely to seek information at their workplaces. For instance, women who are engaged in trading activities will probably look for information when interacting with other people as they go about conducting their business. On the other hand, housewives or women who do not undertake any business activity may have limited sources of procuring information especially if they are uneducated. Their means of getting information may include their friends, mothers, grandmothers as well as the health facility they attend. Pregnant women can also obtain health and maternity information through observation, that is, they observe and talk to friends who are pregnant or other women before they start attending antenatal themselves and this helps them acquire the information that they need.

Tamale Metropolitan Assembly was established by legislative instrument (L.I. 2068). At present, it is one of the six Metropolitan Assemblies in the country and the only Metropolis in the three Northern regions of Ghana. Tamale serves as the Regional capital

of the Northern Region. Tamale is located in the central part of the Region and shares boundaries with the Sagnarigu District to the North-West, Mion District to the East, East Gonja to the South and Central Gonja to the South West. Tamale is strategically located in the Northern Region and by this strategic location, the Metropolis has a market potential for local goods from the agricultural and commercial activities. There are a total of one hundred and sixteen communities in the metropolis of which forty-one percent are urban, fifteen percent being peri-urban and sixty percent of them being rural in nature. The total population of Tamale metropolis is two hundred and thirty-two thousand, two hundred and twenty-five (232,252) (http://www.statsghana.gov.gh/docfiles/2010_District_Report/Northern/Tamale%20Metropolitan.pdf).

1.2 Problem statement

It is estimated that about eighty percent of maternal deaths that happen in most developing countries are as a result of avoidable causes which could have been prevented if women had timely access to and proper use of information and skilled maternal services (UN Millennium Project, 2011). The Ghana Health service report, (2006) equally identifies the lack of information and inadequate knowledge as a major factor accounting for the delays in timely response to early warning signs and danger signals during labour.

A lot of studies have been conducted around the world over on information seeking behaviour of pregnant women. Ashavaree (2013), Katherine et al., (2016), Chewe (2015), Mwangakala (2016)

In Ghana, a number of studies have been conducted on health and pregnancy-related issues. Abdallah (2015) in her study examined the perceptions of women in the Ga-Mashie community regarding the use of maternal health healthcare services with special reference to the free maternal health service. Atinga and Baku (2013) also researched on the determinants of antenatal care quality in Ghana. Kanton (2015) looked at the availability and use of essential emergency obstetric care services in the Bosomtwe District in Ghana. Ofori-Asenso (2016) researched on Hepatitis B in Ghana. A lot of factors were identified as the possible causes of mortality and morbidity in pregnant women which contributed to policies being put in place to ensure these are dealt with. None of these researches, however, focused on the information behaviour of pregnant woman in Ghana.

This study, therefore, focused on examining information behaviour of pregnant women in Tamale Metropolis. A casual interaction with some pregnant women at Tamale Teaching Hospital revealed their ignorance, apprehension and little knowledge about the state in which they were. The results of this interaction serve as major motivation to the researcher to carry out this research.

1.3 Purpose of the Study

The Purpose of this study was to examine information behaviour of pregnant women in Tamale Metropolis with the view to identifying problems and proposing solutions to them.

1.4 Specific Objectives of the Study

1. To examine the information needs of pregnant women attending the antenatal clinic in Tamale metropolis.

2. To examine sources of health information for pregnant women in Tamale metropolis.

3. To examine the information seeking pattern of pregnant women in Tamale metropolis.

4. To ascertain challenges pregnant women face in accessing information in Tamale metropolis.

1.5 Scope and limitations of the study

It will be ideal to cover all the hospitals in the whole northern region of Ghana but due to limited resources and time, the study was conducted at three hospitals in Tamale metropolis namely; Tamale Teaching Hospital, West Hospital, and the Seventh Day Adventist Hospital. These three hospitals were used since they were better organised and the researcher could easily have access to information about pregnant women and pregnancy related issues.

1.6 Theoretical framework

Creswell (2009) defined a theoretical framework as "any empirical theory of special and or psychological process at a variety of levels that can be applied as a lens to the understanding of the phenomenon". A theoretical framework can, however, be viewed as the models or theories which strengthen research. Theories give explanations or answers

to the way people in a particular category behave, the way they do things with respect to beliefs, practices and their perceptions about a particular phenomenon.

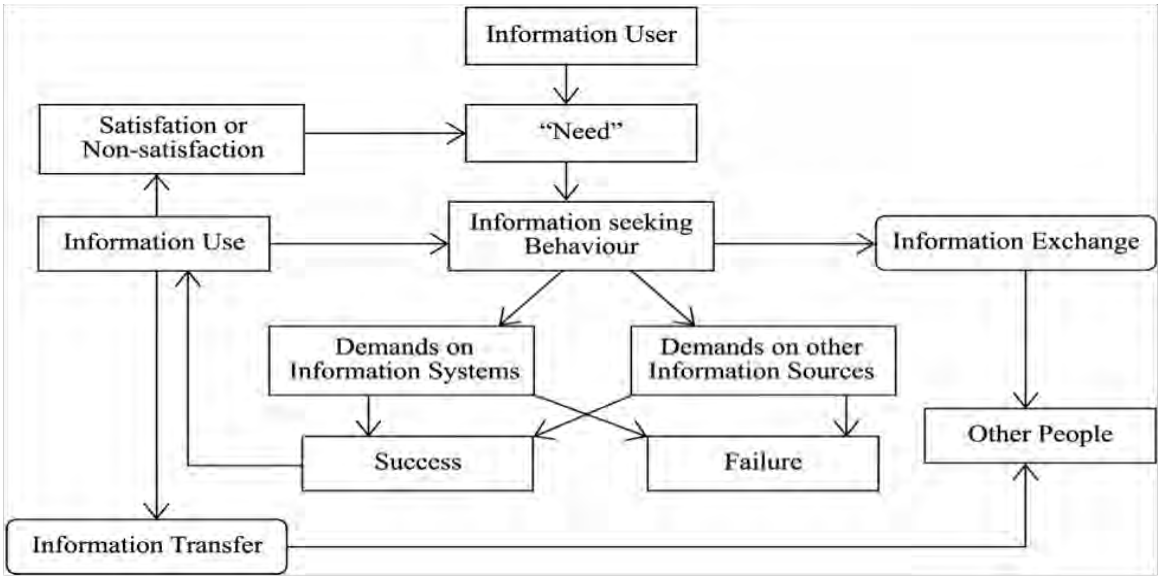
1.6.1 Information behaviour models

In developing theories, models are of great importance, it is the various models that pave way for the theories to be established. Bate (2005) was of the view that, models are of great value when it comes to description and production of understanding of a phenomenon and with this, one can conclude that there is a theory. Models can be said to be a prototype of theories or a blueprint of theories.

Wilson (1999) proposed that “information needs are secondary needs caused by primary needs which in accordance with definitions in psychology can be defined as physiological, cognitive or affective". To find sense and order in the world which one belongs results into Cognitive needs. The make-up of a person or the uniqueness of an individual can determine the information behaviour of such a person and this behaviour also affects the choice of information needs. This implies that the needs of a pregnant woman may differ from that of a Doctor, the needs of a student may also differ from a farmer, depending on the circumstance. Niedzwiedzka (2003) asserted that, before an individual could obtain information one has to undergo a series of activities or sections of activities which are presented by the information behaviour model. These activities are in phases. When there is a need for information, there is problem identification. The researcher found theoretical framework that best suits this study is Wilson's 1999 model.

1.6.2 Wilsons 1999 model of information behaviour

Wilson's (1999) model is a revised model of 1996 model. Wilson proposed that a searcher must seek information in context. Wilson's 1999 information behaviour model focused on the user's information needs, information seeking and information use. Wilson (1999) was of the view that, information behaviour of users can be active or passive. This theory is commonly used when it comes to information use and users. Wilson's theory, therefore, provides a decent framework for the sources and use of information and this was used in the study of pregnant women in Tamale metropolis. People seek information when there's information need, this, however, does not happen in a vacuum. One needs an information source to be able to gather whatever information he or she wants. The figure groups the various sources of information into information systems which comprises of the web or the internet whiles the other source named in the figure consist of relatives and friends, Midwives, Gynaecologists, radio and television stations to mention but a few. Pregnant women in Tamale Metropolis retrieve information from the sources named above to help make certain decisions concerning their pregnancy.



Wilson's 1999 Information behaviour model

Source: https://www.researchgate.net/figure/Wilsons-model-of-information-behaviour_fig1_228784950

1.6.3 Information needs

The search for information begins when an individual realizes that he or she has a shortfall in knowledge which brings about a feeling of insecurity and fear hence take the needed steps to bridge the gap in knowledge. Information needs can be influenced by the responsibility of the individual and the environment in which one finds himself or herself. The environment can be the workplace, community or society in which the person lives. The information needs of a pregnant woman would probably be how he/she can have access to prenatal and neonatal information. Personal attributes also have some level of impact on the choice of needs. Some people would like to get information to be on top of their jobs whiles others would like to have the best of information that will sell their products due to the competitive world in which they find themselves.

1.6.4 Stage of information seeking

Wilson (1999) asserted that information seeking forms part of information behaviour. Information seeking is when one realises that there is a need for information and actively looks for information to fill the gap. The seeking of information comes with various processes. The process is largely influenced by the nature of the need and the one looking for the information. Information seeking can be active or passive. Passive information seeking occurs when people probably don't know they have a need or part of their information behaviour is deliberately not to seek information. Active information seeking is when people do everything possible to acquire information to meet their information needs.

1.6.5 Stage of information processing and use

The stage of information processing begins with the identification of a problem by an individual which reduces his or her anxiety or fear and inspires hope as the search for information begins. The world is now flooded with information making it difficult for people to select relevant or right materials which accurately meet their needs. An individual may come across mismatched and inconsistent information as he or she searches for both primary and secondary sources of information and this may lead him or her to information surplus which makes it difficult to choose from the information provided. The individual, after browsing through the available sources of information may arrive at a perfect point and this forms a focused viewpoint which will enable him or her to collect the required information thereby reducing uncertainty and increasing interest. Finally, the individual

brings to an end the search for information when he or she is satisfied with the information that has been retrieved.

Information, when acquired, is evaluated and used. This forms part of one's knowledge since a knowledge gap has been filled and the person becomes information sufficient. The impact of new knowledge acquired can directly or indirectly influence the environment and new needs will be formed. The world is now flooded with information making it difficult for people to select relevant or right materials which accurately meet their needs. Pregnant women are not spared with the cumbersome nature of fishing for information in our modern world. Wilen (2016) advised her fellow midwives to be well informed about the new trends in health with respect to pregnancy-related issues due to the fast-emerging trends to help meet the needs of their patients. Wilson's (1999) theory best fits this study since it outlined information behaviour in terms of needs, sources, information seeking and the processing and use of information.

1.7 Significance of the Study

Pregnancy is a normal phenomenon which women have to go through in order to give life to another. However, issues surrounding it poses either a threat or an uncomfortable situation for individuals who find themselves in this condition.

The study brings to the fore the need to frequently provide relevant information for use by pregnant women at all times. Sources of information on pregnancy, access, evaluation, and use by pregnant women appear not to be a priority of health promotional programmes in

most less developed countries of which Ghana is not an exception. Health information most of the time is offered only when there is a serious disease outbreak.

The study will not only help policy makers in formulating policies at the national level but also at the regional, municipal, district and the hospitals' levels at large. This will assist in making provision for pregnant women in terms of their needs

It is expected that this study will offer new understanding on the subject of information behaviour of women attending antenatal clinic as this would empower pregnant women to be more knowledgeable in hunting for information that is relevant to their needs.

The findings of the research can serve also as a reference material and areas that have been suggested for further studies when researched on can broaden the existing knowledge of pregnant women and other researchers.

Finally, this study will contribute to knowledge because it will help make provision for pregnant women in terms of their needs and expectations not only in Tamale metropolis but Ghana at large.

1.8 Description of chapters

This study was organized into six chapters as follows:

Chapter one: Chapter one covered the introductory chapter which contained background, statement of the problem, the purpose of the study, objectives of the study, scope, theoretical framework, significance of the study and organisation of chapters.

Chapter two: Chapter two covered the literature review.

Chapter three: Chapter three covered the methodology which consists of the research design, selection of cases, population, sample size, data collection procedures, data collection instruments.

Chapter four: Chapter four covered Analysis of Findings.

Chapter five: Chapter five covered Discussion of Findings.

Chapter six: Chapter six covered Summary of Findings, Conclusions, and Recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews literature related to the topic under study. Literature review helps researchers to understand how their own works fit or differ from similar or other studies. The literature on the topic was therefore reviewed from the world point of view, African point of view and the Ghanaian point of view. Literature was reviewed under the following headings and sub-headings;

1. Concept of information and importance of health information to the pregnant woman
2. Information needs of pregnant women
3. Sources of information for pregnant women
4. Information seeking and Use by pregnant women
5. Factors that influence pregnant women's health information seeking
6. Challenges faced by pregnant women in seeking information.

2.2 Concept of Information

There is no agreement on what constitutes information though it is used far and wide in today's society by different sets of people across the length and breadth of the world. There is no one description which sufficiently explains information to a point that satisfies everybody. The fact that many disciplines have embraced the term is a contributing factor to the difficulty in arriving at a definite explanation for the term (Lester and Koehler, 2007). In dealing with the term information there appear to be some difficulties. In the opinion of

Weller (2007), the term information is too vast to study, for the simple reason that it is insubstantial and problematic. Case (2007) is of the view that the main problem with the term information has to do with the fact that it has been used to represent various philosophies. Wilson (2000) asserts that the essential conception of information is challenging for the reason that there is no definite explanation of the concept and besides, the definitions do not distinguish between alternative, common-sense meaning of the word. Notwithstanding the above, information is the knowledge of the human in action. It may be ideas, facts data and imaginative works of the human mind which are communicated formally or informally in any format. Zhang and Benjamin (2007), also view information as a concept that is related to knowledge, intelligence, data, fact, communication and so on. According to Wilson (2000), information can appear in a physical form such as books or journals or Communication Avenue through which data can be transferred. Case (2012) posited that information is "whatever appears to be significant to a human being, whether originating from an external environment or an internal world (psychologically)".

Vicky (2009) on his part states that we only get information when data collected over a period is processed by the human mind. Thus, it is accumulated data which when processed makes sense to the listener. International Standards Organization (ISO) also defines information as the “meaning that humans assign to data by means of the human agreements used in their illustrations” (Lester and Koehler, 2007). According to Case (2012), every information is conveyed by communication and is only fit for purpose when it is considered precise, reliable and relevant. Information if not precise is measured ineffective.

In Africa, Mutshewa (2007) also shared his opinion and states that, the difficulty in trying to explain the concept is worsened by the fact that information has been studied by various disciplines, such as informatics, information studies, information science, computer science and communication and information systems with all these having diverse focus. Ikoja-Odongo and Mostert (2006) consider information to be an impetus that decreases ambiguity.

Olarongbe et al, (2013) suggest that information is a basic necessity that is very essential for human survival and has a prevailing significance for all categories of people. As a result, information is of significant value to all people and considered an important resource that is used by everybody to carry out their functions whenever they deem fit. It prepares an individual with the power to select from probable choices. Effective use of information could assist a person in taking the right decisions. It also could improve performance and productivity (Mabawonku, 2006).

Conversely, the term information in the organizational scheme of things is more intricate and not as simple as the common use of the word would suggest. In general terms, all societies are considered information societies just as organizations are also considered information organizations. As a result, information is measured as an essential resource just like land, energy, money and human resource which are all important to the well-being of individuals and organisations in the modern world (Adeoti-Adekeye, 1997).

Flowing from the above, information could be presented or conveyed in various forms and in several ways. The value that may be placed on information is dependent on the individual

situation. This means that the effective utilization of this resource greatly depends on how the individual intends to use the information and the purpose that it intends to serve.

From the Ghanaian perspective**,** Alemna (2000) considers information to be the knowledge we obtained on some facts or situation. This knowledge could comprise of speeches of individuals or ideas that society have accepted and formalized into societal networks. Hence, information is "whatever appears to be significant to a human being, whether originating from an external environment or an internal world". Information comprises the statements and reception of knowledge or intelligence. It assesses and warns of shocks and inspires, reduces fears, discloses other options or assists in getting rid of immaterial or unrelated ones, and encourages people and inspires them to action (Badu et. al, 2007).

2.2.1 Importance of Information to the Pregnant Woman

The availability of information during pregnancy is an instrument that accelerates women's decision-making process concerning prenatal and postnatal care as well as the care of their new-born babies, in order to better handle themselves as well as the baby they are expecting Information is essential and should be accessible and significant to all who require it. Individuals feel empowered when they have information which assists them in taking personal decisions which in the long run contributes to national development. Nwagwu and Ajama (2011) in their study established that, for individuals to make informed decisions and navigate within a health care system which is complex, they need to have easily available, precise and timely information which they should be able to utilize. Readily available health information is vital for the growth of knowledgeable and effective systems for improving health concerns in the society. The readily accessible media and communication technology for young women are radio and mobile phones. However,

young women have lesser levels of access to traditional media platforms such as radio and Television than young males. The gap between young men and young women in home ownership of mobile devices needs to be addressed. Internet access for both men and women is very low (Zambia Health report, 2011). O'kereke et al (2013) on their part examined the importance of information among women and assessed their knowledge of safe motherhood among women in some rural communities in Northern Nigeria. The study further established that information on pregnancy-related matters amongst women in rural Nigeria is strongly related to antenatal visits or acquiring some level of education. Increasing information about safe motherhood practices must transform into safer pregnancy outcomes which successively bring about lower maternal mortality throughout the developing world. Their study established that most of the pregnant women get their information form the antenatal lessons taught at the hospital. Therefore pregnant women who miss out are mostly affected with common diseases and complications which could have been prevented.

2.3 Information Needs of Pregnant Women

Information need is the motivation of people to think and feel to seek information, but it is a complex concept. The term need, demands, and wants have been used although they may not be identical. It is mostly complicated to determine need since it may be categorized into expressed need, unexpressed or unfelt need. The latter is the most difficult to identify (Chinnasamy, 2016). Kuthlthau (1993) described information need, which is often understood in information science, "as evolving from a vague awareness of something missing and as culminating in locating information that contributes to understanding and meaning". Irrespective of where an individual finds himself or herself, it becomes

important to be armed with the right information so that they may be able to make precise and informed decisions since information cannot be avoided in whatever we do. Information may be needed at home, hospitals, schools, markets, offices, markets and many others.

Kuhlthau (2004) asserts that information need is tangible, but an unexpressed need for information, or ill-defined area of indecision which may be conveyed in an unclear, incoherent statement. Ingwerson and Jarvelin (2005) in his study asserted that the need for information arises when an individual deliberately identifies a gap in knowledge available to him or her. Information need may determine the kind of approach an individual has to employ in searching for information. Case (2007) on his part asserted that information need arises when an individual identifies a challenging situation in which his or her personal knowledge and views, as well as the environment, fails to propose a way that could solve the challenging gap in the information need of that individual. In furtherance, Case (2012) stated that the need for information becomes imminent when there is insufficient knowledge to satisfy the objective of an individual. That is if the present knowledge of the individual is inadequate or when they are handicapped with the right information to solve a particular problem or all attempts within their power to solve a specific difficulty proves unsuccessful.

Transition into motherhood is an important event in a woman's life it touches on her concept of identity and by extension her self-perceived information needs which significantly develops alongside her new role (McKellar et al., 2009; Hjälmhult and Lomborg, 2012). Especially, the need for information becomes extremely important to

first-time mothers who are more susceptible to post-natal dejection than women who have had more than one baby. Providing pregnant women with information help them to be information sufficient, ready for their new role and eases the transition to parenthood (Leahy Warren, 2005; Darvill et al., 2008; McKellar et al., 2009). Pregnant women may possibly hunt for information as "an important part of becoming prepared for motherhood" (McKenzie, 2002, p. 43). Even though the information need of pregnant women getting antenatal and postnatal care is well understood, few studies have looked at the information needs of pregnant women. In a study conducted by the Scottish government which involved 2,366 mothers, forty-four (44) percent of mother's report unmet information needs during antenatal care, and thirty-nine percent of them reported unmet information needs during post-natal care (Scottish Government, 2014). Further studies by Harden et al., (2006) also revealed that mothers report of unmet information needs, especially first- time mothers, and suggest the need to have a parental or external information support.

Rasheed and Al-Sowielem (2003) also conducted a study on the level of health awareness related to pregnancy and sources of information among pregnant women. Their study established that pregnant women had information need regarding nutrition, exercise in pregnancy, rest in pregnancy, antenatal visits, importance of antenatal, sex position during pregnancy, immunization in pregnancy and importance of blood examination. Their findings further suggested that most of the women were up-to-date with some aspects of pregnancy issues which include nutritional requirement, when to attend antenatal, and the importance of exercising daily. Nonetheless, it is very much necessary to run health education programmes through the local radio stations, and television stations as well as health centres. In developing countries, issues pertaining to pregnant women and their

safety have been a major agenda on the minds of global citizens. However, it has become eminent to make available more maternal information to pregnant women in diverse formats particularly those who never had the benefit of formal education.

Nwangwu and Ajama (2011) also conducted a study in a Northern Nigerian community where he examined the information needs of pregnant women. The study established that the health information needs of rural women constituted twenty percent of the total information requirement of rural women, and the most important health information which they considered very necessary were antenatal and post- post-natal care, immunization particularly on the six childhood killer diseases, prevention of vascular Fistula, and how to safely deliver their babies. Uloma and Chinyere (2013) also conducted a study on the health information needs of pregnant women with the aim of identifying the major health difficulties women encounter as they journey to satisfy their information needs. The study established that the major problems pregnant women encounter was miscarriage, complication, headaches, fear of labour, as well as lack of appetite. These pregnant women showed the desire to seek information on the made mentioned subjects. They further stated that the means to satisfying their information need included assistance from mothers, antenatal caregivers, followed by friends and family members. Ikoja-Odongo and Mostert (2006), suggested that information need is the acknowledgement of the presence of ambiguity in the individual or work-related life of a person. They further added that information need could be expressed, unexpressed or dormant.

