

UNIVERSITY OF GHANA

AN EVALUATION OF MATERNAL REFERRAL PATHWAYS IN PUBLIC HOSPITALS IN
LA DADE KOTOPON MUNICIPALITY

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DECLARATION

I, Abraham Jatuat, do hereby declare that except for the references cited, which have been duly acknowledged, this thesis is not published or submitted either in part or in whole anywhere for the award of a degree in any other university.

.....

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Date

CERTIFICATION

I hereby certify that this thesis was supervised in accordance with procedures laid down by the University.

.....

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(Supervisor)

.....

Date

DEDICATION

This work is dedicated to my son, Josiah Sugloman Jatuat, my daughter, Anabel Banniyem Jatuat, my wife, Christiana N. Namuel and to my siblings, and parents, especially to my late mother, Adwoa Laar (May her soul rest in peace).

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LIST OF ABBREVIATIONS

AIDS	:	Acquired Immune Deficiency Syndrome
AMDD	:	Averting Maternal Death and Disability
ANC	:	Anti-Natal Care
CHOs	:	Community Health Officers
CHPS	:	Community-based Health Planning and Services
CLDs	:	Causal Loop Diagrams
EMoC	:	Emergency Obstetric Care
ENT	:	Ear Nose and Throat
GHS	:	Ghana Health Service
GNA	:	Ghana News Agency
HIV	:	Human Immunodeficiency Virus
IMCI	:	Integrated Management of Childhood Illness
MDGs	:	Millennium Development Goals
MMR	:	Maternal Mortality Ratio
MOH	:	Ministry of Health
NCDs	:	Non-Communicable Diseases
NHIS	:	National Health Insurance Scheme

OPD	:	Out-Patient Department
PNC	:	Post Natal Care
RCH	:	Reproductive and Child Health
RCT	:	Randomized Controlled Trial
SPSS	:	Statistical Package for Social Science
SSA	:	Sub-Saharan Africa
TBA	:	Traditional Birth Attendant
UNFPA	:	United Nations Fund for Population Activities
UNICEF	:	United Nations International Children's Emergency Fund
UNDP	:	United Nations Development Programme
WHO	:	World Health Organization

ABSTRACT

A functional maternal referral system is important in minimizing maternal related challenges associated with antenatal care, labor and delivery; and postnatal services at primary, secondary and tertiary levels of care. The study sought to evaluate maternal referral pathways in the La Dade Kotopon Municipality by using La General Hospital and Police Hospital as cases for the study. The study adopted the Three Delays, Access Model and the System Thinking Approach to inquire into the issue of maternal referral pathways. The mixed-method approach and a case study design with a descriptive survey were employed for the study. A semi-structured questionnaire and an in-depth interview guide were used to collect data from a sample size of 390 pregnant mothers/patients, 10 midwives and two gynecologists from La General Hospital and Police Hospital. Purposive and convenient sampling techniques were used to select midwives, gynecologists and pregnant mothers/patients respectively. The quantitative data was analyzed by using Statistical Package for Social Science (SPSS) version 21. Moreover, a thematic content analysis approach was used to analyze the qualitative data collected from the midwives and gynecologists. The findings showed that pregnant mothers do not understand maternal referral pathways. Factors such as inadequate surgeons and midwives, inadequate blood in blood banks and severe and complicated maternal cases are some of the factors that necessitate maternal referrals in the municipality. However, the hospitals are plagued with inadequate surgeons and midwives, inadequate blood in blood banks, poor maternal records and non-compliance with maternal referral protocols, which have affected the operations of these hospitals. The study recommends that there should be an improvement in capacity building of the hospitals; appointment of highly competent staff, improvement in blood situations, and effective supervision to ensure compliance with maternal referral protocols. The study

recommends that there is still the need to evaluate the effectiveness of maternal referrals pathways by looking at the linkage between private and public health facilities.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter provides an introduction of the study. It further presents the background of the study, problem statement, research objectives and questions, significance of the study, scope of study, organization of the study and finally, a summary and conclusion.

1.1 Background of the Study

The contributions of efficient health care delivery are essential to the well-being of the citizens and economic development of every country such as Ghana. The World Health Organization [WHO] (2007) posits that quality healthcare systems reduce maternal, newborn and child mortalities. WHO, however, concluded that any country whose primary objective is to restore, maintain and promote the socio-economic well-being of its populace should focus on the activities which strengthen the healthcare systems. This is because an efficient healthcare delivery is a contributing factor of improving the health status of the populace and the overall economic development (WHO, 2007).

Notwithstanding the importance of quality health care systems, maternal issues remain one of the global and public health challenges (Hussein et al., 2012; Lassi et al., 2014; Sefogah & Gurol, 2015). Although there have been concerted efforts to increase coverage and accessibility of maternal care services, 800 women and 7700 newborns still die each day globally from complications during pregnancy, delivery and after delivery whiles an additional 7300 women

experience a stillbirth (WHO, 2016). In addition, over 70% of maternal and newborn deaths are mostly attributed to pregnancy complications such as hemorrhage, hypertensive disorders and sepsis and newborn infectious and Non-Communicable Diseases (NCDs) such as pneumonia, measles, tetanus, malnutrition and low birth weight (WHO, 2016).

Sefogah and Gurol (2015) postulated that majority of the world's maternal issues occur in low-income and middle-income countries such as Sub-Saharan African (SSA) countries. In explaining their claim, the authors posit that these countries are challenged with several socio-economic issues which make maternal services inaccessible to many women during pregnancy and delivery leading to preventable maternal deaths. At the heart of these problems are the limited financial access, inadequate referral system; lack of transportation facilities; and poor linkages between health centres and communities (Lassi et al., 2014). In the view of Hussein et al. (2012), maternal and newborn mortalities might therefore be prevented if there exist an effective referral systems which permit women to reach considerable higher order health services when complications occur.

The existence of a well-organized and functioning referral system is a key component which defines good maternal health services whereby lower healthcare facilities are the major access point for maternal services in rural areas whiles secondary level of care examines complicated cases referred from the primary levels. Moreover, specialized and severe cases are addressed by tertiary level of care (Mashishi, 2010). The referral mechanism involves communities, primary, secondary and tertiary facilities and requires coordination, cooperation and transfer of information so that patients receive care promptly and at the right level. Primarily, maternal cases admitted at lower functional health centres are expected to be transferred to higher levels for proper and efficient treatment.

Accordingly, a well-organized referral system sets clear protocols for management of conditions, referral pathways between levels of care, transport and responsibilities for each level of care (Mashishi, 2010). The significance of the referral system is embedded in the possibility and the unpredictability of pregnancy related complications which advance into a more severe life-threatening and death situations. Ensuring an effective referral system which provides a strong linkage between levels of care on a 24-hour basis requires skilled attendance (Ergo et al., 2011; McDonagh, 2005). Moreover, a functional referral system includes: an effective resourced referral centre; communications and feedback systems; improved transportation systems; standard protocols for identifying and managing complications; competent health professionals; collaboration between referral levels; integrated records system; compliance with laid down procedures; reliable patient information systems, and structured fee and exemption packages (Murray et al., 2001). However, feedback from the higher level facilities continues to be the weakest part of this communication (Ministry of Health [MOH], 2008).