From the above, it can be realized that pregnant women's information needs stretch from the kind of foods to take, how to take medication, how to exercise, sex positions, to how to

position themselves when sleeping. Additionally, it has been noted that information needs vary from individual to individual. For that matter, even among jobs, information needs are not the same. This means that the information needs of pregnant women may vary depending on the environment and especially between first-time mothers and multiparous women.

2.4 Sources of Information for Pregnant Women

Bates (2006) defines information source as anything an individual interacts with or observe. Thus, anything human beings come into contact with which gives them information could be a source of information. There has been a major concern about access to health information in recent times in both developed and developing economies (Anasi, 2012). A lot of people seek information on diverse health issues. The inability of patients to get sufficient information from health care providers has triggered the search for information at various sources by individuals. An information source could come from anywhere. It could come in different forms including the media (print and electronic), personal experience, journals and magazines, blogs, expert opinions, family and peers, brochures and flyers and the web. The information need questions, that an individual try to answer greatly determines the choice of his or her information source. For instance, if an individual's information need relates to business operation permit of a district assembly, then it would only be appropriate to consult the finance or revenue service of the district or better still go to their website for information. Also, if a pregnant woman wants to acquire information about pregnancy-related issues she can seek expert opinion from the hospital, a nutritionist, maternal health magazines and the internet. This means that the kind of information need regulate the source. Before the advent of the internet and technological

exploration in the nineteen-nineties (1990s), the mode of accessing health information was through the traditional media. The frequently used media in accessing information included magazines, newspapers, radio, televisions coupled with printed materials like pamphlets, books, flyers and leaflets (McGuffin and Wright, 2004; Andreassen et al, 2005).

Davies and Bath (2002) in their study focused on ascertaining the major sources of information by Somali women living in the United Kingdom established that, pregnant women hunt and use information from numerous interactive sources which included grandmothers, mothers, and friends. In the early nineteen-nineties, several researches in developing countries established that women first used personal sources of information when seeking information for several reasons that included health-related matters. Recent studies from both the developing and developed world have all established that women seek a greater part of their health associated information from healthcare providers. Friendly sources of information were considered as being welcoming which gives directions through which additional information could be searched.

Saleh (2011) on his part asserts that rural women satisfy their information needs through five main sources. These sources according to him are relatives and friends, Market women, Government and its agents, Non-Governmental Organizations and Elite groups. Another significant source of information to pregnant women is the Internet. The setup of information is speedily changing due to the significant influence of technology. The incorporation of Information communication technologies (I C T's) in today's life has become the norm in the fast-changing environment. The general public now can access comprehensive health information anywhere and anytime they want thanks to technology

(Fox and Jones, 2009). Increasingly, pregnant women have been using the internet to look for supplementary information on pregnancy and childbirth (Lagan et al, 2010). People look for health information via the internet for the reason that; it is convenient to access, it saves time, it provides additional information to what the physician has given and helps an individual to gain more knowledge regarding their health conditions and make better decisions about their health (Patsos, 2001; Lorig et al, 2002; Shuyler and Knight, 2003; Eysenbach and Kohler, 2003).

Nonetheless, first-hand confirmation of a genuine effectiveness of online information, e.g. for personal diagnosis of serious illness, is still rare (Ziebald et al, 2004). According to (Eysenbach and Kohler, 2003) the actual reason for searching for health information online is to satisfy an information need, however, there is limited data on the way patients use online health information. Kale and Syed, (2010) also identify the problem of language barrier which limits access to some group of people who may not understand the language in which the information is being written.

In some parts of Africa particularly the rural communities, information is usually conveyed through songs, drama, role play, stories, town criers and women leaders (Anasi, 2012). For instance, in some parts of Nigeria, health workers use songs and dances to pass on health information to pregnant women as well as nursing mothers on maternal health during the antenatal clinic visits (Anasi, 2004).

2.5 Information seeking evaluation and use of information by pregnant women

Information-seeking is regarded as a process in which information needs are hunted, or in which provision of solutions takes place in a specific circumstance (Foster, 2004).

Information seeking comes in two folds: active seeking and passive seeking of information. (Foster and Ford, 2003; Spink and Cole, 2006). Kakai et al, (2004) also considers information seeking as a simple activity indulged in by all people and demonstrated through a certain behaviour. For a person who does not have adequate access to health information and is still not satisfied with whatever information he or she has would actively search for health information in order to satisfy his information need (Eysenbach et al 2002).

Several studies have established that apart from hospital visits, a lot of people go searching for additional information from different sources including pharmacies, friends, relatives and the internet for more thorough enlightenment on their health problems (Theroux, 2011). Theroux, (2011) further stated that a lot of people prefer that their care providers suggest to them alternative source of information because the one the provider suggests gives them additional access to information and also gives them confidence in the information. A lot of people prefer to be given a thorough explanation about their health condition instead of the short explanation and instructions. When taking steps to satisfy a felt need, individuals could actively or passively seek information. On most occasions, care providers use the time patient visit the hospital to educate and provide health information to patients. However, because patients do not get enough time with the care provider, information given does not meet the satisfaction of the patient (Ikoja–Odongo, 2002). Additionally, the approach care providers adopt in dealing with patients sometimes cause distress that makes it difficult for patients to ask for additional information. Usually individuals require different categories of information at different times and for varied purposes, however, it becomes impossible most often to access the information they require

(Scott and Thompson, 2003). Somasundaram, (2011) on his part established in a study that, health professionals see themselves as the ones with power and the patient as ignorant about his or her health to the point that they cannot understand medical terms and for that matter the health professionals consider it unnecessary to let them know and understand everything that affects them regarding health information. Somasundaram, (2011) further stated that health professionals do not share health information with patients because they consider them as medical conditions and not persons of equal standard. Information seeking is a deliberate means of getting information from designated information sources which include assessing the way in which individuals discover the information they need such as how they look for the information and where they search for answers to information difficulties (Johnson, 2003; Burke, 2007).

Another study by Das (2013) which looked at pregnant women's information seeking behaviour in rural parts of New Delhi, India, established that perceived barriers, knowledge, information needs and direct experiences are major important factors for pregnancy and its associated information seeking. The study further suggested that it is important to increase the low-income of women, and also create awareness through innovative means. The study also added that there was the need for suitable counselling as a major part of pregnant women's visit to health centre for antenatal care. In addition, the high levels of confidence of women when it comes to information seeking could affect the seriousness they attach to information seeking until some difficulties arise. However, Andersen (2002) established that several studies on information seeking examines how individuals go searching for materials that they need so that they possibly satisfy their information need. The growing trend of the individuals to search for additional health

information out of those given to them during meetings presents a weighty difficulty to the caregivers to ensure satisfactory access to health information. Several studies conducted in Africa have established that a lot of pregnant women do not get the needed health information during antenatal visits. (Nikiema et al, 2009; Anya et al, 2008). Research has shown that well-informed individuals are likely to take good care of their health and stay healthy for longer than their ignorant colleagues. Pregnant women's right to health information and services is essential for an improved population as it supports them take obligation of their health and make better knowledgeable choices about their health and that of their families (Henwood et al, 2003).

Lincetto et al (2006) conducted a research and in their study established that pregnant women get access to pregnancy-related information when they attend the antenatal clinic. The antenatal offers women and their families' access to information on healthy pregnancy, postnatal recovery, safe delivery of their babies, and care for the newborn, exclusive breastfeeding, and the support to plan for future pregnancies so that they improve on pregnancy outcomes.

In evaluating information, Rieh (2014) asserts that the search for information is a multifaceted activity that requires access to different sources of information to deal with individual, social and work-related difficulties. For instance, women are known to be people who ordinarily patronize primary healthcare facilities than men. This could somewhat be as a result of differences in readiness to turn to a primary care practitioner, but the leading reasons seem to be women's obligation for childrearing and contraception, as well as pregnancy and the menopause which exclusively affect women. Eysenbach et al

(2002) state that sufficiency and the ease with which one accesses information is a significant factor in searching for health information. He further stated that Information is considered accessible to everyone at any level if it is sufficient and can easily be retrieved in a proficient and effective manner, this means that notwithstanding several sources available to the individual, one would definitely go in for information that best satisfies them.

Like healthcare usage, a number of conditions impacts on the individual's actual decision to search for the required health information and they include; personal values, beliefs, norms and demographic characteristics (Matthews et al, 2002). For instance, several studies have established that women, the young, and the educated tend to actively pursue health information. (Czaja et al, 2003; Percheski and Hargittai, 2011; Fox, 2008). This could be for the simple reason that women are charged with the responsibility of taking care of the household, welfare, and the family health. Furthermore, individual's self-efficiency and high inner locus of control are also established to have a substantial effect on a person's actual health information seeking behavior. The degree to which a person is certain that he or she has control over his or her health and the capability of that individual to access and act on the acquired information determines the decision whether to seek for health information or not. (Lambert and Loiselle, 2007).

According to Cole (2008), information use is the understanding and coding of environmental incitements, whereby the individual creates new and adapted information structures. Information plays a significant role in practically every human activity and it is considered an important resource for human survival. To put it differently, information use

has not received the needed attention in research literature. Information use most of the time is connected to information need for the reason that information is needed for it to be used. Information use is the element that stimulates all other information behaviours including the search for information, sources of information and several others because it signifies the final purpose for which information is required and sought. Savolainen (2009), define information use as a broad term which individuals decide on and approach information sources. In a study conducted by Maybee's (2006), pregnant women established that individuals use information to build their personal knowledge base for different purposes. Wilson (2000) on his part stated that information use is made up of both physical actions when information that has been found is related to the individuals existing knowledge base. It may possibly include physical acts such as marking text messages to help notice their significance, as well as mental acts to which belongs, for instance, likening the new information with an individual's existing knowledge.

According to Choo (2002) information use is a ''a dynamic, interactive social process of inquiry that may result in the making of meaning or the making of decisions." This is because a person who requires information would display a specific seeking behaviour which helps that individual to acquire the needed information to solve his or her information need. The obtained information is either used in solving a problem or making a decision that affects one's life.

A lot of people use information to create knowledge ''but not just in the sense of data and facts but in the form of representations that provide meaning and context for purposive action'' (Choo, 2002)

Kuhlthau (2001) considers information use as it includes the distribution, availability, obtaining, organizing or the visualization of information. This may include the initial search for information, information search sources, the process of searching for new or required information, means for formulating needed information, the method of gathering information and presentation and transfer of information.

2.6 Factors that influence pregnant women's health information seeking

Health information seeking actions is the exposure of a person to pursue health information as a solution to inadequate health information provision irrespective of where the individual seeks the information from, whether from a well-trained health professional or from a traditional healer (Ahmed et al, 2001).

However, there are variations in how people respond to their health-related matters; most people seek for medical help as soon as they suspect they have one health challenge or the other whiles others also appear reluctant in seeking for help until the pain is greater and others too until the situation gets worse before they seek for medical help (Ahmed et al, 2001). The way people react to health-related issues is influenced by several factors which include; satisfaction and/or perception toward the kind of health problem and the individual's beliefs.

Like many other health situations, pregnant women with different conditions and diverse backgrounds have different means of seeking for health information to address health challenges during pregnancy. However, the best place for a pregnant woman to seek help is from a health professional in a health facility (MacKian, 2003). Nonetheless, a lot of women in developing countries especially those in rural areas have preference for traditional assistance when accessing health information than from a trained health

professional in a health facility. (Kwesigabo et al, 2012; Ahmed, et al, 2001). Several studies have established that a number of factors play a significant role in determining how women respond to health-related issues and they include the following; access to the media, age, level of education, cost and women's status in the society. (Navaneetham and Dharmalingam, 2002; Tsawe et al, 2015).

It has been established that women's use of skilled health services is enhanced when they are exposed to the media (Navaneetham and Dharmalingam, 2002; Sharma, 2004; Pallikadavath et al, 2004). Pregnant women who are more exposed to the media, for instance, television, radio, internet and the likes are more likely to attend antenatal care than women who are less exposed (Navaneetham and Dharmalingam, 2002). According to Sharma, (2004) if women watch television at least once a week it will greatly influence the chances of a woman attending antenatal services than women who do not have access to television. Other studies have also established that the position of women in society has a significant influence on their ability to independently take decisions regarding their health. In communities where women are permitted to partake in decision making and their opinions on matters are pushed to the background, such women hardly seek health information from relevant health facilities (Adamu and Salihu, 2002). Simkhada et al, (2008) established in their study that women from families that are headed by males do not use maternal health information as compared to families that are headed by females. For example, a study done by Adamu and Salihu (2002) established that women in rural of Kano in Nigeria do not seek antenatal care because their counterparts prevent them from doing so. Another point worthy of note is the personal experience of pregnant women in their previous maternal healthcare seeking. Pregnant women who were able to deliver on

their own or assisted by family members or traditional birth attendants will often perceive deliveries at the hospital not important and a complete waste of money. For this reason, they would not consider seeking maternal care from health professionals in their subsequent pregnancies (Zelalem et al, 2014; Navaneetham and Dharmalingam, 2002; Celik and Hotchkiss, 2000). Another important factor that contributes to effective information seeking from healthcare facilities is the distance to the nearest health facility especially pregnant women living in rural communities. The influence of distance is so immense in rural communities owing to the fact that poor roads infrastructure and unfavourable transportation systems discourage pregnant women from seeking healthcare services (Magadi et al, 2000; Glei et al, 2003).

Van Eijk et al, (2006) in their study established that costs associated with health seeking information are a major determining factor among pregnant women's utilization of health information. They further stated that there is a relationship with cost and distance to health facilities especially for pregnant women who live far away from the nearest health centre which requires that they pay more on transportation than those living close to health facilities. Health service charges also deter majority of low-income pregnant women from exploiting the benefit of skilled maternal health services. For instance, the tools pregnant women require when they are about to deliver, laboratory tests, and scans and so on (Overbosch et al, 2004; Mumtaz and Salway, 2005).

Chowdhury et al (2003) in their study identified that when pregnant women are given free maternal care or have it subsidized, a lot of the pregnant women who because of the cost would have abstained from accessing maternal service may end up patronizing the services.

Additionally, the influence of cost associated with health care seeking is mostly substantial in low-income households because of the lack of resources (money) to meet their needs.

Another important factor that propels women to seek skilled maternal care is the fear of the unknown and inexperience especially on the part of younger women who have just begun childbearing. Several studies have established that women who have never had children are more likely to seek professional assistance than multiparous ones (Mpembeni et al, 2007). The possible explanation may be because a good number of younger women today have the benefit of formal education which makes them have a better opinion than older women (Navaneetham and Dharmalingam, 2002; Mpembeni et al, 2007).On the contrary, other studies have also established that older women are more likely to utilize the services of skilled professionals than the younger women because the older women have had the experience and knowledge about the significance of skilled maternal services. In furtherance, they are more likely to have greater decision-making power than younger women when to come to deciding on whether to seek skilled maternal services or otherwise (Reynolds et al, 2006; Bell et al, 2003; Elo, 1992; Leslie and Gupta, 1989; Navaneetham and Dharmalingam, 2002; Glei et al, 2003; Burgard, 2004; Mesfin and Farrow, 1996; Reynolds et al, 2006; Tsawe et al, 2015).

Another important factor that influences where pregnant women seek health information be it formal (modern ways of seeking information) or informal (traditional sources or from friends or peers) is the level of education of the pregnant woman. Several studies have established that women who are well educated are more likely to utilize skilled maternal services than their counterparts who never had the benefit of education (Chakraborty et al,

2003; Celik and Hotchkiss, 2000; Kamal, 2009; Mpembeni et al, 2007; Fotso et al, 2009; Tsawe e al, 2015). Women who have higher education tend to utilize health information because they are able to read and understand the benefits of skilled maternal services and may also be exposed to the media which provides them with sufficient knowledge on the significance of skilled maternal services as well as where to get health information (Raghupathy, 1996; Mpembeni et al, 2007). Women who have attained higher levels of education have greater decision-making power when it comes to their health information utilisation which increases their level of confidence when it comes to making decisions that affect their health and that of her child (Raghupathy, 1996).

In connection with the above, the level of education of a pregnant woman's spouse plays a significant role in the utilization of health information. Men, especially in Africa, are mostly the key household decision makers who provide for the needs of the family hence may decide where and when to seek health information. Women who are fortunate to have partners who have high levels of education are likely to utilize skilled maternal information more than those with lower levels of education. (Raghupathy, 1996; Rani, 2003; Gage and Calixte, 2006).

Additional literature has also established that pregnant women who are financially viable are more likely to seek antenatal care throughout the period of pregnancy than women who are financially challenged (Magadi et al, 2000; Mpembeni et al, 2007). Also, pregnant women who get financial support from family members are better placed to seek help from skilled health professionals (Eric, 2003). In corroboration, McCaw-Binns et al, (2007) on their part established that women from families and communities that do not get any

support financially are two times more likely not to use antenatal care than those who receive support.

According to Chowdhury et al, (2003) pregnant women from families where mother-in-law do not regard antenatal care as useful to the survival of the pregnant woman are less likely to seek health information from well-trained health professionals. Furthermore, women who do not have assistance when it comes to household chores, as well as someone to take care of their children when they intend to seek antenatal care, are more likely not to seek health information to improve their wellbeing. (Thaddeus and Maine, 1994).

Pregnant women's negative perception towards healthcare providers has a significant impact on their willingness to visit health facilities for health information Perceived unfriendliness, coupled with perceived substandard care by some Midwives, Nurses and Doctors have caused a good number of pregnant women to abstain from seeking health information (Simkhada et al, 2008).

Another important factor that influences a woman's decision-making is the kind of health information provided and the location of the pregnant women especially when it comes to giving birth whether at home with a traditional birth attendant or a health facility. (Warren, 2010). Several studies have established that cultural barrier is an important determining factor in many communities (Mekonnen and Mekonnen 2003; Warren 2010; Seifu, Gebrehiwot and Fantahun 2011; Shimeka, Mazengia and Woldeyohannes 2012). They believe that illness and diseases associated with pregnancy are punishment from the gods, therefore, it discourages them (pregnant women) from seeking skilled health information. Idowu, (2013) stated in his study that, cultural determinants like female genital mutilation,

child marriage and early pregnancy, certain birth practices, and nutritional taboos, especially during pregnancy, have a negative effect on pregnant women's ability to seek professional and health information. These factors according to (UNFPA, 2000) regarding women's reproductive health decisions which includes the number of children she may want to have and at what interval, women most often do not get the needed support they require to accomplish their reproductive needs. In some communities, because women fear that their husbands may punish them if they realize that they consistently seek health information, they secretly resort to medical treatments especially the use of family planning. In addition, beliefs about attitude to health can impair access to information and as well can reduce its quality. Restrictions like direct and indirect taboos prevent women from talking over their health challenges and needs, whereas women who cannot voluntarily associate with others have difficulty looking for health information and taking the needed steps towards safety in pregnancy. Women in most rural areas are controlled by their local customs, until the husband decides and directs the pregnant woman, she cannot make any decision by herself. (Kowalewski et.al, 2000).

Idowu, (2013) on his part affirmed that these constraints suggest that most women depend on the decisions of other people about their medical attention; whether to arrange for skilled delivery attendant, when to have antenatal examinations during pregnancy and whether to delay or prevent pregnancy. Most often, it becomes difficult for women to discuss and complain about their reproductive health issues especially when it has to do with their menstrual irregularities. The consequence is that most women do not get their problems solved until the situation gets serious (Idowu, 2013).

Idowu, (2011) in his study established that most women consider difficulties in pregnancy to be normal for which reason they do not see the need to seek health information. Cultural belief is a significant factor to be looked when it comes to an individual's health especially in rural communities where certain sickness, how it can be cured and who to consult is defined or determined by their culture. Likewise, the way an individual perceives a particular health advice whether it affects their cultural beliefs will impact their reception to information and their willingness to utilize it. Individuals usually accept or reject information regarding their health problems based on their cultural beliefs and how society accepts such health risks. Therefore, it is important for health information providers to consider given patrons information that is sensitive to culture. (Kahan et al, 2009). For us to positively encourage women to utilize the services of healthcare professionals there is the need to address socio-cultural challenges and, in some cases, integrated into facility-based care information that will be easily accepted by all manner of people. (Stanton et al, 2007).

The above presentation has clearly established the major barriers and difficulties women encounter in the utilization of health information. However, there are differences in the extent of influence each barrier has on pregnant women's use of information. Regrettably, most health strategies and interventions have been concentrating on reducing obstructions to care providers and disregard the numerous difficulties faced by information seekers when pursuing health information. To solve the challenge of unutilized health information, specific policies and solutions are required to lessen the obstacles existing in specific society or among the various groups that are affected.

2.7 Challenges Pregnant Women face to Access Health Information

According to Glenton et al. (2013), the impediments that prevent women from effectively accessing information include; the use of medical expressions by medical professionals or information providers which may perhaps not be understood by persons seeking for information. A study conducted by Parker et al, (2003) established that the high levels of illiteracy and the inability of information seekers to understand medical information becomes a major obstacle for health information seeking. Williams et al, (2003) established in their study that there has been a substantial upsurge in demands for access to health information. According to them, the factors that contribute to the upsurge in demand comprise higher education, increasing capability with new technologies, demographic changes and increasing demands for knowledgeable choice.

Other factors that have also contributed to the increasing demand for information include, the enormous volumes of health information available for health professionals, the rising interest in substitute medicine, inadequate consultation time, growing emphasis on self-care and disease prevention, and the increase in popularity of participative health care models (Cotten and Gupta 2004). A study carried out by Gazali et al, (2012) established that other obstacles that prevent women from seeking health information include low self-esteem and socio-demographic factors. The social and economic status of a country is a major contributing factor to the difficulties women face when it comes to accessing health and maternity information especially where poverty levels are high, unavailability of physical access, cost and the inability to use information etc. This has made it impossible for women especially those who do not have education to easily access information that involves women's health and maternal issues. Jiyane and Fombad (2016) established in

their study that, numerous factors generate problems when it comes to information accessibility by most communities especially those in peri-urban communities.

A good number of information seekers access information from the media such as television, magazines, radio and other areas like books, posters, churches, health centers, community groups, and clubs. Other factors that prevent rural community women from accessing information in peri-urban communities are poor infrastructure, unemployment, illiteracy, and poverty. A study conducted by the Zambia Demographic Health Survey (2015) established that numerous elements preclude women from seeking medical advice from medical professionals when they are sick. Information on such issues is especially significant in understanding and finding solutions to the obstacles women face in pursuing care during pregnancy and at the time of delivery. Some of the factors that were cited as obstacles to information accessibility by pregnant women when they were interviewed included; getting permission from husbands or family heads for treatment, getting financial assistance for treatment, distance to health facility, concerns of not meeting female health practitioners, concerns about health care provider's attitude towards patients, and concerns of not getting the appropriate drugs for treatment. Majority of the women representing sixty-eight percent reported that at least one of the aforementioned problem could be a hindrance to seeking healthcare information. In furtherance, information providers are confronted with the challenge of funding and resourcing issues which makes it difficult for them to nurture relationships as well as give information seekers enough time to explain issues (The Royal College of Midwives, 2013). The encounters information providers are faced with is further compounded by the limited understanding of the information needs of mothers and identifying the search for information as a development of social construction,

and the restricted understanding of the individuals involved (The Royal College of Midwives, 2013).

Despite the numerous challenges faced by pregnant women in giving birth to another, it is important that citizens and societies these pregnant women find themselves are given credible, relevant and current information support.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

Howell (2013) asserted that a methodology is the strategy that shows the form in which the research will take and methods that will be used to arrive at the results. The method provides the various processes and procedures that will be undertaken to arrive at the results of the study.

3.2 Research Design

Research design serves as a blueprint that guides the whole processes of a research work. It provides the overall framework for data collection. The general design and decision for research include the plan to adopt for a research work. According to Nuhu (2010), a research design is a set of processes that guide the researcher in the process of confirming a particular hypothesis and excluding other explanations. Research design links the data to be collected and findings to be drawn to the initial questions of the study.

A mixed method approach was used for this study. The mixed method approach is defined as the "collection or analysis of both quantitative and qualitative data in a single study in which the data are collected concurrently or sequentially, are given a priority, and involve the integration of the data at one or more stages in the process of research" (Creswell et al, 2003). Mixed methods are mostly used to complement the results obtained from both

qualitative and quantitative research approaches thereby ensuring that the weaknesses of each one of them are taken care of.

3.3 Selection of subjects

This study involved pregnant women in Tamale metropolis who met the following benchmark;

1. Women who have conceived or are pregnant for the last seven months. This is to ensure that data is collected before these pregnant women deliver.
2. Pregnant women who have registered as patients with the hospitals (Tamale Teaching Hospital, West Hospital and Seventh Day Adventist Hospital).
3. Pregnant women who frequently visit the hospital for health information.

This benchmark was set to enable the researcher collect accurate data within the period of study and avoid any error.

3.4 Study Population

Alvi (2016) refers to population as "all the members who meet the particular criterion specified for a research investigation" This means that one needs to consider the people who will be able to give the desired information either because they conform to some benchmarks set by the researcher or because they are the only ones who can give the needed information.

This study was carried out among pregnant women and health professionals in three health facilities in Tamale Metropolis. The hospitals the researcher considered for the study included the Tamale Teaching Hospital, West Hospital, and Seventh Day Adventist Hospital. These hospitals were selected because Tamale Teaching Hospital serves as a referral centre and the rest of the hospitals (Seventh Day Adventist Hospital and West Hospital) form part of the major hospitals in the metropolis and they are well equipped with modern facilities. The availability of such modern facilities attracts a lot of pregnant women to these hospitals. The total number of pregnant women who have conceived the last seven (7) months and have registered with the Teaching hospital as patients as at the time of research is one thousand one hundred and twenty two (1122), West Hospital had three hundred and fifty two (352) and Seventh Day Adventists hospital had forty three (43) which totalled one thousand five hundred and seventeen (1517). According to Neuman (2007) when a population is more than thousand it is advisable to use 10% to arrive at a confidence level which depicts the representation of the population. To ensure equity, 10% of the total population was calculated to arrive at a sample size of 151.7 and this represented all the pregnant women at the selected hospitals. Four health professionals (three Midwives and a Gynaecologist) from the selected hospitals also formed part of the population. This brought the sample size considered for the study to one hundred and fifty five (155). Pregnancy is the period from conception to birth, and women who have conceived are expected to carry the pregnancy over a period of nine months. Some pregnant women also deliver within the seventh month. These pregnant women sometimes experience pregnancy symptoms such as enlargement of the nose and breast, swollen feet, nausea, severe headaches, vomiting and preeclampsia or eclampsia. Gynaecologist and midwives from the selected hospitals also formed part of this population.

3.5 Sample Size

Saunders, Lewis and Thornhill (2007) underscored the fact that one cannot use a whole population for a study when the number involved is large. It is also argued that it is not a must to interview a large number of people saying the same thing.

For the purpose of this study, proportionate sampling was used to arrive at a sample size of one hundred and fifty-one (151) representing ten percent of the population for the pregnant women, however, four health professionals were interviewed in the three hospitals which summed up 156. The researcher made sure that the pregnant women from the respective health facilities were fairly represented. Also, in-depth interviews were conducted for the Gynaecologists and midwives at each of the facilities to gather opinions on the research topic since they are well vest in their fields of specialization. The table below shows the number of the population sampled for the study.

Table 3. 1 Population of pregnant women from the selected hospitals

NAME OF HOSPITAL	RESEARCH POPULATION	NUMBER SAMPLED (10%)
Tamale Teaching Hospital	1122	112.2
West Hospital	352	35.2
Seventh Day Adventist Hospital	43	4.3
TOTAL	**1517**	**151(151.7)**

Source: Field Data 2018

Table 3. 2 Population of health professionals from the selected hospitals

Name of Hospital	Midwife	Gynaecologist	**Total**

Tamale Teaching Hospital	1	1	2
West Hospital	1	-	1
Seventh Day Adventist Hospital	1	-	1
Total	3	1	4

Source: Field Data 2018

3.6 Sampling Techniques

Proportionate sampling technique was used to select pregnant women from each hospital after which accidental sampling was used in distributing the questionnaire. Purposive sampling was also used in conducting an interview for the Gynaecologist and midwives since they are experts in their field of study.

3.7 Sources of Data

There are two major sources of data accepted globally; primary data and secondary data. Primary sources of data are the raw facts gathered from the field. These are new information that are gathered in their newest state ready for analyses. Secondary sources of data, on the other hand, are literature that already exists or people have worked on already. They are documented works of people which serve as reference materials.

3.8 Data Collection Instruments

There are many types of data collection tools used in research which fit different purposes and research types. A researcher's choice of data collection tool is normally determined by the research study aims and objectives (Bradley et al., 2009). The use of proper data collection tools ensures that research data is collected in a consistent and scientific way.

The main instruments that were used for data collection were questionnaire, observation, and interview. Questionnaire was used as part of the data collection instruments. They are cheaper to administer and they can be used for a large number of respondents and they ensure anonymity. The questionnaire was distributed to pregnant women to provide responses and participants who were uneducated responded to the questionnaire with the aid of research assistants who helped with interpretation after which the answers from the respondents were written or documented. The participants were again assured of the confidentiality of information that they have provided and that they would not be exposed to any form of discomfort or risk by participating in the study. The questionnaire for the participants was categorized into sections and data was solicited on the following;

- Section A:
  - ✓ Consisted of data collected on the demographic characteristics of participants such as sex, age, and level of education, and it was made up of structural open-ended and closed-ended questions.
- Section B:
  - ✓ Data was gathered on the information needs of pregnant women in Tamale metropolis.

- Section C:
  - ✓ Information sources and seeking by pregnant women in Tamale metropolis.
- Section D:
  - ✓ Evaluation and use of acquired information by pregnant women in Tamale Metropolis.
- Section E:
  - ✓ Challenges faced by pregnant women in Tamale Metropolis

Interviews were conducted for midwives and a Gynaecologist with the view to gathering some professional health information related to pregnant women and their behaviour with respect to information. This was done at the various health facilities. The midwives and the Gynaecologist were considered for the study because they are experts in their field and will provide rich information concerning pregnancy-related issues.

Participants observation was used to gather information on how pregnant women in the various hospitals sourced information, how pregnant women sought information and the challenges they go through when they try to seek for health information.

3.9 Pilot Study

A pilot study was conducted to finalize the questionnaire. The pilot study was conducted on pregnant women at the Central Hospital in Tamale Metropolis. The pilot study was done to ascertain the level of understanding of the questionnaire for the study. Based on the feedback obtained, the necessary corrections were made to enhance the questionnaire.

3.10 Data collection procedure

Data collection is a very important aspect of all research activities because the outcome of every study is based on the kind of data collected. Regarding this study, data was collected in stages.

3.10.1 Stage 1: Meeting with the participants

The researcher met with the pregnant women at the antenatal clinic on the same day but different time schedules and generally spoke to them about the study after which they were to ask questions relating to the research. All the questions asked were answered to clear any doubts in the minds of the respondents. Data collection then commenced the following day since the Directors of the various hospitals gave the researcher the approval to begin at any convenient time.

3.10.2 Stage 2: Distribution of questionnaire

Based on the verbal approval to conduct research from the Directors, the questionnaire was administered to participants of the study (see Appendix A). The researcher used a period of five weeks to undertake this exercise. The questionnaire was taken from pregnant women upon completion the same day. Pregnant women who could read and write requested that their questionnaire be given to them to answer on their own after which the questionnaire was taken back and some pregnant women also asked the researcher and the assistants to write down the responses of questions asked since their conditions will not allow them to do the reading and writing at the same time. The pregnant women who were illiterates were assisted by the research assistants who read out the questions in their local

dialects (Dagbanli) to them after which responses were written. Convenient sampling method was used to distribute the questionnaire to the pregnant women.

3.10.3 Stage 3: Conducting the Interview

A flexible face-to-face interview was conducted using a guide (see Appendix B). The interview was recorded by writing and audio/ tape recording of the responses to the questions that were asked. Gynaecologist and midwives were interviewed, one Gynaecologist and one midwife from each selected hospitals were interviewed accordingly. The midwives who were interviewed proposed a convenient date and time and a less busy scheduled date which suit the researcher. The researcher began the interview by explaining the aims and objectives of the study to each health professionals that were interviewed and it was conducted at their own convenience. A telephone interview was used in interviewing the Gynaecologist at the Tamale Teaching Hospital.

3.11 Method of Data Analysis

Savin – Baden and Major (2012) defined data analysis as an ongoing process that involves breaking data into meaningful parts for the purpose of examining them. Statistical package for the social sciences (SPSS) was used to enter the raw data gathered from the field. The data analysis for the study was in two parts. The Stata 13 was used to analyse quantitative data collected from the field, frequencies, four-point Likert scale and bar charts were used to represent findings and Chi-square was used to test for significant difference between the use of information sources and level of education. Mean score was also used to rank sources to determine the most frequently use. Content analysis was also used to analyse qualitative data.

3.12 Ethical Considerations

Pregnant women are a protected population and therefore, it was of prime importance to conduct the study in a manner that safeguards their interests. In this study, ethical issues were taken into consideration by the researcher. A letter of introduction from Department of Information Studies of the University of Ghana was given to the Health Directors and officers in charge at the Tamale Teaching Hospital, West Hospital and Seventh Day Adventist Hospital to officially inform them of the study and the rationale for doing this study (see introductory letter). The participants were assured of confidentiality. There was no manipulation of data and all works cited in the course of the research were duly acknowledged. The letter of introduction was accepted and this allowed the researcher to access the maternity register available at the various hospitals and subsequently, data was collected from pregnant women, midwives, and Gynaecologists.

Before commencing the interviews and administering the questionnaire, the researcher explained to the participants the research procedures: research aim and objectives and the nature of questions to be answered. The consent of participants was sought before data collection commenced. The participants were allowed to ask questions which bothers them and this was done to clear any doubt in the minds of participants.

The selected participants had the option to decline altogether, or not to respond to any questions they do not wish to answer without any consequence.

CHAPTER FOUR

ANALYSIS AND FINDINGS

4.1 Introduction

This chapter presents the analysis and findings of the study. The results are presented based on the research objectives of the study. The researcher looked at the responds rates and the demographic characteristics of the pregnant women and finally the findings of each objective.

4.2 Response Rate

Response rate can be termed as the rate at which people respond to a request or question posed to them. In an attempt to get answers to questions concerning information behaviour of pregnant women, questionnaire were distributed to pregnant women in three hospitals in Tamale metropolis namely, Tamale Teaching Hospital, Seventh Day Adventist Hospital and West Hospital. The response to these questions can be low or high depending on the interest of respondents.

A total of one hundred and fifty (150) questionnaire were distributed at the three hospitals; thus, the Tamale Teaching Hospital (TTH), the Tamale West Hospital (TWH) and the Seventh Day Adventist (SDA) Hospital also in Tamale. Out of the total number, one hundred and forty-eight (148) were returned and the completed questionnaires were used in the final analysis. One hundred and forty-eight out of the one hundred and fifty gave a response rate of 98.67%. At the Tamale Teaching Hospital, 111 copies of the questionnaire

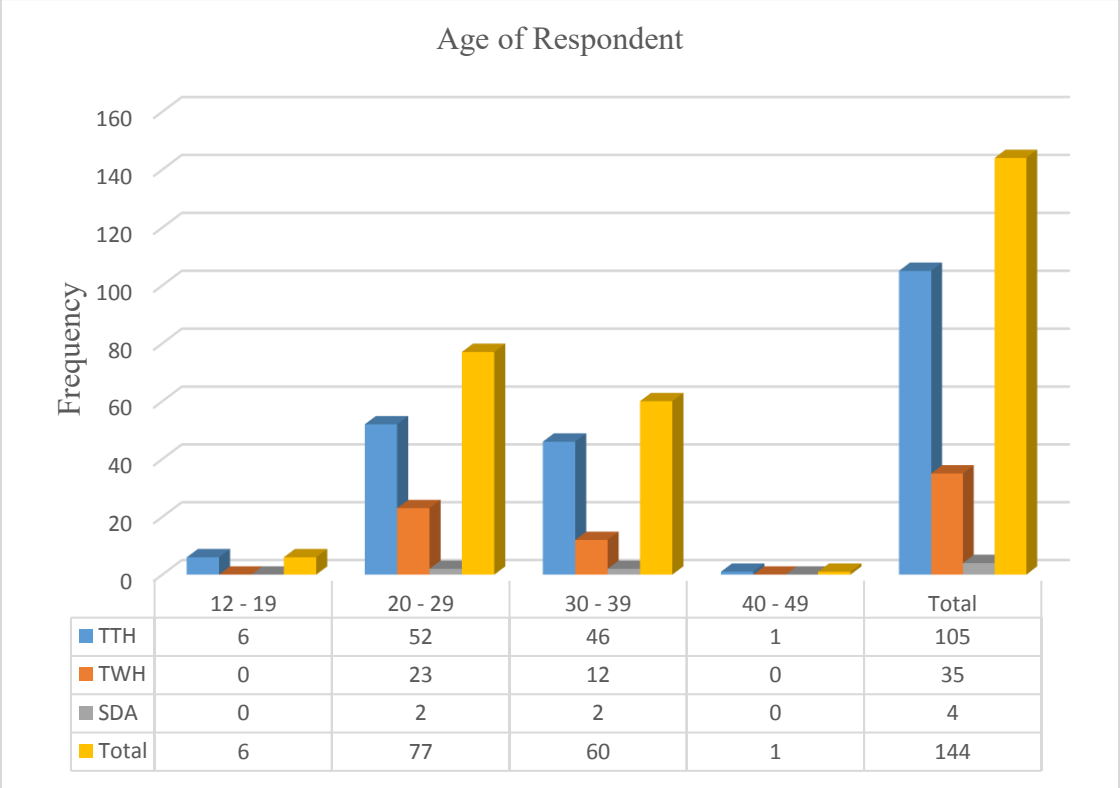
were distributed with respondents completing 109 which gave a response rate of 98.20% and constituted 73.65% of the total sample size used. In the Tamale West Hospital, thirty-five (35) questionnaires were distributed. All were retrieved giving a 100% response rate. This also constituted 23.65% of the overall sample completed. Finally, at the Seventh Day Adventist Hospital, all four (4) respondents had their questionnaire completed representing 100% response rate; constituting about 2%.

4.3 Background Information/demographic characteristics

Data were collected on the demographic characteristics of the pregnant women in the three hospitals with the purpose of describing how these characteristics influenced their information behaviour. The Demographic information collected included age, education, marital status, and occupation. These have been presented in the table below and under the sub-headings below.

4.3.1 Age

Age is considered an important factor in determining one's maturity. In Ghana, children are considered adult when they attain the age of eighteen. However, in the northern part of Ghana, the girl child can be given out for marriage at any age which forms part of the Northern traditional practices. Until recently young girls have always been given out to older men for marriage and the government is doing everything possible to fight for the right of these girls who are considered to be juvenile. Figure 1 represents the age distribution of respondents.



	12 - 19	20 - 29	30 - 39	40 - 49	Total
TTH	6	52	46	1	105
TWH	0	23	12	0	35
SDA	0	2	2	0	4
Total	6	77	60	1	144

Figure 1: Age distribution of pregnant women in Tamale metropolis
Source: Field Survey, 2018.

The results presented in figure 1, show the age distribution of respondents across the hospitals. From the figure, 6 (4.17%) of the respondents were in the age group of 12 – 19 years. This is only made up of respondents from the Tamale Teaching Hospital with zero (0) recorded for the Tamale Hospital and Seventh Day Adventist Hospital. The remaining 52(36.11), 46(31.94%) and 1(0.69%) were in the 20 – 29, 30 – 39 and 40 – 49 categories respectively. This puts the majority of the respondents at the hospital in the age 20 – 29 category.

At the Tamale West Hospital, out of the 35 respondents, majority of 23(15.97%) respondents were in the 20 - 29 category. No respondent was in the 12 – 19 and the 40 –

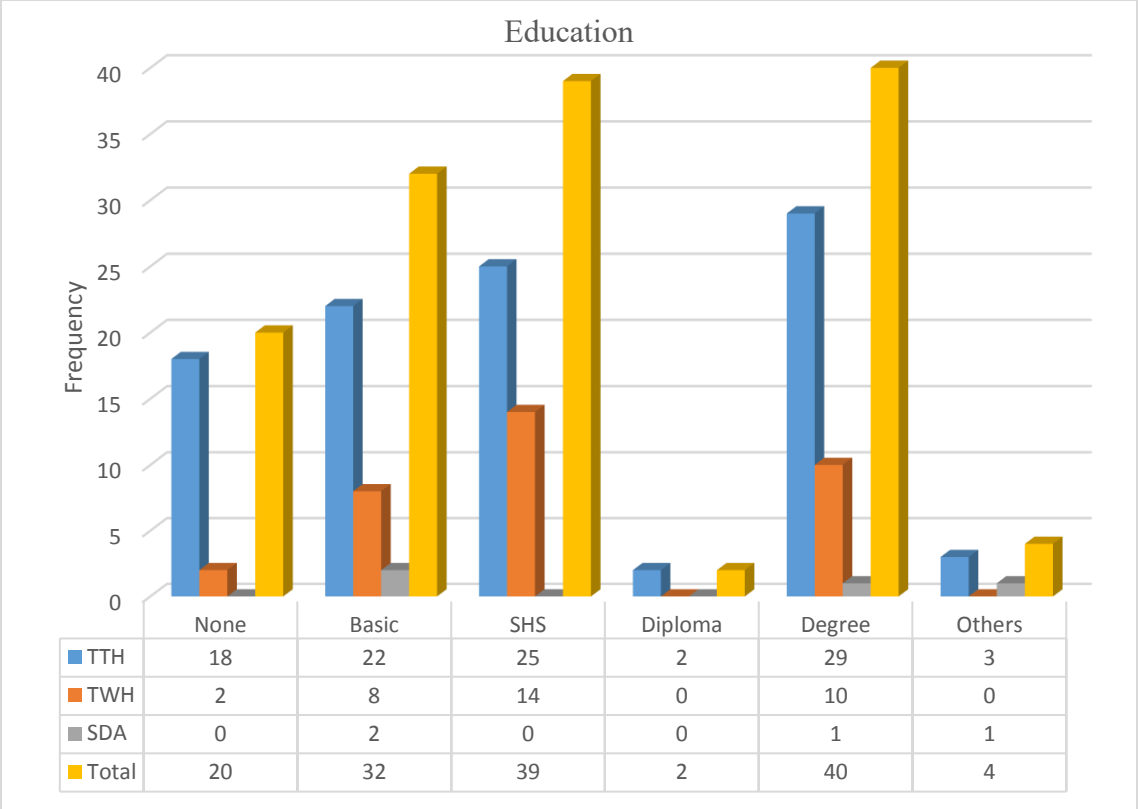
49 categories with 12(8.33) in the 30 -39 group. In all, 35(24.31) pregnant women responded at the TWH.

At the SDA hospital, all 4 pregnant women representing 2.78% responded to the questionnaire with 2 (1.39%) each in the 20 - 29 and 30 – 39 age groups. There were no respondents recorded for the other two categories. The overall observation from the sample is that there were relatively younger pregnant women than older women.

4.3.2 Education

Education also contributes largely to the individual's ability to read and write. It can be formal or informal but which ever form it takes, it is important that one takes education seriously.