Kim et al. (2003) posit that readily and efficient geographical access to referral care facilities is a major component of a successful referral system. At these referral centres, the authors call for the existence of well-trained staff, affordable services, readily available equipment as well as essential drugs and supplies. An efficient referral system requires a clear communication that ensures that patients receive quality care at each level of the system, and facilitates the movement of patients from one healthcare facility to another according to the severity of the condition. The availability of these drug consumables and non-drug consumables undoubtedly, contribute to the quality of care and services. However, Kim et al. (2003, p. 3) found that;

“The most complex aspect of referral care is often the caretaker’s acceptance of and compliance with a referral recommendation. This is often determined by a variety of factors, including the perceived need of a referral (disease severity),

caretaker/community experience with and impressions of the referral facility (quality), and cost (time and resources)''.

Available data reveal that maternal deaths in Ghana are estimated at 319 deaths per 100,000 live births (WHO et al., 2016). Among reasons attributed to the high maternal deaths in Ghana are limited qualified health professionals, inadequate health facilities and poor maternal referrals. These problems have undoubtedly affected the quality of healthcare services provided by the health institutions (Ghana Health Service [GHS], 2010; Hellman, 2007). For instance, a study conducted by Hellman (2007) indicated that lack of health centres and lack of blood in blood banks were the major factors that necessitated maternal referrals in the rural areas of Ghana. Also, a report by GHS (2010) showed that shortage of health workers was a contributing factor that influenced maternal referrals in Ghana. The report in Sissala District further revealed that there was inadequate skilled health professionals and medical equipment in that area, hence increasing the doctor-patient ratio to 1:54000 (GHS, 2010).

It is globally accepted that substantial reductions in maternal deaths and severe infirmities are difficult to achieve without a functional referral system for complicated cases. Proper communication should accompany the referrals from the community level facility to the tertiary facility describing the problem as seen at the lower level facility and indicating the reason for referral and, importantly, feedback from the community level facility to the referring facility, describing the findings, actions taken and the follow up needed. MOH (2012) emphasized that the poor and uncoordinated maternal referral practices are made worse by congestion in majority of the referral hospitals. The effect of this disparity and poor coordination are likely to influence health facilities negatively in referring some patients/mothers to different health centres for quality health care.

1.2 Problem Statement

It is evident that maternal referral pathways are increasingly becoming a problem in Sub-Saharan African countries such as Ghana, as developing countries try to minimize maternal deaths. However, maternal deaths occur as a result of pregnancy related problems such as poor accessibility, inadequate health professionals, inadequate health facilities and poor referral systems (WHO, 2012). The ramifications of these are that, mothers risk their health when they are referred from a primary level of care to a secondary or tertiary level of care. Even though over the years the Ghanaian economy has undergone tremendous socio-economic advancement, there exist inequalities and disparities in healthcare delivery such as the utilization and accessibility of mothers to quality healthcare (Aryeetey et al., 2009).

Other reasons are issues of inadequate health centres in Ghana which have compelled many women in the rural areas to resort to Traditional Birth Attendants (TBAs), some of whom are not skilled enough, and this sometimes cause excessive bleeding which result in maternal deaths (Asante, 2011). In addition, excessive transportation costs, consumables and other supplies, long distances to health facilities, deplorable nature of road networks, socio-cultural barriers and preference for services of TBA among others have hindered skilled delivery in rural areas (Asante, 2011; Boadu, 2010; Ofori- Adjei, 2007). In the end, pregnant mothers in rural areas may require referrals, but the deplorable nature of their transportation systems aggravates the health of pregnant mothers and causes complications or deaths (Aryeetey et al., 2009; Boadu, 2010).

According to BASICS II and GHS (2003), healthcare practitioners in Ghana mostly face a number of barriers in the areas of financial, geographic, and cultural factors, which prevent them from complying with referrals, especially maternal referrals. MOH (2012) emphasized that the

poor and uncoordinated maternal referral practices have made referrals in healthcare facilities a challenge. In explaining their claim, higher healthcare facilities are reluctant to admit and consent to referral cases partly due to the inadequate infrastructural services, limited qualified health professionals, poor communication systems and low level of awareness and knowledge regarding referral cases, which in turn results in greater proportions of avoidable maternal deaths (MOH, 2012).

A study by Kim et al. (2003) indicated that, much research has not been done to assess these financial, geographic and cultural barriers and therefore, the existing literature on these challenges with regards to maternal referrals is very little. In addition, owing to communication and transportation barriers, health professionals also encounter difficulty in compliance with standard protocols for maternal referral (MOH, 2012). This was evident as a survey carried out by the Ghana News Agency [GNA] (2010) as cited in Asante (2011) reported that, the 27 out of 37 maternal deaths recorded in the Eastern Regional Hospital in 2010 were due to late referrals, while five (5) of these pregnant women were already brought in dead.

The MOH/GHS in their quest to addressing inefficiencies in maternal referrals have developed policy documents; the national referral policies and guidelines 2012 to provide guidance and standards to improve referral practices and ensure quality care at all levels of health care. In view of this, the study is informed by the standards in the policy to evaluate the effectiveness and practicability of maternal referral pathways in the La Dade Kotopon Municipality.

1.3 Research Objectives

Based on the research problem, the aim of the study is to evaluate maternal referral pathways in Ghanaian Hospitals, taking the La-Dade Kotopon Municipality in Greater Accra Region as a study area.

The specific objectives to be examined are as follows:

- i. To ascertain the level of awareness and knowledge of pregnant mothers on maternal referral pathways in the La-Dade Kotopon Municipality.
- ii. To identify factors that necessitate maternal referrals in the Municipality.
- iii. To identify the challenges associated with maternal referral cases in the Municipality.

1.4 Research Questions

In order to achieve the above objectives, the study seeks to answer the following questions:

- i. What is the level of awareness and knowledge of pregnant mothers on maternal referral pathways in the La-Dade Kotopon Municipality?
- ii. What factors necessitate maternal referrals in the Municipality?
- iii. What are the challenges associated with maternal referral cases in the Municipality?

1.5 Significance of the Study

The essence of this study is to evaluate maternal referral pathways in Ghanaian hospitals. The researcher believes that this study is very important and would go a long way to address the inadequacies and challenges that healthcare institutions encounter when referring maternal cases in the La-Dade Kotopon Municipality in the Greater Accra Region.

The findings would be a useful source of reference to future researchers, academia, policy makers and the health sector. The researcher is of the view that the study would be useful to policy makers like the MOH and the GHS, since it would serve as an input for policy formulation to regulate them on maternal referral pathways in Ghanaian hospitals. It would also help in understanding the extent to which the referral system functions as well as assisting hospitals to know adequately their maternal care needs and how these resources are utilized for the welfare of women and the entire Ghanaian populace.

It is important to note that the outcome of this study would contribute to knowledge and literature in the subject area under investigation. To the academic community, the research seeks to add to existing body of knowledge, as it could serve as the basis for subsequent studies in related fields. Thus, the findings would add to studies that have been done, so that people in other parts of the country can also appreciate the problem.

1.6 Scope of Study

The scope of the study is categorized into two, namely; geographical and contextual scope.