Figure 2 shows the distribution of educational background of respondents.



	None	Basic	SHS	Diploma	Degree	Others
TTH	18	22	25	2	29	3
TWH	2	8	14	0	10	0
SDA	0	2	0	0	1	1
Total	20	32	39	2	40	4

Figure 2: **Education of respondents**
Source: Field Survey, 2018.

In figure 2, the educational levels of the respondents have been presented. It can be seen from the figure that majority of the respondents had had some level of formal education; thus, from basic school to tertiary level. From the figure, 40 pregnant women representing 29.20% of the respondents had been to a university. Out of the 40 pregnant women who had attended a university, 29 (21.17%) were from the TTH with the least of 1(0.73%) recorded at the SDA Hospital. The remaining ten (10) respondents which represent 7.30% were recorded at the Tamale West Hospital.

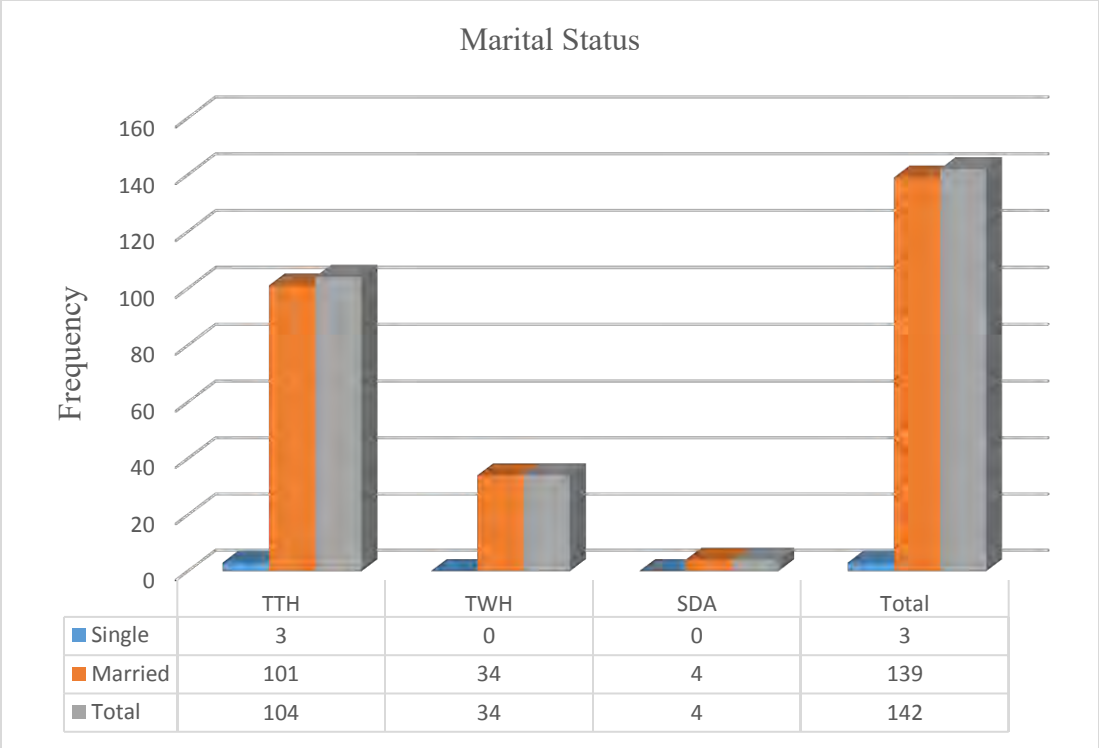
Twenty-five representing 18.25% were recorded to have been to SHS at TTH. No respondent was recorded in this category at the SDA hospital with a total of 39(28.47%)

reporting to have attended SHS. There were two respondents who also had attended Polytechnic with a Diploma certificate. There were 20(14.60%) who did not have any education at all with 4(2.92) respondents having other forms of education.

4.3.3 Marital Status

Marriage is a union between two people, it goes a long way to unite both families of the two partners involved. The findings, however, revealed that some of the women were not married even though the figure was insignificant compared to those who were married. This segment of pregnant women was those who had dropped out of school and young girls who had no form of education and were engaged in unhealthy relationships.

Figure 3 presents the distribution of the marital status of pregnant women sampled for the study in Tamale metropolis.



	TTH	TWH	SDA	Total
Single	3	0	0	3
Married	101	34	4	139
Total	104	34	4	142

Figure 3: Marital status of respondents
Source: **Field Survey, 2018**

From figure 3, it can be seen that majority of the respondents (139) representing 97.89% were married with the remaining 3(2.11%) being single. This single group of respondents were recorded only at TTH with zero recorded for the Tamale West Hospital and the Seventh Day Adventist Hospital.

4.3.4 Occupation

The profession or job description of pregnant women was also considered in trying to capture the demographic characteristics of respondents, being employed would also mean being capable of absorbing the cost of some expenditure such as the cost of ultra-scan, medication, transportation and feeding. When one is gainfully employed, then a healthy lifestyle is better assured. Figure 4 shows the occupation of pregnant women sampled.

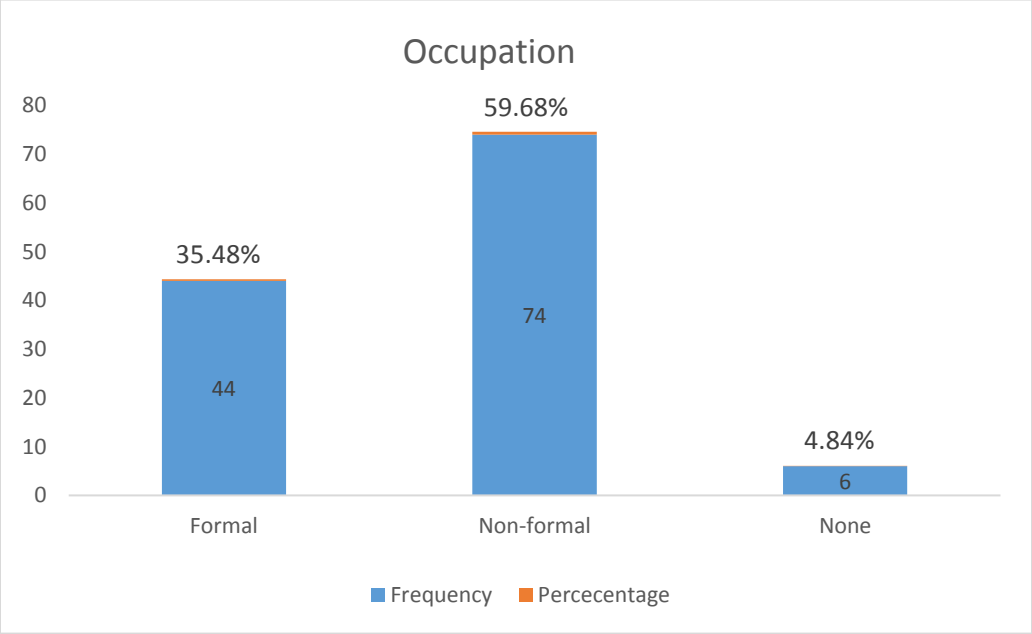


Figure 4: Occupation of respondents
Source: Field Survey, 2018

Most of the respondents reported that they were either working in the formal or informal sector with a few of them reportedly not working at all. One hundred and twenty-four (124) pregnant women responded to the question of occupation with the remaining 24 choosing to abstain. Out of this number, 74 (59.68%) were employed in the informal sector which forms the majority as is the case generally in the country. 44 (35.48%) of them were employed in the formal sector with the remaining 6(4.84%) not employed at all. The formal sector had such jobs as teaching, civil and public servant among others. The informal sector comprised of trading, dressmaking, farming and many more. Those who were not employed by either the formal or informal sector consisted mostly of housewives.

4.4 Frequency of Antenatal Visits

The frequency of antenatal visit goes a long way to avoid complications and reduce maternal mortality. The more a pregnant woman visits antenatal the more she becomes information sufficient. Figure 5 presents the frequency of antenatal visits by sampled pregnant women.

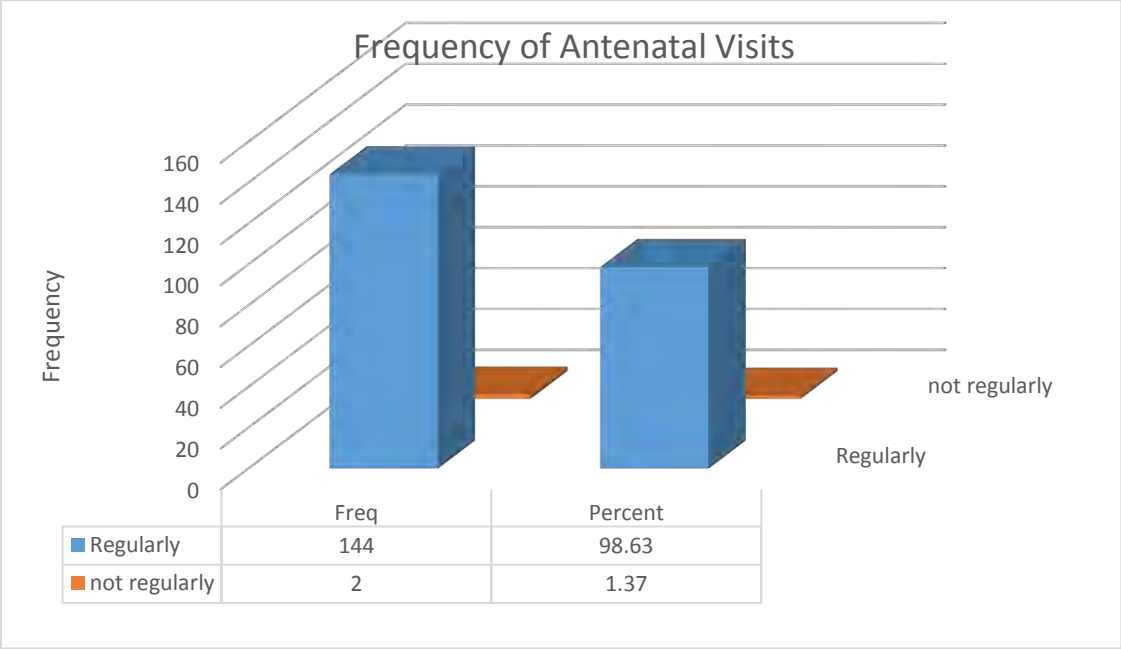


Figure 5: Frequency of antenatal visits by pregnant women
Source: Field Survey, 2018

Figure 5 represents the frequency of antenatal visits as reported by pregnant women. It can be observed from the figure that 144 (98.63%) of the respondents attended antenatal sessions regularly during the period of pregnancy. Two respondents representing less than 2% (thus 1.37%) of the respondents reportedly did not attend antenatal sessions regularly. This means that pregnant women have sufficient information since they attend antenatal regularly.

4.5 Information Needs of Pregnant Women

Everybody has information needs and these needs also vary from person to person. Pregnant women have needs and these needs may be unfelt to people who are not pregnant. Needs of pregnant women comprises of having a healthy baby, medication, diet, sex relationship, complications and labour to mention but a few. The first objective of this study was to examine the information needs of pregnant women attending antenatal clinic in Tamale Metropolis. This objective was addressed in two parts. The first part presents the ratings of the needs in all three (3) hospitals and the second part presents the mean scores after the ratings from these hospitals.

Table 4. 1: Information needs of pregnant women across the three Hospitals in Tamale Metropolis.

Information needs	Hospital	Highly important	Important	Not important	Don't know	Total
		Freq.	Freq.	Freq.	Freq.	Freq.
Healthy baby	TTH	100	2	0	6	108
	TWH	31	0	0	4	35
	SDA	3	1	0	0	4
Diet	TTH	78	24	0	6	108
	TWH	22	8	0	5	35
	SDA	2	0	0	2	4
Sickness/ Complication	TTH	69	18	5	16	108
	TWH	26	1	2	5	34
	SDA	2	0	0	2	4
Labour and delivery	TTH	69	17	13	9	108
	TWH	23	2	3	6	34
	SDA	1	1	0	2	4
Medication	TTH	66	29	4	9	108
	TWH	19	9	0	7	35
	SDA	2	0	0	2	4
Household chores	TTH	26	16	38	28	108
	TWH	7	7	9	11	34
	SDA	2	0	0	2	4
	TTH	22	17	46	23	108

Sex relationship	TWH	8	8	9	9	34
	SDA	1	0	1	2	4

Source: Field Survey, 2018

A total of seven (7) needs were put to the respondents to assess. These information needs include; healthy baby, diet, sickness and/or complications during pregnancy, labour and delivery, medication, the amount of household chores to do during this pregnancy and sex relationships. Table 4.1 represents the needs of pregnant women sampled for the study in Tamale Metropolis. From table 4.1, it can be seen that a total of 148 respondents assessed the importance of the various information needs as presented to the respondents during pregnancy. On the issue of giving birth to healthy babies, out of 148 respondents, 100 (68.03%) pregnant women at the TTH rated it as highly important, 2(1.36%) rating it as important with 6 (4.08%) unable to rate this need. However, no respondent considered the need as not important. Similar observations were made at the TWH and the SDA hospital with 31(21.09%) and 3(2.04%) rating this need as highly important respectively. On diet, 78(53.08%) of the respondents at TTH considered this need as also highly important, 22(14.97%) at the TWH reported same need as highly important with 2(2.04%) at SDA expressing same opinions about the need. For respondents who considered the information on diet as important, 24(16.33%) were at the TTH, 8(5.44%) at the TWH and none at the SDA hospital. The importance of the above two needs cannot be over-emphasized in the lives of pregnant women, therefore, their rating of these two was not unexpected.

Information on how much household chores to do during pregnancy and also, on sex relationships were rated relatively lower than the earlier ones. In this regard, a total of 42(28.14%) at TTH, 14(9.58%) at the TWH and 2(1.37%) at the SDA hospital rated it as an important information need to have access to during pregnancy. Majority 66(45.21%) at the TTH, 20(13.69%) at the TWH and 2(1.37%) at the SDA hospital rated it as a not important information need during pregnancy. Likewise, information on sex relationship was generally considered as not important in all the three hospitals. At TTH a total of 39(26.71%), 16(10.96%) at TWH and 1(0.68%) at SDA hospital reported that this was an important information need during pregnancy. In terms of rating the need as not important, 69(47.26%) at TTH, 18(12.32%) at TWH and 3(2.05%) came to this conclusion. Largely, all the information needs respondents were asked to rate were considered and rated as important.

4.5.1 Evaluating Information Needs of Pregnant Women by Mean Scores

No information is irrelevant. Information which is important to someone may not be important to another person. However, not all sources of information are reliable. In trying to evaluate the needs of pregnant women, currency, relevance, and reliability of information were. Table 4.2 shows the various needs of pregnant women and the corresponding mean score. This was to show in order of priority which needs comes first.

Table 4. 2: Information needs of pregnant women ranked by mean score.

Information need	Highly important	Impor -tant	Not important	Don't know	Total	Mean Score	Rank
Healthy baby	134	3	10	0	147	2.80	**1st**
Diet	102	32	13	0	147	3.28	**2nd**
Sickness/ Complication	97	19	7	23	146	3.66	**3rd**
Labour and delivery	93	20	16	17	146	3.67	**4th**
Medication	87	38	4	18	147	3.68	**5th**
Household chores to do	35	23	47	41	146	5.42	**6th**
Sex relationship	31	25	56	34	146	5.49	**7th**

Source: Field Survey, 2018.

The ranking of information was on seven (7) key issues. These included having a healthy baby, diet, how much household chores to do among others. Mean scores were calculated for each need with the least mean score ranked the most important and the highest mean score ranked as the not so important. Information on having a healthy baby was ranked as the most important need by most of the women. One hundred and thirty-four (134) and three (3) women ranked healthy baby as highly important and important needs respectively. This was ranked as the first most important need.

Information on diet was ranked as the second most important need by the majority of the pregnant women. Out of hundred and thirty-four (134) women, 102 ranked information on diet as highly important and 32 ranked information on diet as important.

Information on sickness and/or complication during pregnancy was the third highly ranked need. Ninety-seven (97) respondents ranked it as a highly important need, 19 ranked it as an important need and seven (7) ranking it as not important.

The amount of household chores that a pregnant woman should do during this period was ranked as the sixth (*6th*) important information need.

Sex during pregnancy is not always guaranteed because of the unpredictable nature of the condition. The least ranked important information need was sex. This was not surprising that it has been rated as the least of the needs. The above list and analysis is a general reflection of what pregnant women consider as most important and what is least important at the various stages of pregnancy.

4.6 Sources of information

Sources of information means home of knowledge, the bases on which knowledge is gathered. Sources that serve pregnant women with health information must be scrutinized since pregnant women find themselves in life-threatening and fragile condition.

Table 4.3 represents the various sources and frequencies available to pregnant women across the three hospitals as the researcher sought to do in objective 2.

Table 4. 3: Sources of information for pregnant women.

Source of information		Tamale Teaching Hospital	Tamale West Hospital	SDA Hospital	TOTAL
		Freq.	Freq.	Freq.	Freq.
Antenatal Lessons	No	19	5	0	24
	Yes	90	30	4	124
Midwives/Nurses	No	29	11	0	40
	Yes	80	24	4	108
Doctor	No	25	8	4	37
	Yes	84	27	0	113
Relatives/friends/ Peers	No	19	7	1	27
	Yes	90	28	3	121
TV/Radio programmes	No	74	19	4	97
	Yes	35	16	0	51
Internet	No	89	28	4	121
	Yes	20	7	0	27
Visitations by midwives/nurses (Outreach)	No	106	35	4	145
	Yes	3	0	0	3
Newspapers and popular magazines	No	107	33	4	144
	Yes	2	2	0	4

Source: Field Survey, 2018.

A total of 124(83.78%) of the overall sample 148 attended antenatal lessons in the 3 hospitals. Out of this number, 90(60.81%) were recorded at TTH; 30(20.27%) were recorded at TWH with the remaining 4(2.70%) at SDA hospital. In terms of seeking information from midwives/nurses, 80(54.05%) respondents used this medium at TTH; 24(16.22%) at the West Hospital and 4(2.70) at the SDA hospital. Forty (40) respondents representing 27.03% however, did not use this medium to seek information.

In respect of using the doctor as a source of information, a total of 113, representing 75.00% used this source. This number comprises 84(56.76%), 27(18.24%) and 0 from TTH, TWH and SDA hospital respectively. The Internet also recorded a frequency of 121 respondents

who did not use the internet as a source, with 89(60.14) from TTH, TWH 28(18.92) from TWH and 4(2.70) from SDA. Only 20(13.51) made use of the internet at TTH, 7(4.73) TWH and SDA recording 0(0.00).TV/Radio programmes also rated quite high in terms of non-use. Out of the 148 respondents, 74(50.00%) at TTH, 19(12.84%) at TWH and 4(2.70%) at SDA reportedly did not use this medium to seek information. Relatives and friends recorded a total of 121 across the three hospitals with 90(60.81) at TTH, TWH 28(18.92) and SDA 3(2.03) reported using this source.19 (12.84) at TTH, 7(4.73) TWH and 1(0.68) did not use this source. This could mean that they used other forms more to get the same information they needed during pregnancy.

Information from newspaper and popular magazine was rated as the least medium. A total of 144(97.30%) responded in the negative when asked about this information source. The number is made up of 107(72.30%) at TTH, 33(22.30%) at TWH and 4(2.70%) at SDA. This means that only 4(2.70%) reportedly used this medium to seek information.

4.6.1 Measuring sources of information by pregnant women using a Likert Scale.

The ability to search and distinguish between what information best fit what information needs best describes one's evaluation skills and this also means that pregnant women would be able to tell what is good for them if they have some level of knowledge about their needs.

Table 4. 4: Measuring Information Sources using a Likert Scale by pregnant women

Sources of information	Hospital	Highly Important	Important	Not important	Don't know	Total
		Freq.	Freq.	Freq.	Freq.	Freq.
Antenatal lessons	TTH	93	7	0	9	109
	TWH	25	6	0	4	35
	SDA	4	0	0	0	4
Midwives/ Nurses	TTH	67	18	1	23	109
	TWH	20	4	0	11	35
	SDA	4	0	0	0	4
Doctor	TTH	22	73	2	10	107
	TWH	7	15	3	10	35
	SDA	0	0	0	4	4
Relatives/friends/ peers	TTH	19	74	0	16	109
	TWH	4	19	2	10	35
	SDA	1	1	0	2	4
TV/Radio programmes	TTH	9	29	4	66	108
	TWH	6	5	1	23	35
	SDA	0	0	0	4	4
Internet	TTH	9	15	4	81	109
	TWH	5	3	1	26	35
	SDA	1	0	0	3	4
Visitations by midwives/ nurses (Outreach)	TTH	2	5	3	99	109
	TWH	2	0	0	33	35
	SDA	0	0	0	4	4
Newspapers and popular magazines	TTH	1	4	6	98	109
	TWH	1	1	0	33	35
	SDA	1	0	0	3	4

The importance or otherwise of eight (8) information sources were measured by the respondents. These include; antenatal lessons, midwives and/or nurses, doctor, relatives/friends/peers, TV and/or radio programmes, internet, visitation by midwives and nurses (outreach) and newspaper and popular magazines.

Antenatal lessons were considered by most pregnant women as a highly important source of information during pregnancy. At TTH, 93(62.84%) reported that antenatal lessons were highly important source of information during pregnancy. Twenty-five (16.89%) at the TWH also reported such as highly important with all 4(2.70%) respondents at the SDA hospital also coming to the same conclusion. Seven (7), representing 4.73%, 6(4.05%) at the TWH and none at SDA rated the source as an important source of information during pregnancy. In all 13(8.78%) could not rate the source across all hospitals.

In respect of midwives/nurses, 67(45.27%) rated this source as highly important at TTH. A total of 20(13.51%) at TWH rated midwives/nurses also as highly important source of information with all respondents 4(2.70%) at SDA concluding same. Eighteen (18) pregnant women, representing 12.16% rated midwives/nurses as important at TTH, 4(2.70%) at TWH and zero (0) at the SDA hospital. Collectively, 91(61.48%) of the respondents rated midwives as a highly important source of information with 22(14.86%) rated the said source as important.

Regarding the measurement of information from doctors, 22(15.07%) at TTH, 7(4.79%) at the TWH and zero (0) at SDA hospital rated it as highly important. Majority rated this source as important. This consists of 73(50.00%) at TTH, 15(10.27%) at the TWH and no one (0) at the SDA hospital. Collectively, 88(60.27%) of the respondents rated the doctor as an important source of information rather than highly important reported for antenatal lessons and midwives/nurses.

The internet, outreach and newspapers and popular magazines were the least reported sources of information. At TTH, 81(54.73) could not measure the internet as a source of information probably because they hardly used this medium to seek information. At TWH, 26(17.57%) could not do same with 3(2.03%) at SDA. In all, 115(77.71%) reportedly considered and rated the internet as a not important source of information during pregnancy but the remaining less than 25% thought otherwise.

Majority of 136(91.89%) could not also measure visitations by midwives/nurses (outreach) as an information source during pregnancy. A probable reason could be that these respondents did not use this medium of information during pregnancy and therefore, they were unable to evaluate same. That breakdown of this statistic is as follows; Ninety-nine (99) respondents, representing 66.89% at the TTH came to this conclusion; 33(22.30%) at the West Hospital and 4(2.70%) at SDA. Newspapers and popular magazines also recorded low rating. Collectively, 135(90.55%) across all three (3) hospitals probably did not use this medium of information and therefore were unable to rate it.

4.6.2 Evaluating information sources by mean scores

The table shows the various sources used by pregnant women which were ranked using mean score.

Table 4. 5: Ranking of sources of information by pregnant women using mean score

Sources	Highly important	Important	Not important	Don't know	Total	Mean Score	Rank
Antenatal lessons	122	13	0	13	148	2.09	**1st**
Midwives/ Nurses	90	22	1	35	148	2.91	**2nd**
Doctor	29	89	5	23	146	3.60	**3rd**
Relatives/friends /peers	24	94	2	28	148	3.83	**4th**
TV/Radio programmes	15	34	5	93	147	5.38	**5th**
Internet	15	18	5	110	148	5.61	**6th**
Visitations by midwives/nurses (Outreach)	4	5	3	136	148	6.27	**7th**
Newspapers and popular magazines	3	5	6	134	148	6.31	**8th**

Source: Field Survey, 2018.

The table examines how pregnant women evaluate the various sources of information during pregnancy. This was measured with the help of a 4-point Likert scale rating from highly important to don't know which represents people who are unable to rate the sources or having not used such sources. In this analysis mean ranks were generated and the least score/rank represents the source which was ranked as the most important with the highest scored source being the least ranked in terms of importance. From the table, antenatal lessons with a mean rank of 2.09 was ranked as the highly or most important source of information by pregnant women. Out of the total of 148 respondents who ranked this source, 122 of them concluded that antenatal lessons were the most important with 13 of them reporting that it was important. Also, 13 could not rank this source with no pregnant woman reporting it as unimportant. The

second most important ranked source of information was midwives and/or nurses; this source with a mean score of 2.91 was ranked by 90 pregnant women as highly important with only 1 woman ranking it as not important. The Doctor as a source was ranked third with highly important point of 29 and a mean score of 3.60. Relatives and friends with a mean score of 3.83 was reported as the fourth most important source. TV/Radio programmes was recorded as the fifth most important source with a mean score of 5.38.

The internet with a mean score of 5.61 was reported as the sixth most important source of information by the pregnant women. This is because most of the women (136) did not use this source or are indifferent about how to rank this source. Out of the total, 15, 18 and 5 ranked this source as highly important, important and not important respectively. Visitations by midwives and/or nurses was ranked after internet. Only 4, 5 and 3 women reported this source as highly important, important and not important respectively. Finally, the least important source of information per the assessment of the respondents was newspapers and popular magazines. This source with a mean score of 6.31 was ranked by 3 women as highly important, by 5 as important but with the majority (134) ranking it as don't know. Summarily, most of the respondents ranked antenatal lessons, midwives and/or nurses and doctors as the top three (3) important sources of information.

4.6.3 Evaluating the use of sources of information and level of education

There were a number of sources available to pregnant women and it is of importance to evaluate these sources to establish whether there was some relationship between the sources and the level of education by these pregnant women sampled for the study.

Table 4. 6: Evaluating the use of sources of information and education

Source of information	Education	No	Yes	Pooled	Sig.
Doctor	None	4	16	20	**2.87**
	Basic	6	26	32	
	SHS	10	29	39	
	Diploma	0	2	2	
	Tertiary	10	30	40	
	Others	2	2	4	
Antenatal lessons	None	3	17	20	**2.34**
	Basic	4	28	32	
	SHS	6	33	39	
	Diploma	1	1	2	
	Tertiary	6	34	40	
	Others	1	3	4	
Internet	None	19	1	20	**36.18*** **
	Basic	31	1	32	
	SHS	37	2	39	
	Diploma	1	1	2	
	Tertiary	21	19	40	
	Others	3	1	4	
Relatives/ friends/ peers	None	3	17	20	**12.81** **
	Basic	4	28	32	
	SHS	6	33	39	
	Diploma	2	0	2	
	Tertiary	8	32	40	
	Others	2	2	4	
Midwives/Nurses	None	5	15	20	**15.91*** **
	Basic	4	28	32	
	SHS	12	27	39	
	Diploma	0	2	2	
	Tertiary	14	26	40	
	Others	4	0	4	
Newspapers and popular magazines	None	19	1	20	**8.25**
	Basic	32	0	32	
	SHS	38	1	39	
	Diploma	2	0	2	
	Tertiary	39	1	40	
	Others	3	1	4	
TV/Radio programmes	None	11	9	20	**7.90**
	Basic	25	7	32	
	SHS	22	17	39	
	Diploma	2	0	2	
	Tertiary	25	15	40	
	Others	4	0	4	
Community visitations by	None	18	2	20	**17.94*** **
	Basic	32	0	32	

midwives/nurses (outreach)	SHS	39	0	39	
	Diploma	2	0	2	
	Tertiary	40	0	40	
	Others	3	1	4	

**** & *** are significant levels of 5% and 1% respectively**
Source: Field Survey, 2018.

Table 4.6 represents the sources of information used by pregnant women and examines if any relationship exists between the use of these sources and the levels of education of the respondents. A total of one hundred and five (105) respondents representing about 77% of the total sample got their information on various issues during pregnancy from doctors with thirty-two (32) of them probably using other source(s). A chi-square analysis was conducted to see if there was any significant difference between the use of Doctors as a source of information and the educational levels of the respondents. This, however, was insignificant even at 5%, which implies that there are no differences in the use of the doctor as an information source regardless of the education of the pregnant women (**chi-square= 2.87; prob = 0.719**).

From the table, respondents who sought or received information from antenatal lessons/classes, one hundred and thirty-seven (137) respondents were considered in this category. One hundred and sixteen (166) representing about 85% attended antenatal lessons with 21 (15.33%) responding in the negative. But it is important to emphasize the fact that the majority of the people who frequented antenatal classes had been people who had had some form of formal education. Even though education was not a determining factor in their decisions to attend antenatal sessions, most of the respondents going to antenatal lessons had been to school with the highest of them (42) attending up to the tertiary level which could either be the Polytechnic or a University. However, there was no significant difference

between education and antenatal source of information even at 5% (**chi-square = 2.34; prob = 0.800**).

The internet was one of the leading channels through which one can access information and due to information overload, pregnant women find it difficult to choose from the many options given online. To be able to effectively identify information which will be of importance, one needs some literacy skills and not all elites possess that. The results from the table indicated that there were significant differences between the uses of information by pregnant women with respect to the internet. This is anticipated because to be able to use the internet you must possess some level of literacy. Out of the total of 25 educated pregnant women who use the internet during the various stages of pregnancy, 19 of them had tertiary education. The levels of education of pregnant women had significant influences in their decision to use the internet to seek information during the various stages of pregnancy (**chi-square= 36.18; prob = 0.000**).

Also, in the table, any relationship that could exist between education and information from relatives/friends/peers by women during pregnancy was tested. A total of one hundred and twelve women reported using relatives, friends, and peers as a source of information during pregnancy with 25 of them using other sources other than relatives. A chi-square analysis of these sources and education came out significant indicative of the fact that there were significant differences between using this source of information and education (**chi-square = 12.81; prob = 0.000**) This is probably because of the fact that the most available people we can talk to in times of needs are relatives and friends even before we seek professional advice. Majority of the people who used this medium of information have been to at least second cycle schools with 32 of the total number attending tertiary.

Midwives/nurses have more contact with pregnant women than any other health worker and therefore, their role in a pregnant woman's life cannot be over-emphasized. A total of one hundred and thirty-seven (137) respondents were in this category; 98 reported that this was their source of information during pregnancy with 39 saying they used other sources other than the midwives/nurses, 28 of the women who used or sought information from midwives had had basic education with 16 of them having had tertiary education. Equally 14 of the respondents who did not use this source were people who had tertiary education and may be using other sources in getting their information. A chi-square test was used to determine if there were any significant differences between education and midwives and it turned out positive which means that the levels of education by pregnant women had a role to play in their decisions to seek information from midwives and/or nurses (**chi-square = 15.91; prob = 0.007)**.

A total of one hundred and thirty-seven (137) respondents completed the questionnaire in this category. Four respondents 4(2.92%) reported using this medium to seek information. Nearly all (97.08%) the respondents reported using sources other than newspapers and popular magazines. This may be due to the fact that contents of newspapers and magazines are mostly on other social and political events which sell quicker than news for pregnant women. In cases where there is even information for pregnant women, they are so inadequate that one is discouraged from using such sources. The chi-square analysis revealed that there are no significant differences between education and seeking information from newspapers and magazines. In other words, education does not play any significant role in a pregnant woman's decision to seek information from a newspaper or a popular magazine (**chi-square = 8.25; prob = 0.14**).

A comparison was made with respect to education of pregnant women and their decisions to seek information from television and radio programmes. From the total of 137 pregnant women, 89 (64.96%) reported that they did not seek information from these sources, with 48 (35.04) responding in the affirmative to these sources. Out of the 49 who used the medium to seek information, 17 had been to secondary school with 15 of them reportedly attaining education up to the tertiary level. Also, out of the 89 who did not use these sources; 18.25% of them had been to basic school with the same proportion going up to the tertiary level. There was, however, no significant differences between the education of pregnant who sought information from television and radio programmes. This is to say that, the decision to seek information from television and radio programmes was not dependent on whether one had been to school or not (**chi-square = 7.90; prob = 0.162)**.

The relationship between education and community visitations by midwives and/or nurses was examined as the last component. From table 3, only 3 people reported having used this medium to seek information during pregnancy. The remaining one hundred and thirty-four (134) reported using other sources than outreach to seek for information during pregnancy. Though there were only 3 women who reportedly used community outreach to seek information, there was a significant difference between respondents in terms of their decision to use this medium. This is to say that in their decisions to seek information from visitations by midwives and nurses, education was a major factor (**chi-square= 17.94; prob = 0.003)**.

4.7. Information seeking

In seeking information, one would need a source of information. Information seeking simply means trying to find a solution to a question by way of exploring all avenues of information

sources. Pregnant women in Tamale metropolis sought health information from brochures, poster/fliers, antenatal lessons, Doctors, Midwives/nurses, relatives and friends, Television and radio stations and many others. In trying to meet objective three, the researcher examined how these pregnant women sought information by way of using the various trimester against the sources of health information for these pregnant women.

Table 4.7 presents the stages of pregnancy at which respondents seek information from the various sources.

Table 4. 7: Information seeking by pregnant women

Source of information		Stages of pregnancy			
		First Trim	Second Trim	Third Trim	Pooled
Antenatal lessons	Yes	111	10	1	122
	No	17	3	0	20
Midwives/Nurses	Yes	96	7	1	104
	No	32	6	0	38
Doctor	Yes	101	9	1	111
	No	27	4	0	31
Relatives/friends/ Peers	Yes	108	10	1	119
	No	20	3	0	23
TV/Radio programmes	Yes	41	8	1	50
	No	87	5	0	92
Internet	Yes	25	2	0	27
	No	103	11	1	115
Visitations by midwives/nurses (Outreach)	Yes	3	0	0	3
	No	125	13	1	139
Newspapers and popular magazines	Yes	4	0	0	4
	No	124	13	1	138

Source: Field Survey, 2018.

Data collected from the respondents revealed that majority of the women 111(78.17%) took antenatal lessons in the first trimester of pregnancy thereby seeking information at their early

stage of pregnancy, 10(7.04%) percent took the same lessons in the second trimester with less than one percent 1(0.70%) taking lessons in the third trimester of pregnancy.

Out of the 104 respondents who sought information from midwives and/or nurses during pregnancy, about 68% of them did so in the first trimester, about 5% sought information in the second trimester again, with about 1% seeking information in the third trimester of pregnancy. A total of 111 respondents revealed that they sought information from a doctor at the different stages of pregnancy. Out of the number, about 71% of them did so during the first stage whereas some 6% did so in the second stage of pregnancy with a less than one percent (0.70) doing so in the third stage. From the analysis so far, one can conclude that the importance of information during the stages of pregnancy is considered very crucial and therefore, respondents had to put in enough effort to seek information early in order to stay healthy during the period.

In terms of sources that were not mostly used by these respondents during pregnancy, the internet, visitations by midwives and/or nurses and newspapers and popular magazines were reported. A total of 115 revealed that they did not use the internet either in the first, or second or the third trimesters. This number is made up of about 73% in the first trimester, about 8% in the second trimester and about 1% in the third trimester.

4.8 Challenges Encountered in Seeking Information

Pregnant women encounter so many problems due to their condition. Pregnancy comes with its own challenges such as miscarriages, fatigue, swollen feet, vomiting to mention but a few. Some other factors may include the attitude of some health professionals towards pregnant women considered immoral, expenditure such as medication, transportation, scan and so on.

Despite all these challenges, women still go ahead to endure the pain in order to have their newborn babies. The challenges were researched in order to unearth problems encountered by respondents in their quest for information on various issues during pregnancy and also to meet objective four of the study.

Table 4. 8: Challenges in seeking information

Challenges	**TTH**	**%**	**TWH**	**%**	**SDA**	**%**	**Total**	**%**
Financial	14	**17.72**	2	**2.53**	0	**0.00**	16	**20.51**
Rude attitudes of midwives	20	**25.32**	5	**6.33**	0	**0.00**	25	**32.05**
Unreliable network access	5	**6.33**	1	**1.27**	0	**0.00**	6	**7.69**
Important information in English	5	**6.33**	1	**1.27**	0	**0.00**	6	**7.69**
Inadequate midwives causing delays in attending to us	10	**12.66**	3	**3.80**	0	**0.00**	12	**15.38**
Others	11	**13.92**	2	**2.53**	0	**0.00**	13	**16.67**
Total	**65**	**82.28**	**14**	**17.72**	**0**	**0.00**	**79**	**100.00**

Source: Field Survey, 2018.

The results from the table indicated that the majority constituting 16(20.51%) of the respondents reported that financial constraint was a problem hindering them from seeking information. This was made up of 14(17.72%) at TTH, 2(2.53%) at TWH and zero (0) at SDA hospital. The most reported challenge was the rude attitudes of midwives and other health workers. A total of 25(32.05%) of the respondents at TTH and TWH reported this as an obstacle in their pursuit of information. This number is made up of 20(25.32%) at TTH and 5(6.33%) at TWH. Other challenges stated were the unreliable network situations, vital information printed in English and/or local language making it a challenge for a small section

but considered significant by the researcher and inadequate number of midwives to attend to pregnant women.

4.9 Interview with a midwife at Seventh Day Adventist hospital

Midwife S from SDA hospitals was interviewed for the purpose of this research since midwives form part of the sample. Seventh Day Adventist Hospital is a missionary hospital established to cater for the health needs of the people of the Tamale Metropolis.

An in-depth interview was conducted with midwife S at the Seventh Day Adventist Hospital using an interview guide. The same question distributed to the pregnant women were used together with a set of questions used as an interview guide. The researcher explained what the questionnaire entailed to the midwife. This helped in deepening the understanding of the whole process. The researcher began the interview by asking the midwife S of the SDA Hospital what the needs of pregnant women were and she responded by saying.

… *"Some pregnant women are ignorant, they don't know that they have needs and some just listen to the lessons at antenatal but when they don't understand what is being taught and when you ask them if they understand they will say yes. We are able to tell when the understanding is not there especially when we ask them questions"*

The major needs of pregnant women were outlined for them to determine which ones they sought information on and as a result finds as pressing needs and these included; healthy baby, diet, medication, how much chores a pregnant woman should do and sex relationship with their partner. What is your take on that?

… *"All the needs stated above were essential and pregnant women were educated on each of them. There are a number of them that can be avoided if behavioural care is taken into*

consideration. For instance, if a pregnant woman eats well, there will be no need for medication, diseases such as anaemia and gestational diabetes will be avoided. Some cases also result in complication due to improper behavioural attitudes such as the indiscriminate taking of drugs, not eating a well-balanced meal, and not exercising enough".

Midwife S was also asked about how these pregnant women seek information and she responded by saying

… *"Majority of pregnant women living in Tamale Metropolis get their health information from the antenatal. She said, most of them are taught here in ANC because if you leave them to practice what relatives say, we will always endanger their lives even though some teachings given them by relatives may be right*" Midwife S was again asked about sources of information for pregnant women and she responded by saying

… *"The main source of information for our pregnant women is the lessons they take at ANC. Even though there are other sources but what we provide them is current, relevant, and authentic. We always encourage them to take the lessons seriously since it will prevent complications thereby making our work less stressful".*

Challenges pregnant women face in accessing information was of prime interest to the researcher and when midwife S was asked about the challenges pregnant women face in accessing health information, this was what she had to say:

… "*Some diseases that are associated with pregnancy is one problem pregnant women face. Anaemia is one, they also suffer from excessive vomiting, UTI and preeclampsia, and eclampsia. Anaemia occurs when a pregnant woman lacks or do not have enough blood. During pregnancy, most pregnant women become anaemic because the baby at a point begins to extract blood for him or herself. The baby will not say that my mother has not got enough*

blood so let me leave some for her, the baby will also do everything possible to survive. So, if a pregnant woman does not eat well then it becomes a problem. UTI is also common among pregnant women, sometimes it is as a result of delay in labour. When labour is delayed, the baby's head gets stuck inside the vagina and there's pressure on the anus and the vagina so a hole is created there and you know God didn't create the place like that so after delivery, the place is loose because of the hole. So, if the affected person feels like going to the toilet, by the time she realizes the faeces is out likewise urine"

Midwife S was also asked what her outfit was doing to make sure that relevant information was passed to pregnant women without any constraints and this was the response.

… *"My daughter we tried to do something ooo, we wanted to be hosting a program on radio stations, we began by speaking to some people and heads of organizations to help but it got to a point we realised that it won't work so we decided to hold on small"*.

So why the delay?

… "*hmm, my daughter because of financial issues*"

It was revealed that the Seventh Day Adventist Hospital had no Gynaecologist as at the time this study was undertaken, this was confirmed through my interaction with the administrator of the facility. According to madam E

… "*The Gynaecologist was transferred about three months ago and there have been promised of a replacement but up to date no Gynaecologist has been posted to the hospital*"

4.10 Interview with a midwife at the West Hospital

West Hospital is one other big health facility that serves the health needs of people living in the Tamale Metropolis which pregnant women are not left out. The same questions were posed to the midwife at the West Hospital beginning with the health needs of pregnant women. Midwife W who doubles as the "in charge" meaning the head of ANC told me that,

…"the needs of pregnant women even go beyond what has been spelt out on the questionnaire. Some of their needs could be that their husbands should have been assisting in all aspects of their lives till they deliver but most of them do not get such assistance. More so, since it's a Muslim dominated jurisdiction husbands must be educated on how to pamper their wives if they are pregnant. This goes a long way to assure the pregnant woman of her husband's greatest support".

Midwife W went ahead to say that, "*we try as much as possible to pamper our patient because we have realised that when they come for ANC they are always timid, they are not able to express their feelings thereby making communication difficult".*

How do they seek for information, madam?

… "As for them, it is the antenatal lessons that help them. Most of them are punctual and are regular attendants of the antenatal so as for the seeking, it is not difficult at all, they are well educated".

What are some of the sources of information for pregnant women if I may ask?

… "*Apart from their relatives which I know forms part of their sources, the antenatal lessons and we the midwives here also contribute to their sources".*

How do pregnant women differentiate between information given to them from all sources?

… "*You know all hands are not the same. Even though some are educated and some are not. Majority of them may not be able to tell whether this one is right or better than the other sources. However, they are made to understand that we are professionals and we try to do everything possible to win their trust, hence the lessons given them are what they always use to confirm whatever information they get outside the antenatal"*

If you want to outline some challenges these pregnant women go through, what do you have to say?

… "*The lack of a Gynaecologist is a challenge, meanwhile there are so many Gynaecologists at the Tamale Teaching Hospital. The pregnant women also find it difficult to approach the midwives here, they feel we are better than them and because some are also not highly educated, they feel intimidated. If you ask me about the diseases that affect them, it is the common ones such as UTI, anaemia, preeclampsia".*

4.11 Interview with a midwife at Tamale Teaching Hospital

The Tamale Teaching Hospital is the only teaching hospital in the three northern regions. The facility doubles as a referral centre which puts pressure on the staff working in the hospital.

What are the needs of your patients or can you confirm all that has been spelt out as needs of your patient?

… "*Oh yes. Can I choose"* Said the midwife and I said you can pick one after the other and explain.