1.6.1 Geographical Scope

The geographical scope of this study is La-Dade Kotopon Municipality which is located in the Kpeshie Sub-Metro of the Greater Accra Metropolis. La-Dade Kotopon Municipality shares boundaries with Osu Clotey Sub-Metropolitan to the West, Ayawaso Sub-Metropolitan to the North and Tema Municipal Assembly to the East.

1.6.2 Contextual Scope

Contextually, the study focuses on maternal healthcare delivery. The study further explores theoretical and conceptual underpinnings of maternal referral pathways in Ghanaian health institutions using La General Hospital and Police Hospitals in La-Dade Kotopon Municipality as case studies. It further seeks to evaluate the effectiveness of the maternal referral pathways through determining the proportion of women reaching the health facilities after referral protocol, appropriateness of the referral and reasons for non-compliance.

1.7 Organization of the Study

The study is organized into six main chapters. The first chapter introduces the study, identifies the research problem and asks the relevant research questions based on the specific objectives for the study, provides justification for the study, and defines the scope of the study. The chapter two provides a general synthesis of literature relating to maternal healthcare and maternal referral pathways. It focuses on reviewing existing scholarly works carried out on healthcare delivery, maternal referral pathways, and consequences of maternal healthcare provisions among others. It also provides conceptual and theoretical insights regarding maternal healthcare and maternal pathways referrals. Chapter three contains the study profile, study approach, study design, sampling frame and techniques, data management and source of the data. It also talks about the data collection tools employed. Chapter four focuses on the presentation of findings in relation to the responses derived from the semi-structured questionnaire and the interview guide. Chapter five discusses the findings in the context of the research objectives and extant literature. Chapter six constitutes the summary of key findings of the study, provides recommendations as well as a general conclusion for the study.

1.8 Definition of Key Terms and Concepts

Antenatal Care is a care provided to pregnant women right from the period of conception to the final period of pregnancy before delivery.

Community-based Health Planning Services are programmes directed at the community level to provide first contact and essential care services to the people. Here, minor illnesses, injuries and diseases are treated.

Free Maternal Health Care Policy is an exemption policy directed at making maternal care free. The policy exempts women from making out of pocket payments for during pregnancy, delivery and after delivery.

Maternal Death is the death of a woman during pregnancy or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes (WHO, 2005).

Maternal Referral is the transfer of a mother from a primary level of care through a secondary level of care to a tertiary level of care for an advanced medical care.

National Health Insurance Scheme is a financial health policy implemented to provide health care services to the people by paying a premium.

Postnatal Care involves the care given to the mother and baby for the next 40 days following delivery that provides an avenue for assessing mothers for any medical, psychological, emotional and social issues, and early identification of risk factors and physical problems in the baby.

Pregnant Mother is a woman who has conceived with a fetus in the womb and is expected to go through nine (9) months of conception.

Reproductive and Child Health refers to health related issues that affect children during infancy and women's reproductive parts.

Traditional Birth Attendant refers to an independent and non-formally trained and community-based provider that mostly use herbs to cater for women during pregnancy, delivery and 42 days after delivery.

1.9 Summary and Conclusion

This chapter provided an overview of referral pathways in healthcare institutions where attention was directed at maternal health challenges. The chapter revealed that referral pathways in addressing maternal health issues have been hit by factors such as inaccessibility, inadequate healthcare professionals, and poor decision of pregnant mothers among other challenges. The literature revealed that the problem of maternal referral pathways is predominant in SSA countries. However, increasing accessibility and employing competent health professionals are some of the ways in reducing maternal deaths as well as addressing referral challenges in health systems.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter provides a general synthesis of relevant literature relating to maternal referral pathways in Ghanaian hospitals. In view of this, the Three Delays, Access Models and the Systems Thinking Approach are used as its underpinning models for the study. The study further reviews existing scholarly works and empirical studies conducted on maternal referral pathways. Finally, the literature examines maternal referrals from developed, developing countries and Ghana.

2.1 Review of Theoretical Literature

The study used the concept of the Three Delays, Access Model and System Thinking Approach as its underpinning theories on which maternal referral pathways are investigated. In view of this, the study provided a theoretical review of the three models mentioned above.

2.1.1 The Concept of the Three Delays

Thaddeus and Maine (1994) developed the Three Delays Framework in 1994. The framework is still useful today because of the unfortunate fact that emergency obstetric complications are still one of the largest causes for maternal and neonatal deaths (WHO, 2012). This framework explains maternal mortality in the context of emergency obstetric complications. The authors tried to understand what happens in the time span before the eventual complication or death

occurs. If a patient receives care on time, the outcome is mostly satisfactory. Therefore Thaddeus and Maine (1994) conclude that a delay in being treated is the biggest reason for maternal deaths. The three delays include: delay in deciding to receive healthcare; delay in deciding to reach the healthcare facility; and delay on the part of health workers in deciding to attend to patients.

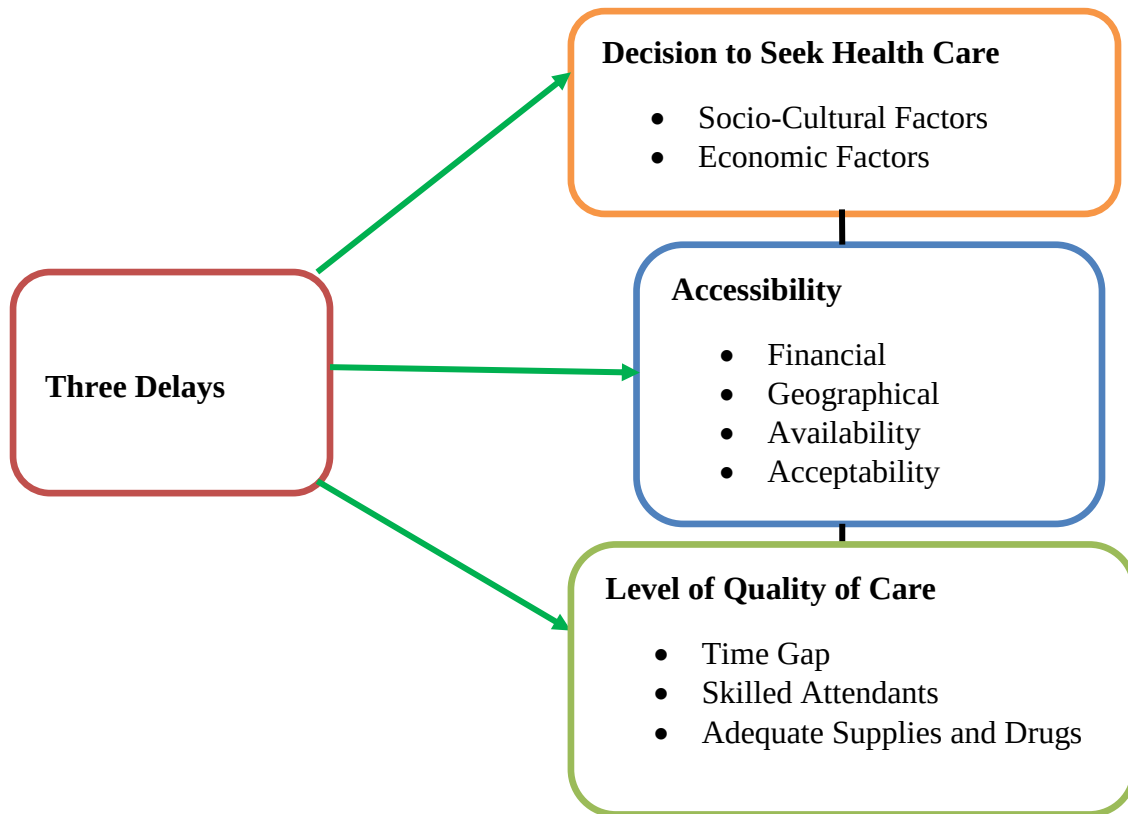
The decision to seek care implies the time taken by the woman to decide to arrive at the health facility to receive care. The decision to seek care may be influenced by socio-economic/cultural factors of the care seeker, physical accessibility, and affordability of health service and the quality of healthcare to be provided to the women. Moreover, inadequate information and low level of knowledge and awareness account for delays in responding to the initial warning signs of complications during pregnancy and delivery. For example, in the Ghanaian culture, women must seek approval from their spouses before seeking help (GHS, 2006; Iyengar & Iyengar, 2009; Pembe et al., 2010).