… "*Okay, we educate them on things that you can do to have a healthy baby. The diet too, we tell them to eat well especially the leafy foods, fruits and proportional intake of protein because*

these are the key issues they want. We also advise them to take their medication because no matter how well you advise them to eat some will not conform to the rules. Others would like to but the loss of appetite associated with pregnancy will not permit them to eat well. Complications and labour issues are also discussed so that if a pregnant woman sense danger she can quickly rush to the hospital and when in labour too signs that will prompt a pregnant woman that she's in labour are all taught".

Madam please what do you have to say about how much sex to have?

… "*We always advise them that once you don't have any special case you're at liberty to sex yourself, this even comes with easy delivery since it opens the uterus for the baby to come out without suffering".*

Do you have a gynaecologist?

…"yes"

What are the Challenges faced by pregnant women?

… "*Hyperemesis thus excessive vomiting during pregnancy is often seen during the first trimester and when we realise that it's too much a problem for the pregnant woman to bear we give the woman anti-emetics to avoid the vomiting".*

"Pregnancy-induced hypertension which can sometimes lead to high blood pressure and this often occur after twenty weeks of pregnancy. After (5months) if it's detected that it is not as a result of the pregnancy then the patient is referred to the Gynaecology".

"Preeclampsia; this is as a result of high blood pressure and protein in urine coupled with other factors. Gestational diabetes does occur also during pregnancy except for hyperemesis the result may resolve or remain with you forever".

Any project to enhance the flow of information to pregnant women?

"*Yes, but the project has not commenced yet, it's called correlating neonatal thyroid functioning to maternal iodine status.it will involve;*

1. Taking blood samples from newborn (2weeks) mothers' urine.

2. Seek to check thyroid hormones and iodine in the urine kind courtesy professionals". Said midwife T.

4.12 Interview with a Gynaecologist at Tamale Teaching Hospital

Doctor T who is one of the Gynaecologist assigned to the ANC was taken through the questionnaire. The researcher asked if the Doctor can outline some needs and sources of information that pregnant women have. He responded by saying that:

…. "Pregnant women's health issues are our problem, they are a protected society and they are vulnerable in a society; therefore, care must be taken in dealing with their health needs. The needs of pregnant women include issues of miscarriage, having a healthy baby, medication, and diet and so on and I believe the pregnant women themselves have fed you so much on their needs".

"The sources if you ask me I will say that even me I serve as a source of information for the pregnant women. We, Gynaecologists, serve pregnant women with health information which also forms part of their sources. There are other sources such as the relatives and friends, television and radio station, Midwives and Nurses, posters and the magazines which all talk about issues of pregnant women and pregnancy-related issues".

The researcher through personal observation realised that in seeking for information some pregnant women find it difficult navigating through the hospital system. A case which was observed was a pregnant woman who reportedly had a complication and was asked to run a test and when the results were ready this pregnant woman did not want to be maltreated so she decided to ask for help from one of the midwives. This midwife knowing very well the pregnant woman in question was a regular patient threw insult on her saying *"Are you new here? Don't you know where to send your results to when asked to run a test",* Gynaecology T was asked if he had any idea of the cumbersome nature of seeking for information in the hospital by these pregnant women?

... "We the Gynaecologist don't deal with the patients directly unless they have a special case that they will be referred to us. The few that come to me for consultation, I try to find out if they encounter challenges when seeking for health information. Even though they complain about the attitude of some midwives, I try to comfort them and assure them that we will talk to our midwives to behave well towards our patients. Personally, other challenges that they face which I think we have addressed to a large extent is the problem of language barrier. All the necessary health information that they must be fed with were translated into a number of languages and I can assure you that even if it remains a problem, it's even insignificant. But that is not to say that the very few pregnant women are not important. It is our duty to ensure that everyone is served equally".

CHAPTER FIVE

DISCUSSION OF FINDINGS

5.1 Introduction

This chapter discusses the findings with respect to research objectives. The discussion was based on the research objectives of the study and data collected and analysed. The findings as they were presented in the previous chapter, were based on objectives with information on the background of the respondents' information needs, information seeking, and an assessment of the sources of information, likewise challenges pregnant women face in their quest to access information.

5.2 Background information of Respondents

The age distribution of all pregnant women indicated that across the three hospitals there were younger respondents than there were older ones. At TTH 52(36.11%) pregnant women were in the age group 20 – 29 with 23(15.97%) and 2(1.39%) at TWH and SDA hospital respectively. This age group is referred to by most people and some researchers as the golden age for women where it is believed giving birth to children in this age group comes with certain qualities, notable among them is intelligence quotient (higher IQ). It could also be as a result of the higher sexual drive and fertility rates for younger women than it is the case for older women. In the case of Tamale Metropolis, girls who were of school going age and were not in the capacity to get pregnant let alone give birth were given out for marriage. This also explains why there were relatively younger pregnant women in the Tamale Metropolis.

The results indicated that generally, there were more educated pregnant women in the sample than uneducated ones. A total of 40(29.2%) reportedly had tertiary education with 29(21.17%) at TTH, 10(7.30%) at TWH and the remaining 1(0.73%) at SDA hospital. Largely, the level of education by the respondents was quite good as it translated into the majority of them being able to read and write and to decipher information that was written or read to them during antenatal. Also, considering the level of education of pregnant women at the SDA hospital and the overall sample there, one can safely argue that pregnant women who went there were literates. This was plausible because education in the three Northern regions is free from the basic level to the Senior High School level, this however, did not come as a surprise.

Again, the findings from this study revealed that almost all the respondents interviewed were married. About 98% of the respondents were married with only about 2% single. The distribution of this statistic across the hospitals was as follows; 71.13% at TTH, 23.94% at TWH and the remaining 2.82% was recorded at SDA hospital. In the Northern part of Ghana, young girls are given out for marriage notwithstanding the fact that they are not up to the childbearing stage. This, therefore, explains why most of these pregnant women are married.

The trend of occupation revealed in the results was not different from the general observed trend. With the public and formal sector reported choked, more people had engaged in the private and the informal sector. There are such jobs in the informal sector as petty trading, food vending, dressmaking, among a host of others. In the formal sector there are public and civil servants, secretaries at public offices, clerks, teachers and many more. Seventy-four (74) respondents representing 59.68% were employed in the informal sector; 44 representing

35.48% at the formal sector with the remaining 4.84% not employed by any sector at all and these are mostly housewives.

How regularly respondents attended antenatal during pregnancy was considered as a background information as this does not directly address any research objective. The respondents across the 3 hospitals attended antenatal regularly with an overall attendance rate of 98.63% made up of 144 pregnant women. Only 2 reported that they did not attend regularly. The general conclusion here was that the respondents gave priority to attending antenatal lessons and this they do regularly. This was credited to their realization that, going through pregnancy and delivering safely requires constant tutelage and monitoring by midwives and other health workers who are considered professionals.

5.3 Information Needs of Pregnant Women

Information seeking is generally influenced for different people by different situations. The study established that for respondents to satisfy their various information needs, different media were used to get this done. The importance of these sources is rated by the pregnant women and this is discussed under the sub-heading below.

5.3.1 Rating Information Needs

There were seven (7) needs rated by respondents; healthy baby, diet, sickness and/or complications during pregnancy, labour and delivery, medication, the amount of household chores to do during this pregnancy and sex relationships. Most -134(91.15%) of the

respondents rated giving birth to healthy babies as important across all three (3) hospitals. This was not surprising because the heartbeat of an expectant mother is to deliver safely. The safe delivering was not the only important thing to look out for, the health of the baby was also a major concern for these women. Rasheed and Al-Sowielem (2003) also conducted a study on the level of health awareness related to pregnancy and sources of information among pregnant women. Their study established that pregnant women had information need regarding nutrition, exercise in pregnancy, rest in pregnancy, antenatal visits, importance of antenatal, sex position during pregnancy. To conclude that information on giving birth to a healthy baby is highly important by most of the respondents is rightly in order. Another need rated by the majority 102(69.35%) as highly important was information on diet. Safe delivery and healthy babies are not achieved through eating just any kind of food. It is important for pregnant women/expectant mother to eat meals that are balanced. This would ensure that the babies are formed properly and would be well nourished before they are finally brought forth.

Another highly important information need during pregnancy was information on reducing sickness/complications during pregnancy. This need was rated by 97(66.44%) as highly important. This was reasonable because the effect of some sicknesses and/or complications during pregnancy could result in such cases as miscarriage and in some cases, stillbirths.

Other studies have also confirmed that, the most important health information women consider necessary were antenatal care, immunization, six childhood killer diseases, prevention of vascular Fistula, miscarriage, complication, headaches, fear of labour, lack of appetite, and how to safely deliver their babies (Nwangwu and Ajama, 2011; Uloma and Chinyere, 2013). It is therefore important for pregnant women to have information on how to reduce some of

these life-threatening situations, and hence, rating it among the top (3) information needs was highly commendable.

The least rated information needs by pregnant women were; information on the amount of household chores to do during pregnancy and information on sex relationships. Information on the amount of household chores to do during pregnancy was rated by more than half of the respondents as being not important across all three (3) hospitals. A total of 88(60.27%) reportedly did not consider this as important information enough. This may probably be because this kind of information though important does not have any dire consequences for pregnant women in our part of the world. Therefore, more attention was given to other areas which when neglected could adversely affect the health of the pregnant woman and the unborn baby. Also, information on sex relations was considered not important by most of the women. This position is not different from the findings of Rasheed and Al-Sowielem, (2003) who established that most women were up-to-date with some pregnancy issues including sex positions during pregnancy.

In the case of household chores, the respondents did not think that this kind of information significantly affects giving birth safely. Across all three (3) hospitals, a total of 90(61.63%) respondents rated this information as not important. This comprised of respondents who did not know how to rate this and those who actually did rated it as not important. It is clear from the above analysis that, information on giving birth to a healthy baby, information on diet and information on reducing if not avoiding entirely sickness and/or complications during pregnancy are the three (3) most important information needs of pregnant women.

5.3.2 Evaluating information needs of pregnant women using mean score

A more statistical and robust approach to determining the evaluation of the information needs by pregnant women is the use of mean scores. This ranks the needs in order of importance; where the least ranked (the need with the least score is considered the most important and the need with the highest score is considered the least important) is the most important. With a mean score of 2.80, information on a healthy baby was ranked as the highly important of the seven (7) needs assessed. This was ranked by the majority (134) out of the total of 148 expectant mothers. Following this highly important needs was the information on diet. It is a very crucial information need as the outcome of pregnancy is heavily dependent on it. It was not surprising that it was ranked second with 102 out of the total of 148 respondents ranking it as highly important. Lincetto et al (2006) affirmed in their study that, the information pregnant women require during antenatal care include; information on healthy pregnancy, nutrition, and safe delivery of their babies.

The least ranked information need was the information on sex relationship. This has an overall mean score of 5.49 ranking 7th among the needs assessed by the pregnant women. This goes to say that information on sex relationships rarely have any direct effect on the outcomes of pregnancy, therefore, it is not so much considered as important by most (90) respondents (considered as not important). Information on sickness and/or complication during pregnancy, labour and delivery rated third and fourth respectively, with means scores of 3.66 and 3.67. These two were followed in fifth and sixth by information on medication, and information on the amount of household chores to do with mean scores of 3.68 and 5.42 respectively.

5.4 Information Seeking

Information at every stage of pregnancy is important to ensure that the general wellbeing of the pregnant woman is maintained. A total of eight (8) information sources across three (3) trimesters of pregnancy were assessed by pregnant women. The simple case here was to examine at which trimester of pregnancy did respondents used the various information sources. Antenatal lessons, midwives/nurses, doctor, relatives/friends/peers and TV/Radio programmes were the most used sources during the first, second and third trimester of pregnancy.

Several studies in agreement with this study have established that pregnant women with different conditions and backgrounds have different ways of seeking health information to address health challenges during pregnancy and they include; access to the media, access to healthcare professional, cost and women's status in the society.

Pregnant women who are more exposed to the media, for instance, television, radio, internet and the likes are more likely to attend antenatal care than women who are less exposed (Navaneetham and Dharmalingam, 2002; Tsawe et al, 2015). Kabir and Khan (2013) in their study examined the use of antenatal care amongst pregnant women in urban slums in Bangladesh. It was proven that the health-related information was better among pregnant women who regularly used antenatal care than women who did not. They further established that information seeking depended on whether pregnant women accessed antenatal care or not; women who patronized antenatal were considered to have good information seeking capability whiles women who did not attend antenatal care did not have broad knowledge on information seeking. Also, midwives were rated quite high with most of the respondents admitting to using this medium and at the first, second and third trimester of pregnancy.

In furtherance, this study established that a total of 111 respondents sought information from a doctor at the different stages of pregnancy. Out of the number, 71% of them did so during the first stage whereas 6% did so in the second stage of pregnancy with a less than one percent (0.70) doing so in the third stage. In connection with the above, Mpembeni et al, (2007) established that the factors that propel women to seek skilled maternal care is the fear of the unknown and inexperience especially on the part of younger women who have just begun childbearing.

From the above, all the three trimesters were important trimesters during which pregnant women sought information from different sources such as antenatal lessons, relatives or friends, mass media etc.

5.5 Sources of Information

The source of information available to pregnant women was as important as the information itself. According to Anasi (2012), information sources could include media (print and electronic), personal experience, journals and magazines, blogs, opinions, family and peers, brochures and flyers, expert and the web. The sources of information identified in this study relate to Anasi, (2012) definition of information sources. This study assessed the sources of information across the 3 hospitals. Antenatal lessons, relatives/friends/peers, and doctors were the top three (3) sources of information across the three hospitals. At the other end, newspaper and popular magazine source, visitations by midwives/nurses and the internet were the bottom three which were the less used sources of information across the three hospitals.

The frequently used media in accessing information included magazines, newspapers, coupled with printed materials like pamphlets, books, flyers and leaflets (Andreassen et al, 2005). This study is in contrast with the findings of Andreassen et al, (2005). Newspaper and popular magazines sources were rarely used in all three hospitals. Only 4(2.70%) of the respondents used this medium. The larger or nearly the entire population used other means to seek information. In our part of the world, newspapers and popular magazines are expensive and are mostly loaded with stories of celebrities and other entertainment, political or business-related issues which then becomes irrelevant information for pregnant women. It comes as no surprise that this medium was rated amongst the bottom three.

Finally, visitations by midwives in all three hospitals was considered as the sources with the highest non-use ratio. Nearly all (97.97%) of the respondents used other sources rather than waiting to be visited by a midwife or a nurse. This could have been a very useful opportunity for pregnant women to interact more with midwives. This is because, at these outreach programmes, midwives would have more time to attend to most individual and issues confronting them as pregnant women. However, waiting for information only at antenatal sessions would mean that the midwife has lesser time and would only attend to the general needs of her class. In connection with the study, some parts of Africa particularly in the rural communities, information is usually conveyed through songs, drama, role play, stories, town criers and women leaders (Anasi, 2012). For instance, in some parts of Nigeria, health workers use songs and dances to pass on health information to pregnant women as well as nursing mothers on maternal health during the antenatal clinic visits (Anasi, 2004).

5.5.1 Use of Source of Information and level of Education

This section discusses any relationships that exist between education of respondents and the various sources of information used. Education was in five (5) categories as; none, basic, senior high, tertiary and others. The sources considered were eight (8) as listed in the above section. It is believed that the decisions of people to look for information at certain places/sources is influenced by the level of education the individual has gotten. This was put to test in this section in order to provide proof for this assertion.

Several studies have established that women who are well educated are more likely to utilize skilled maternal services than their counterparts who never had the benefit of education (Kamal, 2009; Mpembeni et al, 2007; Fotso et al, 2009; Tsawe e al, 2015).

This study, however, is at variance with the position earlier researchers hold regarding the level of education of women and how it impacts the use of skilled maternal services. In terms of the doctor as source of information, it was concluded that there were no significant differences between education of respondents and the decision to seek information from a doctor. This simply means that one does not need to be educated in order to seek information from a doctor during pregnancy. This is proven by the chi-square value of 2.87 which is insignificant at 1%, 5% and even at 10% significant levels. The same explanation goes for antenatal lessons to seek for information. The revelation from the chi-square analysis is that there was no significant difference between respondents' level of education and the decision to seek information from antenatal lessons. A simple interpretation was that the decision to use antennal lessons as a source of information was not dependent on whether one has been to school or not and that

information that was provided for respondents was not determined by the level of education of the respondent.

Newspapers and popular magazines likewise, TV/Radio programmes also had no significant difference between them and the decision by respondents to use such sources. Overall, four (4) out of the eight (8) sources of information used by respondents were not used based on their levels of education. In terms of those with education playing a role in the use of such sources, the internet, relatives/friends/peers; midwives/nurses and community visitations by midwives and/or nurses were significant. With a chi-squared value of 36.18, significant at 1%, the findings from the study established that there are significant differences between the level of education of pregnant women and the decision to use the internet as an information source. This has been established in earlier studies that, women who have higher education tend to utilize health information because they are able to read and understand the benefits of skilled maternal services and may also be exposed to the media which provides them with sufficient knowledge on the significance of skilled maternal services as well as where to get health information (Raghupathy, 1996; Mpembeni et al, 2007).

Another source that was tested and was reported to influence the decisions of pregnant women was relatives/friends/peers. A chi-squared value of 12.81 significance at 5% is indicative of the fact that there are significant differences between education and the choice of relatives/friends/peers as a source of information. For instance, a study done by Raghupathy, (1996) established that women who have attained higher levels of education have greater decision-making power when it comes to their health information utilisation which increases

their level of confidence when it comes to making decisions that affect their health and that of their child.

The choice of midwives/nurses as a source of information was found to be influenced by education of respondents. The chi-squared test established that a significant difference existed between education and midwives/nurses with a test value of 15.91 significant at the 1% level. It was also established that there is a relationship between community visitations by midwives/nurses and the levels of education of pregnant women. The general conclusion from this analysis is that two (2) of the top three (3) sources of information have some relationship with the levels of education of the pregnant women interviewed at all the hospitals.

5.5.2 Rating Sources of Information

This was done to examine how respondents rated the sources of information in the three hospitals. The scale for this measurement was a 4-point Likert scale from highly important to don't know. At the Tamale Teaching Hospital, the majority 93(62.84%) of the respondents who attended antenatal lessons rated it as highly important, with 25(16.89%) giving it same ratings at the Tamale West Hospital. As stated earlier, the importance of information to a pregnant woman is crucial if they have to deliver safely and also to deliver healthy babies. Information from midwives/nurses was rated by 91(61.48%) of pregnant women. This was expected because the source of information during pregnancy is equally as important as the information that was given. The above two sources were rated as highly important sources of information. Some of the respondents across the hospitals rated the two sources as important with very few rating it as not important. The argument can be made for these two that any

information that authorities want to pass to pregnant women should be through these two media.

In terms of those sources rated as not important in all three (3) hospitals, visitations by midwives and newspapers and popular magazines were the two most ranked. More than 90% of the respondents rated visitations by midwives/nurses as not important or simply could not rate it at all. This was observed at all the three hospitals with rates at 68.92% at TTH, 22.30% at TWH and 2.70% at the SDA hospital. Also, newspapers and popular magazines were rated the same with more than 90% rating it as not important.

5.5.3 Evaluating the sources of information by pregnant women

Antenatal lessons were reported as highly important information source. With the least overall mean score of 2.09, 122 pregnant women considered this source as a highly important source of information during pregnancy. Midwives and/or nurses was the second source reported as highly important. As stated earlier, the information that was given at antenatal lessons is as important as the person who is delivering the information. Thus, the midwives are equally important as the lessons taught even though per the evaluation of sources the antenatal lesson was the topmost source of health information for the pregnant women. Medical doctors who come into play when complications arise during antenatal sessions or at any trimester of pregnancy were rated as the third most important information source. This was expected, as it would have been surprising had they been rated higher than antenatal lessons and midwives; taking into account their relatively fewer encounters with the respondents. The least important of the sources was seeking information from newspapers and popular magazines. It is

impossible or not so common to purchase newspapers and magazines on a daily or weekly basis. This is with the assumption that relevant information for pregnant women was scarcely or not contained in it. Thus, this source in our part of the world is mostly loaded with celebrity news and other social matters that would sell quicker than would contain information for pregnant women. This source had the least mean score of 6.31 the 8th ranked source.

5.6 Challenges Encountered in Seeking Information

Challenges come in varied forms and with almost all activities, this poses a threat in accessing one's source of information. People search for information from sources that are comparatively easily accessible, trustworthy, relatively cost-effective, and timely and so on. Respondents have credited midwives and other health workers for doing their best to give them information. However, they also believe that there are some holdups in discharging their duties at some points. Some of the challenges reported were beyond the job description of a midwife or a nurse. One of such include the reported financial constraints that makes it almost impossible for them to have access to information. This affected such activities as; buying medicines that are unavailable at a hospitals' dispensary/pharmacy. Also, to be able to attend antenatal lessons regularly require that there are funds available to do so, especially for those of them who come from afar to attend these lessons.

The negative attitude of health workers especially midwives and nurses have been a cause for worry for most patients in hospitals across the country. Correspondingly, the way maternal health information is conveyed to pregnant women during antenatal visits affects their enthusiasm to ask for supplementary information. It is not surprising that this came up as one of the challenges reported by the pregnant women in seeking information. The first point of

call for most pregnant women is the midwife. Therefore, attitudes that are deemed as rude have the tendency of pushing people away from interacting with them especially those who are in need of information. Education has been rife about how midwives and other health workers should treat patients, however, this does not look to be yielding much. Another challenge reported by some group of respondents is the poor network from service providers in the telecommunication industry. This they said prevented them from getting information regularly and on time.

For some of the respondents especially those who can neither read nor write, having posters printed in English or other local languages is a major challenge in their information-seeking journey. Also, attending antenatal sessions where the lessons were taught in English and Dagbanli was considered as an obstacle by some of the respondents in their desire to understand what the pros and cons are during pregnancy. They would have liked that information is given to them orally and in languages each person understands even though the number of pregnant women with this problem is insignificant, but it is seen as an exceptional case because they also have the right to information as their colleagues. Women search for information to make decisions during pregnancy and since these women were disadvantaged, the most suitable means of searching for information was through familiar sources like friends, family as well as oral talk from people who understand their dialect which is not always reliable.

The inadequate number of midwives was also, identified as one of the challenges in seeking for information by respondents. This has led to pregnant women being attended to in larger groups rather than in smaller groups or individually. The needs of individual pregnant women are different, therefore, putting them all together and teaching them would always not satisfy

them. Moreover, because of this inadequate number, these women most often than not have to wait longer hours than is necessary to be attended to when they visit the hospitals.

Furthermore, there were many other reasons reported to be a challenge to them in seeking information. Among them were some people who believed that they always have the same information anytime they visit the hospitals. They believe that the lessons do not teach them anything new. However, the point must be made that these people have had multiple births and therefore would find the lessons as repetitive. In addition, some respondents believed that information given to them is not always satisfactory whereas, others think that the inability of midwives to give them extra information at home is a challenge to their seeking information behaviour. Aside the fact that poor quality of care could prevent pregnant women from accessing a health facility, the inability of women to independently decide on their health and its related issues is a major limitation to women's health seeking. Glenton (2013) asserted that the attitude of some health professionals prevents patients from seeking or accessing health information thereby worsening their problems. Pregnant women are so vulnerable and so emotional that they are easily hurt and therefore, all must endeavour to support them to ensure the safe delivery of their babies. All these were reported at the Tamale Teaching and Tamale West Hospitals respectively with respondents at SDA hospital reportedly having no challenges in seeking information.

5.7 Interview with health professionals

Professionals or experts are interviewed to solicit for fresh and accurate information pertaining a particular topic or issue. In examining information behaviour of pregnant women, midwives and a gynaecologist were considered as the right people who have in-

depth knowledge about their fields and can best provide accurate information concerning pregnant women and pregnancy related issues.

5.7.1 Information Needs

All the four health practitioners agreed that pregnant women have information needs on the following; how to give birth to a healthy baby, timely intake of medication, the need for a balanced diet, information need on miscarriage. This run contrary to the study conducted by the Scottish government which involved 2,366 mothers, forty-four (44) percent of mother's report unmet information needs during antenatal care, and thirty-nine percent of them reported unmet information needs during post-natal care (Scottish Government, 2014).

In furtherance, midwife W established that the needs of pregnant women should not be limited to health-related matters only. According to her, some of the things pregnant women require include assistance from their husbands or partners throughout the journey of pregnancy.

5.7.2 Sources of Information

All the four health professionals agreed that the major source of information for pregnant women in the Tamale Metropolis is antenatal care, as well as other health-related issues they get from skilled health professionals. Lincetto et al (2006) conducted a research and in their study established that pregnant women get access to pregnancy-related information when they attend antenatal clinic. The antenatal offers women and their families' access to information on healthy pregnancy, postnatal recovery, safe delivery of their babies, and care for the newborn, exclusive breastfeeding, and the support to plan for future pregnancies so that they improve on pregnancy outcomes.

Also, the health professionals agree that, apart from the hospital being a major source of information for the pregnant women, they also obtain information and teachings giving by relatives and friends, television and radio stations, magazines etc. Davies and Bath (2002) in their study which focused on ascertaining the major sources of information by Somali women living in the United Kingdom established that, pregnant women hunt and use information from numerous interactive sources which included grandmothers, mothers and friends.

5.7.3 Challenges Pregnant Women Encounter in Accessing Health Information

All the three midwives agreed that most facilities have no Gynaecologists except the teaching hospital. They also established that pregnant women especially the uneducated ones find it difficult to approach health professionals all because they consider themselves inferior to the health professionals. Again, another challenge faced by the pregnant women are language barrier and poor attitudes exhibited by health professionals. A study conducted by Parker et al, (2003) established that the high levels of illiteracy and the inability of information seekers to understand medical information becomes a major obstacle for health information seeking.

CHAPTER SIX

SUMMARY OF FINDINGS, CONCLUSION, AND RECOMMENDATIONS

6.1 Introduction

This chapter presents the summary of the findings of the research conducted based on the set objectives. It also presents the conclusion and recommendations based on the findings to propose solutions to problems identified concerning information behaviour of pregnant women in Tamale metropolis. Suggested areas for further studies were also outlined.

The purpose of this research was to examine the information behaviour of pregnant women attending antenatal in Tamale Metropolis. The study was conducted at Tamale, Ghana. A qualitative data and quantitative data were used to achieve the stated objectives study. Below are the findings gathered from the research.

6.2 Summary of findings

This research was meant to examine information behaviour of pregnant women in Tamale Metropolis and the findings of the research had been summarized below.

6.2.1. Information needs of pregnant women

Information needs of pregnant women in Tamale metropolis included having a healthy baby, diet, labour and delivery, medication, sicknesses and/ complications, amount of household chores to do and sex relationship. A healthy baby was rated as their topmost need and sex relationship was ranked the least of their needs. In evaluating the needs of pregnant women using a mean score, a healthy baby came out as the highly important need with a mean score of 2.80 when assessed. The least ranked information need was the information on sex

relationship. This has an overall mean score of 5.49 ranking 7th among the seven needs assessed by the pregnant women.

6.2.2 Information Sources

There were eight (8) sources of health information identified by the researcher and these consisted of antenatal lessons, Doctors, midwives/nurses, TV/Radio programmes, internet, visitation by midwives/nurses (outreach) and Newspapers and popular magazines. Antenatal lesson, however, was the most used source of information. In examining the relationship between the use of sources of information and education, four (4) out of the eight (8) sources of information used by respondents were not used based on their levels of education. These were antenatal lessons, Doctor Newspapers and popular magazines, TV/Radio programmes. A chi-square analysis of the other four sources (internet, relatives and friends, midwives/nurses and community visitation by midwives) and education came out significant indicative of the fact that there were significant differences between using these sources of information and education.

6.2.3 Information seeking

Information was sought massively at the first trimester. In information seeking, a total of eight (8) information sources across three (3) trimesters of pregnancy were assessed by pregnant women to examine at which trimester of pregnancy did respondents started using the various information sources. Antenatal lessons, midwives/nurses, doctor, relatives/friends/peers and TV/Radio programmes were the most used sources during the first, second and third trimester of pregnancy.

6.2.4 Challenges encountered in seeking information

Challenges that confronted pregnant women in Tamale Metropolis were the rude attitudes of midwives, lack of funds to undergo ultra-scan, then payment of drugs deemed to be expensive, unreliable network access due to inadequate bandwidth and limited midwives. The problem of language barrier was addressed extensively but there were few pregnant women who did not understand the numerous languages that antenatal lessons and other activities were interpreted in.

6.3 Conclusion

The importance of information behaviour of pregnant women cannot be overlooked. Despite the numerous challenges faced by pregnant women in Tamale metropolis, the findings of the research revealed that if there is sufficient budgetary allocation in place and there is adequate staff to cater for the health needs of pregnant women, then the issue of inadequate health information provision will be minimised or halted. It is important that critical attention be paid to the behaviour of pregnant women with respect to their information behaviour.

6.4 Recommendations

It is important that every research conducted must result in a number of recommendations to help curb problems identified during the study. The following recommendations were informed by the findings to ensure adequate provision of information to enhance the information behaviour of pregnant women.

6.4.1 Inadequate Staff (midwives/nurses)

It was realized that the limited number of midwives and nurses at the three hospitals contributed to the poor dissemination of health information to the pregnant women. The existing staff were not able to discharge their duties effectively due to the patient to midwife and doctor ratio. The patients or pregnant women outnumber the staff (health professionals), therefore, it is important that government recruit more midwives to address the problem of inadequate staff and where staff are overpopulated, Ghana Health Service can transfer or reshuffle some of these staff to facilities where their services are most needed.

6.4.2 Consultation point

A section of pregnant women suggested that the issue of information provision or access to certain issues was a problem. Whom to go to and where to access health information was a problem. It is recommended that authorities of the various hospitals set aside an office(reception) occupied by a health professional at the entrance of all antenatal clinics and this staff will solely be in charge of guiding patients as to where to go to when they need information. This when done would encourage pregnant women to interact without fear and can as well boost the confidence level of some pregnant women who feel intimidated upon seeing these midwives and nurses.

6.4.3 Attitudes of Midwives

Training and development are of importance in every institution or organisation. It has been realised from the research that due to limited training and workshops activities, some staff had forgotten about their core mandate and it would be very helpful if training could be organised

every three months by Ministry of Health to remind midwives and nurses about how to handle their patients. Workshops, reorientation and in-service training to a large extent would revive or rekindle their passion for the job.

6.4.4 Lack of funds

Lack of funds was one of the challenges that prevented some pregnant women from accessing information from the hospitals. It was revealed from the research that, most pregnant women would prefer staying in the house due to lack of fund that would be needed to undergo ultra-scan, payment of bills to mention but a few. It is however recommended that the government should pay attention to the free maternal policies again to enhance delivery without cost using the National Health Insurance Scheme.

6.4.5 Non-use of the Internet

Pregnant women who can access information on the internet can be hooked onto a common platform which can provide uninterrupted network service and those who do not also have the literacy skills to access information online can be taught.

Timely information in all aspect of life brings about making informed choices. The study revealed that most pregnant women were ignorant about certain vital information which forms part of their right as a patient. Any information that is vital to a patient is mandatory for the health worker to pass it on to the patient who needs it. It is not right for a patient to beg for the service of a midwife or a Doctor. Pregnant women must be provided with information at the right time to avoid issues such as maternal mortality, complications, and miscarriages to

mention but a few. If societies in which pregnant women belong to make it a point to embark on information support to help pregnant women, then the period of pregnancy would be a smooth one for these women.

In summary, it is important that considering information behaviour of pregnant women one must pay particular attention to the needs of pregnant women, where and how they seek information and the challenges they encounter in accessing their health information.

6.5 Areas for Further Studies

The following areas must be further researched into:

1. Attitudes of midwives across hospitals in Ghana.

2. Financial capabilities of hospitals.

3. Sources of health information for pregnant women.

4. Challenges confronting pregnant women in Ghana.

5. Expectations of pregnant women.

REFERENCES

Abdallah, B. (2015). Women's perception and use of maternal health services in Ga Mashie,Accra: implication for the free maternal healthcare initiative. Retrieved from http://197.255.68.203/handle/123456789/21397

Abor, P. A., Nkrumah, G. A., Sakyi, K., Charles, K. D., & Abor, J. (2011). The socio-economic determinants of maternal health care utilization in Ghana. *International Journal of Social Economics.*, 628-648.

Adamu, Y. M., & Salihu, H. M. (2002). Barriers to the use of antenatal and obstetric care services in rural Kano, Nigeria. *Journal of Obstetrics & Gynaecology, 22*(6), 600-602.

Adeoti-Adekeye, W. B. ((1997). The importance of Management Information Systems. *Library Review, 46*(5), pp. 318-327.

Ahmed, S., Sobhan, F., Islam, A., & Barkat-e-Khuda. (2001). Neonatal morbidity and care-seeking behaviour in rural Bangladesh. *Journal of Tropical Paediatrics, 47*(2), 98-105.

Alemna, A. A. (2000). Libraries, Information and society.

Alemna, A. A., & Skouby, K. E. (2000). An investigation into the information needs and information-seeking behaviour of members of Ghana's legislature. *Library Management, 21*(5), 235 - 240. Retrieved from http://dx.doi.org/10.1108/01435120010324815

Alvi, M. H. (2016). *A manual for selecting sampling techniques in research.* Karachi, Pakistan: MPRA. Retrieved from https://mpra.ub.uni-muenchen.de/70218/

Amoaful, E. A. (2011). *The use of ICT as a tool for teaching and learning in the University of Ghana.* Unpublished M. Phil thesis.

Anasi, S. N. (2004). Audio-visual Media Capabilities and the Dissemination of Health Information. *Library Focus, 22*, 53-58.

Andersen, D. L. (2002). Communicating information across cultures: understanding how others work. Retrieved from http://www.pantaneto.co.uk/issue9/andersen.htm

Andreassen, S., Randers, I., Naslund, E., Stockeld, D., & Mattiasson, A. C. (2005). . Family members' experiences, information needs and information seeking in relations to living with a patient with oesophageal cancer. *European Journal of Cancer Care, 14*(5), 426-434.

Anya, S. E., Hydara, S. E., & Jaiteh, l. E. (2008). Antenatal care in The Gambia: missed opportunity for information, education and communication. *8*(1), 9.

Atinga, R. A., & Baku, A. A. (2013). Determinants of antenatal care quality in Ghana. *International Journal of Social Economics., 40*(10), 852-865.

Babu, A. R., Singh, Y. P., & Sachdeva, S. (2007). *Establishing a Management Information system.* Retrieved from http://www.fao.org/docrepr/W5830eOk.htm9/23/2017

Bates, M. J. (2006). Fundamental forms of information. *Journal of the American Society for, 57*(8).

Bates, M. J. (2010). Information Behavior In Encyclopedia of Library and Information Sciences. pp. 2381-2391.

Bell, J., Sian , L., Curtis, A., & Sylva, A. (2003). *Trends in Delivery Care in Six Countries. DHS Analytical studies.* Maryland.

Berkule-Silberman, S. B., Dreyer, B. P., Huberman, H. S., Klass, P. E., & Mendelsohn, A. L. (2010). Sources of parenting information in low SES mother. *Clinical Pediatrics, 49*(6), 560-568.

Bothman, T., & Kaniki, A. (Eds.). (2002). *Proceedings of the second biennial DiSSAnet conference*, 11-28. Retrieved from www.web.simmons.edu/~benoit/lis642/Chi-Square-infoseeking-Uganda.pdf

Bradley, M. A., & Harell, M. C. (2009). *Data collection Methods: Semi structured interviews and Focus Groups.*

Burgard, S. (2004). 'Race and pregnancy related care in brazil and south Africa'. *Social Science & Medicine, 59*, 1127–1146.

Burke, M. E. (2007). Cultural issues, organizational hierarchy and information fulfilment: an exploration of relationship. *Library Review, 56*(8), 678- 693.

Case, D. O. (2012). Looking for information: A survey of research on information seeking, needs.

Case. (2007). *Looking for information: A survey of research on information seeking, needs, and behaviour* (2nd ed ed.). Amsterdam: Elsevier.

Celik, Y., & Hotchkiss, D. R. (2000). 'Socio-economic determinants of maternal healthcare utilization in Turke. *Social Science & Medicine, 50*(12), 1797-1806.

Chakraborty, N., Islam, M. A., Chowdhury, R. I., Bari, W., & Akhter, H. H. (2003). “Determinants of the use of maternal health services in rural Bangladesh. , *Health Promotion International, 18*(4), 327-337.

Chinnasamy, K. (2016). Information need and information seeking behaviour of engineering college students in Madurai - a case study, Qualitative and Quantitative Methods in Libraries (QQML. *5* (1), 131-140.

Choo, C. W. (2002). Information Management for the Intelligent the Intelligent Organization The Art of Scanning the Environment. *Information Today*, 45.

Chou, D., Inoue, M., Mathers, C., Moller, A. B., Oestergaard, M., Say, L., & Nkata, M. (2012). Trends in maternal mortality. *12*(9811), 84.

Chowdhury, A. R., Mahbub, A., & & Chowdhury, A. S. (2003). Skilled attendance at delivery in Bangladesh: an ethnographic study. *Research and Evaluation Division*.

Cole, C. (2008). People transforming information - information transforming people: what the Neanderthals can teach u. *Proceedings of the American Society for Information Science and Technology, 45*(1), 1-10.

Cotten, S. R., & Gupta, S. S. (2004). "Characteristics of Online and Offline Health Informationseekers and Factors that discriminate between them. *Social Science and Medicine, 59*(9).

Cresswel, J. W. ((2009). . *Research Design: Qualitative, Quantitative and Mixed Methods* (3rd ed ed.). London: SAGE.

Creswell, J. W., Plano, C. V., Gutmann, M. L., & Hanson, W. E. (2003). Advanced mixed methods research designs. *Thousand Oaks*, 209–240.

Czaja, R., Manfredi, C., & Price, J. (2003). The determinant and consequences of informationseeking among cancer patients. *Journal of Health Communication*, 529-562.

Darvill, R., Skirton, H., & Farrand, P. (2008). Psychological factors that impact on women's experiences of first-time motherhood: a qualitative study of the transition. *26*(3), 357-366.

Das, A. (2013). Information-Seeking Among Pregnant Women: A Mixed Method Approach. Retrieved from http://diginole.lib.fsu.edu

Davies, M. M., & Bath, P. A. (2002). Interpersonal sources of health and maternity information for somali women living in the UK: Information seeking and evaluation. *Journal of Documentation, 58*(3), 302-318.

DeVelli, R. F. (2011). *Scale development: Theory and applications.*

Ellis, D. (1989). A behavioural approach to information retrieval design. *Journal of Documentation*, 318-338.

Ellis, D., Cox, D., & Hall, K. (1993). A comparison of the information seeking patterns of researchers in the physical and social sciences. 356-369.

Elo, I. T. (1992). Utilization of maternal healthcare services in Peru: the role of women's education. *Health Transition Review*, 49-69. .

Eric, B. (2003). Barriers to utilization of prenatal care services in Turkey. *Journal of Nursing Scholarship, 35*(3), 269–273.

Eysenbach, G., & Kohler, C. (2002). How do Consumers Search for and Appraise Health Information on the World Wide WebQualitative study using focus groups, usability tests and in- depth interview. *British Medical Journal*. Retrieved from (www.bmj.com/content/324/7337/573

Eysenbach, G., & Kohler, C. (2003). What is the prevalence of health-related searches on the World Wide Web? Qualitative and quantitative analysis of search engine queries on the internet. *American Medical Informatics Association, 1*(1), 225.

Foster, A. (2004). *Journal of the American Society of Information Science and Technology*, 228- 237.

Foster, A., & Ford, N. (2003). Serendipity and information seeking: an empirical studies. *Journal of Documentation*, 321 – 340.

Fotso, J. C., Ezeh, A. C., & Essendi, H. (2009). Maternal health in resource-poor urban settings: how does women's autonomy influence the utilization of obstetric care services. *6*(9), 1-8. Retrieved from : http://www.biomedcentral.com/content/pdf/1742-4755-6-9.pdf

Fox, S. (2008). The engaged e-patient population. Pew Internet & American Life Project. Retrieved from www.pewinternet.org/Reports/2008/The-Engaged- Epatient-Population.aspx.

Fox, S., & Jones, S. (2009). . The social life of health information. Pew Internet & American Life project. Retrieved from http://www.pewinternet.org/Reports/2006/Online-Health-Search-2006.aspx

Gage, A. J., & Guirlène, C. M. (2006). Effects of the physical accessibility of maternal health services on their use in rural Haiti. *Population Studies,, 60*(3), 271-288.

Ghana Health Service. (2006). *Reproductive and Child Health Annual Programme of Work.* Accra.

Glei, D. A., Goldman, N., & Rodriguez, G. (2003). 'Utilization of care during pregnancy in rural Guatemala: does obstetrical need matter. *Social Science & Medicine, 57*(1), 2447–2463.

Gleton C, Colvin, C. j., Carlsen, B., Swartz, A., Lewin, S., Noyes, J., & Rashidian, A. (2013). Barrier and facilitators to the implementation of lay health programmes to improve access to maternal and child health. *Cochrane Database of systematic reviews*. doi:10./1002/14651858.CD010414.pub2

Harden, A., Brunton, G., Fletcher, A., Oakley, A., Burchett, H., & Backhans, M. (2006). *Young People, Pregnancy and Social Exclusion: A Systematic Synthesis of Research Evidence to Identify Effective, Appropriate and Promising Approaches for Prevention and Support.* London: EPPI-Centre.

Henwood,, F., Wyatt, S., Hart, A., & Smith, J. (2003). 'Ignorance is bliss sometimes': constraints on the emergence of the 'informed patient'in the changing landscapes of health information. *Sociology of health & Illness, 25*(6), 589-607.

Hjalmhult , E., & Lomborg, K. (2012). Managing the first period at home with a newborn: a grounded theory study of mothers experiences. *Caring sciences*. doi:doi:10.1111/j.1471-6712.2012.00974

Howell, K. (2013). *An introduction to the philosophy of methodology.* Retrieved from http://www.amason.co.uk

Howell, K. E. (2013). *Introduction to the philosophy of methodology.* Sage.

Idowu, A. E. (2013). *The Socio-Cultural Context of Maternal Health in Lagos State, Nigeria.* ogun state.

Ikoja-Odongo, R., & Mostert, J. (2006). Information seeking behaviour: a conceptual framework. *South African Journal of Libraries and Information Science*, 145-158.

Ikoja–Odongo, J. R. (2002). An observational study of the information seeking and communicating behavior of entrepreneurs in the informal sector of Uganda.

Ingwersen, P., & Jarvelin, K. (2005). The Turn. *Integration of Information Seeking and Retrieval in Context*.

Jiyane , V. G., & Fombad, M. C. (2016). The role of community radios in information dissemination to rural women in South Africa. Retrieved from https://doi.org/10.1177/0961000616668960.

Johnson, J. D. (2003). On contexts of information seeking. . *Information Processing and management*, 735-760.

Kabir, M., & Khan, G. N. (2013). . Impact of a Community –based Perinatal and Newborn Preventive care package on perinatal and neonatal mortality in a remote…London.

Kahan, M. D., Braman, D., Slovic, P., Gastil, J., & Cohen, G. (2009). Cultural cognition of the risks and benefits of nanotechnology. *Nature Nanotechnology, 4*(2), 87-91.