Difficulties in accessing healthcare facilities relate to the difficulty that women go through in accessing healthcare facilities. In most cases, there is a big gap between the health centres and that of the higher healthcare facilities, hence making it difficult for a woman in an emergency situation to get to the higher level for quality care. The situation is even worse if the nature of the road is in a deplorable state (GHS, 2006; Iyengar & Iyengar, 2009; Pembe, 2010).

Delays in attending to emergency cases imply the time the woman arrives at the health facility and the time the health professionals respond to the woman in providing appropriate care. The preparedness of healthcare facilities to respond to obstetric emergencies is generally affected by limited skilled and competent attendants, supplies and consumables and low morale of staffs (GHS, 2006; Iyengar & Iyengar, 2009; Pembe et al., 2010). All these factors affect the health

professionals' speed in deciding to attend to the women. The diagram (figure 2.1) shows the three delays in the referral system.

Figure 2.1: Conceptual Framework showing the Three Delays



Source: Author's own construct, 2016

2.1.2 The Access Model

The Access model proposed by Peters et al. (2008) provides a model for assessing access to quality care along four dimensions. These include; geographic accessibility, financial accessibility, availability and acceptability.

Geographic Accessibility examines the physical distance and possibilities to bridge that distance. The physical distance looks at the distance between the location of a healthcare facility and the location of the individual seeking health care. In a situation whereby the

distance between the healthcare facility and the location of healthcare seeker is short, the individual is able to access health care quicker. Moreover, in a situation whereby the distance between the healthcare facility and the location of the healthcare seeker is longer; the individual is delayed in receiving quality health care (Department of Health and Human Services, 2008; Pembe, 2010).

Financial Accessibility looks at the costs of health care delivery or services and the possibility or willingness of health care consumers to pay for the services provided. The ability of consumers of health care to pay for health services influences individuals to seek for quality healthcare, irrespective of the distance between their location and that of the healthcare facility. In an event where the individual is unable to pay for health services, the individual is reluctant to access healthcare and this has effects on the health of women (Department of Health and Human Services, 2008; Iyengar & Iyengar, 2009; Pembe et al., 2010).

Availability involves the presence of all the necessary resources needed to provide health care in the healthcare facility. The resources needed to undertake such activities include human resource, material resource, physical resource and time. The presence of all these resources is essential in the provision of health care in healthcare facilities. However, the absence of these resources could lead to the death of women or even cause complications to the women especially during pregnancy and delivery (Pembe, 2010; WHO, 2008).

Acceptability shows the relationship between social and cultural values of healthcare users and that of providers. If healthcare users align themselves with the values and cultures of the healthcare facility, the individuals are willing to access healthcare whilst if healthcare users

distant themselves from healthcare providers because of differences in values and cultures, individuals are unwilling to access health care (Pembe, 2010; WHO, 2008).

Each of the four dimensions (geographic, financial, acceptability and availability) is individually influenced by the free interplay of demand and supply. For example, geographic accessibility is influenced by the location of the user as well as the location of the service. The policy, macro environmental level, the individual and household level both influence the access to health care and the eventual delivery of overall quality care (Peters et al., 2008). Furthermore, it is explained that the poverty level of an individual is an important determinant in establishing a person's health needs, which they describe as illnesses. So the level of illness interacts with the level of poverty.

The Access Model is developed in a similar line of thought as the Three Delays Model (Thaddeus and Maine, 1994), so both models have some common grounds. They both discuss if quality care is within reach for the care seeker and how this influences their decision-making and the eventual care delivery. The Access Model is however, applicable to a wider variety of health contexts and does not only focus on maternal health. Also, the Access Model tries to explain the association between poverty and access to health care, while the Three Delays Model tries to relate the high mortality rates to delays in receiving care.

2.1.3 Systems Thinking Approach

Rwashana et al. (2014) studied the complexity of stagnating maternal mortality rates in Uganda. They argued that an integrated and holistic systems thinking approach towards maternal health issues create opportunities to understand the underlying causes. Mapping the ages interlink in Causal Loop Diagrams (CLDs) helps to find causal relationships and get to the core of the

problem, instead of curing the symptoms, which only results in reoccurrence of the problem. The complexity of maternal mortality is placed in the system in which the condition is interacting with the health system. Rwashana et al. (2014) first looked at maternal health challenges in developing countries by applying a holistic approach. The Causal Loop Diagrams they created visualize the supply and demand side in maternal healthcare in Uganda. All influencing factors are included; from maternal literacy to attending ANC and from funding for maternal healthcare to the motivation of the workforce. They linked all the different factors and described their relations to try and grasp an understanding of the underlying dynamics of the high neonatal mortality rates in Uganda.

The holistic system thinking approach takes a step back and tries to capture the whole picture. The health system has to deal with multiple different influences. Rwashana et al. (2014) mention the interactions between technical, policy, behavioral, and cultural issues. The Three Delays framework and the Access Model both focus on a part of the whole system: the delays as a cause for high mortality rates and the influences on access to healthcare respectively. The systems thinking approach applied by Rwashana et al. (2014) analyses all influencing aspects and tries to find the fundamental problem.

It is remarkable that in these gigantic CLDs the issue of referrals is only mentioned once. The influence on the referrals between health units is said to be ‘Ambulances/Transport’. Furthermore a positive relation is denoted between ‘Timely and adequate referrals between Health Units’ and ‘Maternal Healthcare Service Delivery’ (Rwashana et al., 2014). Thus, it is stated that improvement in the referral pathway will lead to quality maternal and neonatal health care. In this study, the author zooms in on this causal relation between the referral pathway and the quality of healthcare provided.

2.2 Linking the Models to the Study

The Three Delays, Access Model and the System Thinking Approach address a healthcare institution as a system where there are interactions of stakeholders (pregnant mothers and healthcare providers) that require the provision of an accessible, affordable and quality of care to their clients. For instance, for a healthcare institution to deliver quality health care to pregnant mothers, the three delays that militate against maternal referrals should be addressed adequately. Addressing maternal referrals require a shared purposive action and concerted effort between pregnant mothers/patients, healthcare providers and health institutions to help eliminate the issues of geographic and financial accessibilities, availability and acceptability. In tackling maternal referrals, the gap between patients/pregnant mothers' location to the health care facility should be abridged.