Kakai, M., Ikoja–Odongo, R., & Kigongo–Bukenya, I. M. (2004). A study of the information seeking behavior of undergraduate students of Makerere University. *Uganda World Libraries, 14*(1). Retrieved from http://www.worlib.org/vol14no1/kakai_v14n1.shtml

Kale, E., & Syed, H. R. (2010). Language barrier and the use of interpreters in the public health services. *National center for minority health research*, 187-191.

Kanter, A. S., Mechael, P. N., Lesh, N., Dhadialla, P., & Kramers, A. (2008). Open source mHealth applications and the Millennium Development Goals for Africa. *eHealth beyond the horizo*. Retrieved from http://www.hst.aau.dk/ska/MIE2008/Panels/MIE2008UID445 BID292.pdf.

Katherine, L., Steven, B., & Ian, R. (2016). The everyday life information seeking behaviours of first-time mothers. *Journal of Documentation, 72*(1), 24-46.

Kontoh, C. (2015). Availability and use of essential emergency obstetric care services in the Bosomtwe district in Ashanti regio. Retrieved from http://ir.knust.edu.gh/xmlui/handle/123456789/7969

Kowalewsk, M., Jahn, A., & Kimatta, S. S. (2000). "Why do at risk mothers fail to reach referral level? Barriers beyond distance and cost. *African Journal of Reproductive Health*, 100-109.

Kuhlthau, C. C. (1991). Inside the search process: information seeking from the user's perspective. *Journal of the American Society for Information Science, 42*(1), 361-371.

Kuhlthau, C. C. (2001). The Information Search Process (ISP) A Search for Meaning Rather than Answers. *Doshisha Journal of Library and Information Science, 1*(16), 31-46.

Kuhlthau, C. C. (2004). *Seeking meaning: a process approach to library and information services* (2nd ed.). Connecticut: Westport.

Kwesigabo, G., Mwangu, M. A., Kakoko, D. C., Warriner, I., Mkony,, C. A., Killewo,, J., & Freeman, P. (2012). Tanzania's health system and workforcecrisis. *Journal of Public Health Policy*, S35-S44. Retrieved from http://www.palgravejournals.com/jphp/journal/v33/n1s/pdf/jphp201255a.pdf

Lagan, B. M., Sinclair, M., & George Kernohan, W. (2010). Internet use in pregnancy informs Women's decision making. *A Web-Based survey Birth, 37*(2), 106-115.

Lambert, S. D., & Loiselle, C. G. (2007). *Qualitative Health Research*, 1006-1019.

Leslie, J., & Gupta, G. R. (1989). Utilisation of formal services for maternal nutrition and health care. *International Centre for Research on Women.*

Lester, J., & Koehler, W. C. (2007). Fundamentals of information science: Understanding information and its environmen.

Lincetto, O., Mothebesoane-Anoh, S., Gomenz, P., & Munjanja, S. (2006). *Antenatal care.*

Mabawonku, I. (2006). The Information Environment of Women in Nigeria's Public Service. *Journal of Documentation,*, 73-90.

MacKian, S. (2003). . *A review of health seeking behaviour: problems and prospects.* Mancheste.

Magadi, M. A., Eliya, M. Z., & Brockerhoff, M. (2000). "The inequality of maternal health care in urban sub-Saharan Africa in the 1990. *Population Studies, 57*(3), 347-366.

Matthews, A. K., Sellergren, S. A., Manfredi, C., & Williams, M. (2002). Factors influencing medical information-seeking among African American cancer patient. *Journal of Health Communication, 7*(1), 205-219.

Maybee, C. (2006). Undergraduate perceptions of information use: the basis for creating user-centered student information literacy instructio. *The Journal of Academic Librarianship, 32*(1), 79-85.

McCaw-Binns, A., La Grenade, J., & Ashley, D. (2007). Under-users of antenatal care: a comparison of non-attenders and late attenders for antenatal care with early attenders. *Soc Sci Med, 40*(1), 3-12.

McGuffin,, M., & Wright, J. (2004). . Information-seeking behaviour of radiation therapy patients. *13*(2), 93-98.

McKellar, L., Pincombe, J., & Henderson, A. (2009). Coming ready or not! Preparing parents for parenthood. *British Journal of Midwifery, 17*(3), 160-167.

McKenzie, P. J. (2002). Communication barriers and information-seeking counterstrategies in accounts of practitioner-patient encounters. *Library & Information Science Research, 24*(1), 31-47.

Mekonnen, Y., & Mekonnen, A. (2003). .Factors influencing the use of maternal healthcare services in Ethiopia. *Health Popul Nutri*, 374–382.

Mesfin, M., & Farrow, J. (1996). Determinants of antenatal care utilization in Arsi Zone, Central Ethiopia. *Ethiopian Journal of health developmen, 10*(1), 171-178.

Mpembeni, R. N., Killewo, J. Z., Leshabari, M. T., Massawe, S. N., Jahn, A., Mushi, D., & Mwakipa, H. (2007). Use pattern of maternal health services and determinants of skilled care during delivery in Southern Tanzania implications for achievement of MDG-5 target. *BMC pregnancy and childbirth, 7*(1), 29.

Mumba, C. (2015). The information- seeking behaviour of women attending antenatal clinic: a case study of women in makululu- kabwe.

Mumtaz, Z., & Salway, S. (2005). . I never go anywhere: extricating the links between women's mobility and uptake of reproductive health services in Pakistan. *Social Science & Medicine, 60*(8), 1751–1765.

Mutshewa, A. (2007). A theoretical exploration of information behaviour: a power perspective. *Aslib Proceeding*, 249– 263.

Mwangakala, A. H. (2016). Pregnant Women's Access to Maternal Health Information and Its' Impact on Healthcare Utilization Behaviour in Rural Tanzania. Retrieved from https://dspace.lboro.ac.uk/2134/23443

Navaneetham, K., & Dharmalingam, A. (2002). *Social Science and Medicine, 55*(10), 1849-1869.

Ndunguru, P. C. (2007). Lectures on research methodology for social sciences.

Neuman, W. L. (2007). Basics of Social Research: Quantitative Approache.

Niedzwiedzka, B. (2003). A proposed General Model of Information Behaviour. *Information Research, 9*(1), 1-17.

Niedzwiedzka, B. (2003). *Information, 9*(1), 1-17.

Nikiéma, B., Beninguisse, G., & Haggerty, J. L. (2009). Providing information on pregnancy complications during antenatal visits: unmet educational needs in sub-Saharan Africa. *Health policy and planning,, 24*(5), 367-376.

Nuhu, A. T. (2010). *Prospects and challenges facing women farmers in ensuring food security in selected communities in the Wa Municipality of the Upper West Region.* Unpublished MPhil Thesis.

Nwagwu, W. E., & Ajama, M. (2011). Women's health information needs and information sources a study of a rural oil palm business community in South-Western Nigeria. *Annals of library and information studies, 58*(5), 270-281.

Ofori-Asenso, R., & Agyemang,, A. A. (2016). Hepatitis B in Ghana: a systematic review & meta-analysis of prevalence. *Us national library of medicine, 16*(130). doi:10.1186/s12879-1467-5

Okerere. (2016). Knowledge of Safe Motherhood among Women in Rural Communities in Northern Nigeria: implication for maternal mortality reduction. Reproduction Health.

10(1), 57. Retrieved from http://www.reproductive-health-journal.com/content/10/1/57

Olarongbe, S. A., Adepoju, O. S., Akanbi-Ademolake, H. B., & Pedro , T. A. ((2013). *An assessment of information needs and characteristics of users of Oyo State Public Library.* Nigeria. Retrieved from http://digitalcommons.unl.edu/libphilprac

Olarongbe, S. A., Adepoju, O. S., Akanbi-Ademolake, H. B., & Pedro, T. A. (2013). *An assessment of information needs and characteristics of users of Oyo State Public Library.* Retrieved from http://digitalcommons.unl.edu/libphilprac

Overbosch, G. B., Nsowah-Nuamah, N. N., Nsowah-Nuamah, N., van den Boom, G., & Damnyag, L. (2004). Determinants of antenatal care use in Ghana. *Journal of African Economies, 13*(2), 277-301.

Pallikadavath, S., Foss, M., & Stones, R. W. (2004). Antenatal care: provision and inequality in rural North India. *Social Science & Medicine,*, 1147–1158. .

Parker, R. M., Ratzan, S. C., & Lurie, N. (2003). Health Literacy: A policy challenge for advancing high quality health care. 147-153. .

Patsos, m. (2001). The Internet and medicine: Building a community for patients with rare diseases. *285*(6), 805-805.

Percheski, C., & Hargittai, E. (2011). Health information-seeking in the digital age. *Journal of American college health, 59*(5), 379-386. doi:10.1080/07448481.2010.513406

Popoola, S. O. (2010). Influence of Information accessibility and utilization on decision making of managers in commercial banks in Nigeria. *Library herald, 44*(2), 140-154.

Raghupathy, S. (1996). . Education and the use of maternal health care in Thailand. *Social Science & Medicine,, 43*(4), 459–471.

Rani, M. S. (2003). Rural Indian women's care seeking behaviour and choice of provider for gynaecological symptoms. *34*, 173 -185. Retrieved from http://onlinelibrary.wiley.com/doi/10.1111/j.1728-4465.2003.00173.x/pdf.

Rasheed, P., & Al-Sowielem, L. S. (2003). Health Education Needs for Pregnancy: A study among Women attending Primary Health Centres. *10*(1), 31-38. Retrieved from www.ncbi.nlm.nih.gov/...

Reynolds, H. w., Wong, E. L., & Tucker, H. (2006). 'Adolescents Use of Maternal and Child Health Services in Developing Countries. *International Family Planning Perspectives*, 6–16. Retrieved from http://www.guttmacher.org/pubs/journals/3200606.pdf.

Rieh, S. Y. (2014). *Information-seeking Behavior.* Michigan. Retrieved from https://www.si.umich.edu./...

Saleh, A. G., & Lasisi, F. I. (2013). Information needs and information seeking behaviour of rural women in Borno state. *Global society for multidisciplinary research, 1*(10), 2320-5083. Retrieved from http://www.webpages.

Saunders, M., Loius, P., & Thornhill, A. (2007). *Research methods for business students.* London.

Savin-Baden,, M., & Major, C. H. (2012). *Qualitative research: The essential guide to theory and practice.* Abingdon,: Routledge.

Savolainen, R. (2009). Information use and information processing: comparison of conceptualization. *Journal of Documentation*, 187-207.

Scott, J. T., & Thompson, D. (2003). Assessing the information needs of Post-myocardial infarction patients: a systematic review. *Patients education counsel, 50*(2), 167-177.

Scottish Government. (2014). *"Having a baby in Scotland 2013: women's experiences of maternity care.* Retrieved from www.scotland.gov.uk/Publications/2014/01/8489

Seidu, M., Gebrehiwot , Y., & Fantahun, M. (2011). Maternal mortality and human development in Ethiopia. 125-142 .

Sharma, B. (2004). Utilisation of antenatal care services in Nepal. *Nepal Population Journal, 11*(10), 79–97.

Shimeka, A., Mazengia, F., & Woldeyohannes, S. M. (2012). . Institutional delivery service utilization and associated factors among mothers who gave birth in the last 12 months in Sekela District. *BMC Pregnancy Childbirth, 74.*(1), 74.

Shuyler, K. S., & Knight, K. M. (2003). What are patients seeking when they turn to the Internet? Qualitative content analysis of questions asked by visitors to an orthopedics web site. *Journal of Medical Internet Research.* Retrieved from http://www.jmir.org/2003/5/e24/index.htm

Simkhada, B., Teijlingen, E. R., Porter, M., & Simkhada, P. (2008). Factors affecting the utilization of antenatal care in developing countries: systematic review of the literature. *Journal of advanced nursing, 61*(3), 244-260.

Somasundaram, S. (2011). *cancerexperience, surviving cancer, cancer support, information needs, cultural response to a cancerexperience, surviving cancer, cancer support, information needs, cultural response to a cancerdiagnosis and overview of implications* .

Spink, A., & Cole, C. (2006). Human information behaviour: integrating diverse approaches and information use. *57*(1), 25-35.

Stanton, C., Blanc, A. K., Croft, T., & Choi, Y. (2007). Skilled care at birth in the developing world progress to date and strategies for expanding coverage. *Journal of biosocial science, 39*(1), 109-120.

Thaddeus, S., & Maine, D. (1994). Too far to walk: Maternal mortality in context. *Social Science and Medicine, 38*(8), 1091–1110.

The Royal College of Midwives. (2013). "Maternal mental health: improving emotional wellbeing in postnatal car. Retrieved from www.rcm.org.uk/get-involved/campaigns/pressure-points

The Royal College of Midwives. (2013). *"Maternal mental health: improving emotional wellbeing in postnatal care.* Retrieved from www.rcm.org.uk/get-involved/campaigns/pressure-points

Theroux, R. (2011). Media as a source of information on pregnancy and childbirth. *Nursing for women's health,, 15*(1), 62-67. Retrieved from http://onlinelibrary.wiley.com/doi/10.1111/j.1751-486X.2011.01612.x/pdf.

Tsawe, M., Moto, A., Netshivhera, T., Ralesego, L., Nyathi,, C., & Susuman, A. S. (2015). Factors influencing the use of maternal healthcare services and childhood immunization in Swaziland. *International journal for equity in health, 14*(1), 1.

Uloma, C. O., & Adedotun, A. A. (2013). *Information-seeking Behavior of Pregnant Women in Selected Hospitals of Ibadan Metropolitan.* Ibadan.

UNFPA. (2000). Womens empowerment and reproductive health. Retrieved from www.unfpa.org/publications/ 0-89714-517-8

United Nations . (2011). *The Millennium Development Goals Report.*

van Eijk, A. M., Bles, H. M., Odhiambo,, F., Ayisi, J. G., Blokland,, I. E., Rosen, D. H., . . . Lindblade, K. A. (n.d.). Use of antenatal services and delivery care among women in rural western Kenya. *Reprod Health, 3*(1), 2.

Vickery, B. (2009). Information science in transition. .

Warren, A. C. (2010). Women's empowerment and gender relations in Puerto Rico. *38*(2), 59-91.

Warren, P. l. (2005). First-time mothers: social support and confidence in infant care. *Journal of Advanced Nursing,, 50*(5), 479-488. .

Weller, T. (2007). Information history: its importance, relevance and future. *ASLIB Proceedings*, 437-448.

Wilen, E. (2016). *The importance of information during pregnancy and the role of midwifes.* Retrieved from https//www.girlsglobe.org

Williams, P., Huntington, P., & Nicholas, D. (2003). Health information on the Internet: a qualitative study of NHS Direct Online users. *Aslib Proceedings, 55*(5,6), 304-12.

Wilson, T. D. (1981). On user studies and information needs. *Journal of Documentation, 37*(1), . 3-15.

Wilson, T. D. (1999). Models in information behaviour researc. *Journal of Documentation,, 55*(3), 249-270.

Wilson, T. D. (2000). Human information behaviour. *Informing Science,*, 49 56.

World Health Organization. (2010). *UNFPA and the World Bank Trends in maternal mortality: 1990 to 2008.*

Zambia Health Survey. (2015). *Quality information to plan.* Retrieved from www.dhsprogram.com: http://www.dhsprogram.com

Zelalem Ayele, D., Belayihun, B., Teji, K., & Admassu Ayana, D. (2014). Factors Affecting Utilization . *International Scholarly Research Notices of Maternal Health Care Services in Kombolcha District*.

Zhang,, P., & Benjamin, R. I. (2007). *Understanding information related fields:*.

Ziebald, S. (2004). The importance of being expert: the quest for cancer information on the Internet. *Social Science and Medicine, 59*(1), 1783–1793.

APPENDIX A: QUESTIONNAIRE FOR PREGNANT WOMEN

TOPIC: INFORMATION BEHAVIOUR OF PREGNANT WOMEN IN TAMALE METROPOLIS

I am conducting a research into the information behaviour of pregnant women in Tamale Metropolis as part of my Master of Philosophy in the Department of Information Studies, University of Ghana. Every information provided will be held in confidence. This exercise is purely academic purposes. Thank you. Joana Dango

DEMOGRAPHIC DATA

1. Age: 12-19 [ ] 20-29 [ ] 30-39 [ ] 40-49 [ ] 50+ [ ]
2. Marital Status: Single [ ] Married [ ] Divorced [ ]
3. Educational Background: JHS [ ] SSCE [ ] Degree [ ] Masters [ ] Others [ ] Non [ ]
4. Occupation: ……..

INFORMATION NEEDS [ ]

5. Do you attend antenatal? Yes [ ] No [ ]
6. If No, why?

   ……

   ……
7. How often do you attend antenatal?

	Highly Important	**Important**	**Not Important**	**Don't Know**
Information on Diet				
Information on Medication				
Information on Sex relationship				
Information on how much work chores is to be done				
Information on Delivery				
Information on Sicknesses/Complications				

Information on how to have a Health Baby				

a. Regularly b. Not regularly c. Not at all

Information needs are information you would expect to get in order to meet or satisfy your questions or problems you have.

8. Do the antenatal lessons meet your information? Yes [ ] No [ ]
9. How would you rate information needs with respect to your priority?

INFORMATION SEEKING ON PREGNANT WOMEN

10. At what point did you decide to seek information?
    a. During first trimester
    b. During second trimester
    c. During third trimester

SOURCES OF INFORMATION

11. What are your source of information? Tick as many as possible
    a. Doctor b. Antenatal lessons c. Internet d. Relatives/friends/peers
    e. Midwives/Nurses f. Newspapers & Popular Magazines g. TV/Radio programs h. community visitation by public health nurses (outreach programs)

INFORMATION AND USE OF INFORMATION

12. Rank in order of Importance the sources of information. Please tick.

Sources of Information	**Highly Important**	**Important**	**Not Important**	**None**
Doctor				
Antenatal lessons				
Internet				
Relatives/friends/peers				
Midwives/Nurses				
Newspapers & Popular Magazines				

TV/Radio programs				
community visitation by public health nurses				

15. Why do you find some sources (stated above) particularly useful?

    a. Available b. Current c. Affordable d. Relevant

16. Has the information gathered satisfied your information needs or expectation?

    Yes [ ] No [ ]

CHALLENGES

17. Have you ever encountered any challenges while searching for information?

    (i) All the time [ ]

    (ii) Sometimes [ ]

    (iii) Never [ ]

    (iv)No response [ ]

18. What are some of the challenges you face when accessing information?

    ……

    ……

    ……

19. In your opinion is it expensive to access information? Yes [ ] No [ ]

20. Please suggest what should be done to improve access to information to pregnant women.

    ……

    ……

    ……

APPENDIX B: INTERVIEW GUIDE FOR MIDWIVES AND A GYNAECOLOGIST

1. What are the information needs of pregnant women in your hospital?
2. What are the main sources of health information for pregnant women in your facility?
3. What are some of the other sources that pregnant women use to obtain health information?
4. What are their information seeking pattern?
5. How do the pregnant women differentiate between information given to them by health professionals from the information receive from other sources?
6. What are the challenges these pregnant women encounter when seeking information?
7. What are some of the diseases these pregnant women get as a result of pregnancy-related issues?
8. How many Gynaecologists do you have in your hospital?
9. What are the programmes your hospital is doing to make sure information is passed on to these pregnant women without any constraints?

APPENDIX C: INTRODUCTORY LETTERS

UNIVERSITY OF GHANA
DEPARTMENT OF INFORMATION STUDIES
SCHOOL OF INFORMATION AND COMMUNICATION STUDIES

Ref. No.:.....**INFS 6/24**.....

December 13, 2017

The Medical Officer-In-Charge
Tamale West Hospital
Tamale

INTRODUCTORY LETTER

I write to introduce to you Miss Joana Dango, an M. Phil student of the Department of Information Studies.

She is researching on the topic "Information behavior of pregnant women in Tamale Metropolis".

Please assist her with the necessary information that will be needed to undertake the research.

Thank you.

Yours faithfully,

Dr. Emmanuel Adjei
Head of Department

COLLEGE OF EDUCATION

P O Box LG 60, Legon, Accra, Ghana.

- **Tel:** +233 (0) 303 937 957 Email: dislegon@ug. edu. gh Website: www.coe.ug. gh

UNIVERSITY OF GHANA
DEPARTMENT OF INFORMATION STUDIES
SCHOOL OF INFORMATION AND COMMUNICATION STUDIES

Ref. No.:.....**INFS 6/24**.....

December 13, 2017

The Medical Officer-In Charge
S. D. A. Hospital
Tamale

INTRODUCTORY LETTER

I write to introduce to you Miss Joana Dango, an M. Phil student of the Department of Information Studies.

She is researching on the topic "Information behavior of pregnant women in Tamale Metropolis".

Please assist her with the necessary information that will be needed to undertake the research.

Thank you.

Yours faithfully,

Dr. Emmanuel Adjei
Head of Department

COLLEGE OF EDUCATION

P O Box LG 60, Legon, Accra, Ghana.

- **Tel:** +233 (0) 303 937 957 Email: dislegon@ug.edu.gh Website: www.coe.ug.gh

UNIVERSITY OF GHANA
DEPARTMENT OF INFORMATION STUDIES
SCHOOL OF INFORMATION AND COMMUNICATION STUDIES

Ref. No.:.....**INFS 6/24**.....

December 13, 2017

The Medical Officer-In-Charge
Tamale Teaching Hospital
Tamale

INTRODUCTORY LETTER

I write to introduce to you Miss Joana Dango, an M. Phil student of the Department of Information Studies.

She is researching on the topic "Information behavior of pregnant women in Tamale Metropolis".

Please assist her with the necessary information that will be needed to undertake the research.

Thank you.

Yours faithfully,

Dr. Emmanuel Adjei
Head of Department

COLLEGE OF EDUCATION

P O Box LG 60, Legon, Accra, Ghana.

- **Tel:** +233 (0) 303 937 957 Email: dislegon@ug. edu. gh Website: www.coe.ug. gh