Thus, in the context of this study, the researcher presumed that the maternal referral pathways of La-General Hospital and Police Hospital were not strengthened. Based on this assumption, the study inquired into the maternal referral pathways in La-Dade Kotopon Municipality by focusing on La-General Hospital and the Police Hospital to ascertain pregnant mothers' accessibility to maternal health care and the collaboration between pregnant mothers and healthcare providers.

2.3 Review of Empirical Literature

This section examines related studies in the context of maternal referral pathways. In view of this, studies conducted in developing countries like SSA are mostly reviewed.

2.3.1 Maternal Referrals Pathways in Developing Countries

Maternal referral pathways are seen as one of the greatest developments and health challenges facing the developing world. According to WHO (2005), ineffective referrals of mothers is seen as the fourth leading cause of maternal deaths worldwide. Maternal death could occur during pregnancy, delivery and the 42 days after delivery (WHO, 2008).

It is estimated that every day, about 800 women die or suffer from avoidable causes or complications during pregnancy, delivery and after delivery. Maternal deaths are higher in developing countries and account for about 99% of all maternal deaths in the world. Also, maternal deaths in most instances occur among women in poorer communities such as SSA (WHO, 2012). The reason attributed to the higher rates in maternal deaths in the world is the poor maternal referrals, especially in SSA. A comparative study by Filippi et al. (2006) showed that in SSA, 1:16 women die in pregnancy related problems or from childbirth at risk. A study by Kunst and Houweling (2001) suggest that 88-98% of all maternal-related deaths could be minimized if women were referred on time to avoid complications women experience during emergency cases.

Sari (2009) argues that the increasing priority given to the health of mothers internationally has mainly targeted at minimizing maternal deaths. Maternal death is the death of a woman during pregnancy or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes (WHO, 2005). However, if maternal referrals' due protocols and guidelines are followed, maternal deaths would be reduced if not eliminated in the world.

2.3.2 Factors Necessitating Maternal Referrals in Developing Countries

Referral of patients from community level facilities to tertiary level facilities is regarded to be a key component of allopathic health systems (WHO & UNICEF, 2003). The origination of a formalized maternity referral pathway lies within the strategy of risk screening during pregnancy, in which primary health professionals try to identify women that are likely to suffer from severe obstetric complications in order to refer such cases to higher levels for specialized antenatal and delivery care. The suitability of this approach was evaluated when the lack of sensitivity analyses and applicability of available medical examination equipment, combined with the non-compliance with referral pathways' protocols, were identified (Bach, 2003; De Groof et al., 1995). The Safe Motherhood strategies firstly identify obstetric complications and provide basic medical and surgical care to respond to these. In order to address these obstetric complications, suitable emergency referral operations are needed, therefore, the needed skills required of community maternity care professionals should be adequately provided (Ahmed et al., 1999; Kotzee and Couper, 2006).

2.3.2.1 Referral-Level Facilities

Evidence has shown that investing in the management of obstetric emergencies can lead greatly to the minimization of maternal deaths (Witter et al., 2007; 2009). However, effective structures with referral facilities (lower, middle and higher) would provide little support for most maternal issues, and perhaps delay medical care if health professionals fail to take up responsibilities (Bossyns, 2004; Witter et al., 2007; Witter et al., 2009).

For basic emergencies in maternal cases, a decentralized provision of 24 hour up-to-date Emergency Obstetric Care (EmOC) at the lower levels is suitable. However, the present evidence

indicates that referral pathways are far from meeting the standards and that the number of complicated deliveries managed at community health facilities fall below the target of about 15% of pregnancies (De Groof et al., 2003). On the other hand, the over reliance on almost all deliveries into “referral-level” healthcare facilities alone do not lead to a minimal Maternal Mortality Ratio (MMR). For instance, statistics from the Dominican Republic has shown that the MMR can be well over 100 deaths per 100,000 live births in areas with very high specialized maternal care. However, if congestion is present and specialized deliveries are lacking, the outcome is poor quality care (Barbara et al., 2003; Siddiqi et al., 2001).

In areas in which higher level facilities are over utilized, it seems appropriate that allowing patients to experience, lower specialized care should enhance the quality of care for women. However, the supporting literature is few, and various studies in different locations such as rural Uttar Pradesh, India (RamaRao et al., 2001), Pakistan (Siddiqi et al., 2001), Zambia (Ahmed et al., 1999), and Niger (Bossyns, 2004) have shown that effective maternal referral can be affected by inadequate equipment, comprehensive information and awareness, and promptness to act on obstetric complications at primary level of care. A typical illustration comes from Lusaka, Zambia (Murray et al., 2001), an urban centre without topographical challenges. Here, a renovated and extended nurse–midwife run satellite clinic network successfully decreased the workload on the referral facilities (halving its deliveries from around 24,000 in 1982 to 10,500 in 1998) and increasing specialized deliveries professional to 90%.

Most SSA countries have devoted their attention to substantially increasing utilization of health professionals during deliveries, but this is likely to be unattainable for many. There is evidence that the level of specialized deliveries required at the basic level relies on the utilization and acceptance of referral care. Case studies from Fortaleza, Brazil in the early 1980s (Iyengar and

Iyengar, 2009), Yunnan, rural China in the early 1990s (Institute for Health Science, 2003), and a recent cluster Randomized Controlled Trial (RCT) in Pakistan (Jokhio et al., 2005), all indicate that, if the health system provides the needed community and referral support to TBAs then a greater reduction in maternal death is likely to occur. The evidence to support specific TBAs training techniques to improve emergency obstetric referral, however, is weak overall (Mumtaz et al., 2004; Sibley et al., 2004).

2.3.2.2 The Bypassing of Referral Structures

According to Hussein et al. (2012), most of the women in SSA countries do not regard the laid down maternal referral pathway, they sought to what they described as ‘self-referrals’ which normally takes place among women who can afford. Studies in SSA have revealed that the majority (61–82%) of users of health facilities are not referred by a health professionals but are “self-referrals” (Nkyekyer, 2000). Similarly, non-compliance with laid down procedures by lower level and higher level facilities have been indicated in Terai and Hill Districts in Nepal. In most instances, “Self-referrals” lead to underutilization of lower-level facilities, and overcrowding at tertiary healthcare facilities (Ergo et al., 2011).

However, there is a revelation that reflects realistic and lack of trust in the quality care available or in the efficiency of future referrals. In rural areas where road networks are in deplorable conditions and poor health systems exist, self-referral to healthcare facilities are in most instances resorted to if obstetric complications are anticipated. Improved strategies like bypass fees instituted to streamline the patient flow to the ideal approach are impossible to become successful without advanced infrastructure and empowering healthcare workers at the basic level. A model adopted in Namibia conducted a study on patients and focus group discussions

with community members to inquire into the rationale behind health facilities bypassing the existing referral system (Kelin et al., 2001; Low et al., 2001).

Overcrowding at healthcare facilities may be controlled in the developed areas by the satellite clinic network approach as it pertains in Lusaka, Zambia, or by improving human and infrastructural resources greatly to offer extra 24-hour up-to-date EmOC more primarily (Nyambo et al., 2003). The United Kingdom have adopted the most widely used model in adhering to maternal referrals (Akalin & Maine, 1995; Hundley et al., 1994), but hardly used in developing countries such as SSA, is to create “functional splits” among the referral healthcare facilities. Low-technology birth centres aim at providing efficient care for emotional and mental labor and deliveries for women without complications, and separate wards provide specialized care for women with complications. One example of this approach is the Patan Hospital Birthing Centre in Lalitpur, Nepal (Rana et al., 2003).

2.3.2.3 Adequately Resourced Referral Center

The decentralization of basic EmOC to community facilities, with additional reachable 24-hour provision of up-to-date EmOC, has been convincingly made. The Averting Maternal Death and Disability (AMDD) network has reported the success of upgrading EmOC facilities at higher level facilities in most countries. Between 2000 and 2003, the individual projects disclosed average increases of 144% in the number of women with obstetric complications treated, and an average decrease of 50% in the case fatality rate at the referral facilities (AMDD data, University of Columbia). The magnitude to which the referral systems should pay attention to referral of complications, or involve women regarded to be more susceptible to emerging pregnancy related cases such as pregnancy-induced hypertension is an ongoing debate. The infrastructure and other

resources at the lower facilities and the acceptability by individuals of tertiary referrals need to inform programming. The proximity between maternal waiting homes and healthcare facilities, for example, while no substitute for population-wide access to EmOC, have been used to good effect for dispersed populations in Mongolia, Cuba, Ethiopia, Zimbabwe, and Chile (WHO, 1998).

2.3.2.4 Collaboration between Referral Levels and across Hospitals

Many studies on maternal health care focus on the human costs of failures in the integration between lower levels and higher levels in the provision of care and across the public and private healthcare facilities. Yunnan Province, China, gives one example of a hierarchical model of performance management: each lower-level meeting organized by the immediate higher-level institution to highlight the monthly statistics, problems, and planning (Institute for Health Science, 2003).

An increasingly mixed economy of health care and a resurgence of various types of privately owned maternity homes have created new challenges for integrative referral systems. Small- and medium-scale private-for-profit organizations may be dependent on publicly owned facilities when complexities occur. Very little has been reported on the referral modalities adopted by the privately owned-for-profit sector in general. Moreover, these facilities face challenges to effective referral caused by distrust have been seen between TBAs and midwives in rural Nigeria (Okafor and Rizzuto, 1994) and between private midwives and publicly owned facilities in Ghana (Obuobi et al., 1999).

2.3.2.5 Formalized Communication and Transport Arrangements

The urgent need of obstetric emergencies indicates that communication and transportation systems need to be prioritized. Referral gadgets used in communications have the potential to embrace increasingly robust technologies. The use of radio-telephones in health facilities in the Mother-Care project in Malawi was able to reduce average transport delays from 6 to 3 hours and the RESCUER project in Uganda used solar-powered VHF radio communications mechanisms with a fixed base station at health facilities and walkie-talkies for TBAs (Musoke, 2002). There are few examples of the use of telemedicine (telephone, video, email, or website-based consultations) to reduce challenges to distance and time in obstetric referral, but an example in rural India shows some success in making newborn referrals more appropriate (Deodhar, 2002; Graham et al., 2004).

Krasovec (2004) indicates the paucity of evidence on referral pathways, but concludes that motorized transportation is likely to be the most effective option. In systems that have poor resources, emphasis is laid on integrating the use of domestic available public transportation system. Nkyekyer's (2000) reviewed peri-partum referrals in the Ghanaian teaching hospitals and found that the majority of these (59%) came to health facilities by taxi. Statistically, 90% of maternal cases that were referred arrived at the higher health facility are in "good condition" whilst only 1% are in "poor condition". The Prevention of Maternal Mortality Network in West Africa has several examples of successful small local-level interventions to improve transportation and communication (Nkyekyer, 2000).

However, organized ambulatory care has been seen as pivotal to the successful national maternal mortality Programmes in Honduras, Sri Lanka, and Malaysia (Koblinsky & Campbell, 2003).

Koblinsky and Campbell (2003) examines the features of 31 ambulance-operating institutions in Nepal is one of the several studies. Here, ambulances run by local facilities, often ideologically based, organizations were found to be less rigid than those managed by publicly owned facilities and large Non-Governmental Organizations (NGOs), and less likely to be misused for personal interests. The potential for “recruiting citizens as supporting staff helping to provide their own emergency care (Razzak & Kellermann, 2002) is also indicated by institutions such as the Edhi Ambulance Service in Pakistan, services run by local Lions and Rotary Clubs and the Dharmodaya in Nepal, the functions of the Red Cross and Red Crescent societies elsewhere. In certain areas, out-contracting to the private sector for ambulatory services may also be an alternative to explore, as has been implemented by Benoni City Council in South Africa.

2.3.2.6 Agreed Setting-Specific Protocols for Referrer and Receiver

Health professionals need standard guidelines to guide them in determining at what point in the course of a complication, or at what level of risk, they should refer a woman to a higher level of care (Jahn & De Brouwere, 2001). Such referral protocols need to reflect local epidemiological transitions, organizational capacity, and community preferences. The partograph is widely accepted as one of the decision-making tools for progress of labor and well-being of mother and fetus (Gilson, 2003).

However, although it has been successfully incorporated into daily practice in a number of settings, the association between “use”, decision- making, and successful referrals still require attention (Pettersson et al., 2000). Alongside such guidelines, centralized records systems lead to good collaborative communications. Equipping staff with training and monitoring visits were considered to be a better way of improving record keeping in Ghana (Allotey & Reidpath, 2000).

In Delhi, India, however, the success of a new pregnancy card aims at facilitating an increasing trend and decreasing trend in antenatal referrals was affected by lack of laid down referral linkages between facilities (Bansal et al., 2003). Suggestions often pay attention to guidelines for the referrer, but protocols at the higher facilities may also need serious scrutiny. The absence of such referrals procedures can result in referring patients having to queue alongside other out-patients (Gupta, 2000; Hawkins et al., 2005), or in the exclusion of accompanying community health workers from hospital premises because they lacked hospital identification (Options Consultancy, 2004).

2.3.2.7 Policy Support

The underpinning necessitating an effective maternal referral pathway is governmental support. An effective and a systemic change and prioritization of maternal health legislations within policy and equitable national resource allocation needs skillful collaboration and high commitment of political processes, as evaluation of successful Safe Motherhood initiatives have shown (Koblinsky & Campbell, 2003). More importantly, a study by Koblinsky and Campbell (2003) revealed that a sound government policy could help to improve a referral and supervisory function was prioritized within the health care system, serving as the linkage between levels so that complicated obstetric cases were efficiently referred. Recommendations emanating from developed economies have shown that unified policy decisions can have positive effects on referrals between health facilities. Decentralizing health system's funding and management, for example, is likely to weaken the technical linkages between rural community health facilities and tertiary health facilities, as shown in the Philippines (Koblinsky & Campbell, 2003).

2.4 Challenges of Maternal Referral Pathways in Developing Countries

This section looks at the various factors that inform primary care levels to refer emergency and severe maternal cases to either secondary care levels or to the tertiary care levels for quality care.

2.4.1 Knowledge Gap of Maternal Referrals

Thaddeus and Maine (1994) and Peters et al. (2008) frameworks contribute substantively to understanding the current problematic maternal and child health situation in Fort Portal, Uganda. They are relevant for this thesis, but the influence of the referral system on maternal healthcare cannot be analyzed only by taking the delays and the relationship with poverty into account. They grasp the problem in a straightforward way and in doing this they tend to stay above the surface in understanding it.

The extensive use of a theory can mean that it touches upon an important reality, but it can be dangerous to fully depend on one perspective. It is important to stay critical and to keep asking questions. Rwashana et al. (2014) take a fresh step by applying the systems thinking approach to the neonatal mortality rates in Uganda. They aim to include all influences and understand their interconnections and consequences. As is said, the referral system (and the organization capacity in general) has not often been investigated. This research zooms in on the relation that is found in the CLD from Rwashana et al. (2014) between quality care and the state of the referral system.

2.4.2 Non-Compliance with Referral Pathways

Referral pathways and guidelines are however not always adhered to. In a study on maternal referral systems in the Republic of Honduras, Rwashana et al. (2014) found that patients consult any level of care without being first referred by the facilities providing lower level of care,

resulting in the under-utilization of peripheral facilities and over-utilization of hospitals. For example, 61% of referrals at national hospital level were referred straight from primary level health centers, bypassing community and tertiary health facilities, and 84% of referrals at regional hospitals were referred right from health centres.

Sanders et al. (1998) found similar problems in their study to assess the functionality of the pyramid referral system in Zimbabwe. The pyramid referral system implies referral of patients from PHC facilities to district hospitals for secondary level general inpatients services, then to provincial hospitals for tertiary level general specialist services and lastly to quaternary level hospitals for specialist and sub-specialist services. They found that inappropriate referrals, self-referrals and inappropriate utilization of health facilities were major challenges. For example, 58% of patients treated at the quaternary level had conditions that could have been treated at primary levels of care, and a significant amount of inappropriate patients at quaternary hospital were self-referred, highlighting inappropriate utilization of specialist services.

2.4.3 Patients' Condition/Perception

Patients' conditions play a key role in the choice of their referred hospital. Nevertheless, levels of care and referral pathways have been developed to ensure suitable use of health facilities, so patients are required to attend defined facilities and not just any as the first contact with the health care system. Since patients have fundamental rights to access health care, they may feel it is their right to choose and decide which health care facilities to attend (Sanders et al., 1998).

A study to determine the factors determining the underutilization of maternity obstetric units in Sedibeng District South Africa found that patient's lifestyle, preferred choice for epidural or caesarean deliveries, demographic factors, cultural factors, socio-psychological factors, social

class and economic status play a role in the selection of delivery place (Mthetwa, 2006). Other factors such as poor understanding of the referral system and lack of confidence in the ability of health providers at the health centre level to manage complications also contribute to patients' bypassing lower levels of care (Majoko et al., 2005).

In some instances due to the patients' own discernment or lack of understanding of the reason for referral, refuse to go to a higher level of care when referred by a health provider. For instance, as shown in a study conducted by Majoka et al. (2005) in Zimbabwe showed that about 31% of antenatal women referred to hospital for assessment by a medical practitioner due to high parity did not go. Similarly, a study to monitor the effectiveness of the maternal referral system in Rufiji District, Tanzania also showed that, about 1/3 of women referred from community levels complied with referral advice and the majority of women (63%) did not comply because they did not perceive demographic risk factors such as young age (less 20years), grand multipara and prim gravida as serious (Pembe et al., 2010).

Sometimes, family members decide the place of delivery for women and decide whether to comply with referral advice. For example, a study in India indicates that, some communities refuse to conform to referral guidelines for specific maternal complications (i.e. anemia, ante partum hemorrhage, twin pregnancy, abortion complications and post-partum hemorrhage) and usually negotiate with the midwife for the women to be managed at the health centres instead of being transferred to the hospital (Iyengar & Iyengar, 2009). It was also shown in the study in Tanzania that pregnant women and their dependents may refuse a referral for first pregnancy, multigravida pregnancy, young age, abnormal lie or presentation, and twin pregnancy when they saw that other women with the same problems delivered more safely (without complications) at the hospital after being referred (Pembe et al., 2008). They perceive that if the woman delivered

normally after being referred to the hospital, it shows that she would deliver without complications at clinic.

2.4.4 Facility Related Factors

Various factors of health systems contribute to high levels of inadequacies in self-referral to higher levels of care. The severe shortage of health providers, especially doctors at primary care level facilities; lack of material resources at primary care level; and lack of infrastructure are important factors that contribute to patients' referral system and by-passing lower levels of care (Sharan et al., 2010). For example, non-availability of primary level and tertiary levels in two major cities in Honduras led to the use of the level three hospitals as the first health care point due to its geographical accessibility (Omaha et al., 1998). In Namibia, inaccessibility of health facilities with appropriate levels of care in some regions contributed to high levels of self-referrals to the more geographically accessible Windhoek National Hospital (Low et al., 2001). In addition, despite availability of drugs and equipment and a reasonably good quality of care at health centres in Eritrea, patients referred themselves directly to tertiary health facilities instead of going to the health centres because of a shortage of doctors at health centers (Sharan et al., 2001). In South Africa, level three hospitals are better -resourced and more attractive to patients than level two maternity hospitals (Mthetwa, 2006).

The low user fees charged at higher levels of service delivery also contribute to self-referrals, bypassing of lower levels of care, and inappropriate use of higher levels of care. This was shown in research by Omaha et al (1998) in Honduras where low user fees at peripheral facilities and the absence of a by-pass fee were related to overuse of the hospital by self-referred patients.

2.4.5 Health Profession Factors

Inappropriate utilization of higher-level facilities can also be due to inappropriate referrals to hospital by health professionals at lower levels of care. Primary care level health care workers' understanding of referral terminology and their knowledge of the impact of referral pathways on the provision of health service affects the rate of inappropriate referrals to higher levels of care. For example, in Honduras, health professionals were referring patients' right from community health facilities to tertiary health facilities instead of referring them to health centres with physicians because of their lack of understanding of the referral system (Gilson, 2003; Omaha et al., 1998).

Health workers' poor understanding of referral systems and guidelines may also lead to non-referral of high risk patients to tertiary levels of care. For example, Majoko et al. (2005) showed that health providers in Zimbabwe sometimes fail to refer women with high risk pregnancies to the next level of care: a total of 1077 multiparous women had previous pregnancy complications and were qualified for referral but only 41% were referred. The researchers concluded that the nurse/midwife should be involved when reviewing the indications for antenatal referrals as this may prevent a disregard of some of the referral indications (Majoko et al., 2005).

However, it is not only about health worker knowledge and perceptions, as sometimes the reasons are mixed. As Barbara et al. (2003) and Pasquier et al. (2005) found, appropriate referrals are dependent on the willingness of health professionals at referring facilities to abide with the referral system and availability of resources at receiving facilities. In their study, the referral of women with high risk and intermediate risk pregnancies to level three and two respectively could not work as clinicians at the referring facilities (level two and one hospitals)

were not willing to transfer women due to concerns about losing their competences, and level three facilities refused to receive intermediate risk pregnancies due to lack of resources.

The relationship between patients and health care practitioners is also important because it may influence women's choice of facility for delivery (Mthetwa, 2006). For example, in a study in Honduras, one of the health centers had a referral rate of 8% (referral rate was calculated as a number of 'received referral' patients with proper referral forms divided by the total number of outpatient visits), which was higher than other health centres. This was due to the favorable association between the health professionals and the supporting staff (Omaha et al., 1998). As the South African Saving Mothers Report highlights, a hostile reception from staff at health facilities is an important barrier to accessing maternal health care (Department of Health and Human Services, 2008). As Pembe et al. (2008) show in Tanzania, respondents reported that referral hospitals provide more satisfactory services than the health centres because hospital health workers are kinder and willing to listen and explain health problems, and respondents liked the cleanliness of the hospital.

2.5 Effectiveness of Maternal Referral Pathways for Maternal Health Care

Referral pathways can support decentralized service provision if health services capacity is improved and essential resources are made available. For example, a study in Malawi shows that a well-equipped district hospital, availability of functional ambulances and availability of functional short-wave radio linking all health centres and district hospitals improved the ability of the referral system to handle obstetric emergencies in a country with limited resources (Kongnyuy et al., 2008). In Zambia, Mackeith et al.'s (2003) study revealed that there was an

increase in women that delivered at satellite clinics in Lusaka after the introduction of a project to upgrade and extend existing health centres, introduce partographs to monitor progress of labor, provide emergency transport and radio communication, and allocate nurse-midwives to run satellite maternity units at health centres. The study shows that a decentralized maternity care system was achieved as deliveries at peripheral facilities increased from 2,000 to 15,000 in 1988, and 32,000 in 1998, of which 63% took place at public clinics and 24% at the central University Teaching Hospital (UTH).

Murray et al. (2001) showed that there was improvement in decentralized provision of deliveries, because before introduction of the referral system in 1982, 2000 women delivered in three marginal public clinics and 24,000 at UTH, while after the intervention, about three-quarters of deliveries took place at midwife-run services and much fewer gave birth in UTH. Referral pathways and guidelines that are accompanied by resources can function well and improve outcomes. For example, in rural Mali, the national maternity referral system to improve communication and transportation systems between community health centres and higher level health facilities which was implemented after provision of training and equipment for clinical management of obstetric emergencies increased obstetric emergency coverage and reduced the risk of maternal mortality, more so among referred than self-referred women (Fournier et al., 2009; Ronsmans and Graham).

Furthermore, in Angola, a network of nine community levels connected two central hospitals which were managed by midwives was established. This network occurred after the peripheral units were provided with equipment, radio communication and ambulances for quick referral of patients with obstetric emergencies (Strand et al., 2009). An audit to evaluate the efficacy of the referral network shows that process indicators such as waiting time and quality of programs

improved, and so did the caesarian section rate and maternal mortality but only for referrals that could be traced to the referral site. The same study results showed that there was non-compliance with referral advice by the women because the 3 peripheral birth units recorded 398 and 429 referrals in 1996 and 1999, respectively while only 157 and 92 women could be traced at the hospitals to which these women had been referred (Strand et al., 2009).

2.6 Maternal Referral Pathways in Ghana

The GHS has series of health care systems which include either three or five levels depending on whether the levels are viewed from an administrative perspective or functional perspective. The administrative level of the Ghana Health Care System is made up of the national, regional and district. Also, the functional level comprises of the national, regional, district, sub-district and the community. Certain districts have adopted the national Community-based Health Planning and Services (CHPS) programme, which posts Community Health Officers (CHOs) in remote, underserved areas. Once a CHO is posted, the community itself sets up a community clinic where basic services are provided to a catchment area of communities, usually forming an 8–14 kilometer radius (BASICS II & GHS, 2003; GSS, GHS and ICF Macro International, 2009).

The CHO, however, most of its spending are on its time not in the specialized health services, but reaching out to the target communities conducting extended outreach. Although CHOs manage all of the health needs of the target communities, they are needed to receive training in Integrated Management of Childhood Illness (IMCI) to be able to improve care for neonates. It is estimated that CHOs would refer a majority of neonates to a higher level of care. Where CHPS is not in operation, health centres constitute the first level of care, and are responsible for managing the majority of the population's health problems (BASICS II & GHS, 2003; GSS, GHS and ICF

Macro International, 2009).

There are different levels of health facilities, which can be differentiated by the type of the health professional in charge of the facility. This could be in terms of medical officer, professional nurse, medical assistant, nurse auxiliary, or CHO. One or two professionals who provide first point of contact services for children usually staff health centres. Some larger health centres have a limited number of In-Patient Department (IPD) beds in addition to Out-Patient Department (OPD) services, and perhaps also have the capacity for normal laboratory tests (e.g., malaria, hemoglobin, etc.). Most of the severe cases may be resolved at this level, but often referral to a higher facility may be necessary when needed. Whilst health centres can constitute a referral site, they are usually regarded to be a primary-level facility. Although health centres should refer cases to the district hospital, there is discretion to refer to another site (e.g., to a district hospital located in another district, regional hospital, or a teaching hospital) when it is deemed that the complexity of the disease or potential for health professionals' non-conformity deserves it (BASICS II & GHS, 2003).

At the secondary level, district hospitals provide basic specialized services-pediatrics, gynecology and obstetrics, medicine, and surgery. They are well- equipped with more sophisticated medical equipment and can perform complex procedures and laboratory tests. The health professionals' in charge of the facility is most often a medical officer. Many health professionals receive health care directly from the district hospital OPD. The hospitals receive cases sent from health centres and may further refer cases to regional or teaching hospitals (BASICS II & GHS, 2003). Regional hospitals have a greater number of providers, and a variety of specialty areas. Regional hospitals provide a full range of care and possess sophisticated medical equipment to handle a variety of severe conditions. Regional hospitals receive cases

from health centers and district hospitals and may refer cases to the teaching hospitals (BASICS II & GHS, 2003).

Finally, at the tertiary level, there are four teaching hospitals-Korle-Bu Teaching Hospital located in Accra, Komfo Anokye Teaching Hospital (KATH) in Kumasi, Cape Coast Teaching Hospital in Cape Coast and Tamale Teaching Hospital in Tamale. These hospitals have both out-patient and in-patient services. Although the teaching hospitals are designated to receive only referrals, they also manage initial cases within Accra, Kumasi, Cape Coast and Tamale. It is not known how many patients are seen at the teaching hospitals are actually referrals made from lower levels of care (BASICS II & GHS, 2003).

The GHS has a defined referral pathway, which in practice permits health professionals to use their discretion when identifying the appropriate referral site. CHPS nurses should refer to health centres. From health centers, health workers are expected to refer to the district hospital. District hospitals may refer to regional hospitals that may then refer to the teaching hospitals. In some situations, however, some smaller health centres may refer to a larger health centre, or may choose to refer directly to a regional hospital, a district hospital located outside of the district, or even to a teaching hospital. These decisions are often justified when health workers recognize sending the case directly to a particular hospital can only treat a condition that they know. In other situations, health workers recognize that a particular facility (that is not the assigned referral site) is closer and/or easier for the caretaker to access. Finally, health workers often make a judgment call when they think that a caretaker may not go to the recommended facility (because of a previous bad experience) and decide to send the case to an alternate facility (BASICS II & GHS, 2003).

2.7 Implications of the Reviewed Studies

This chapter provides a review of empirical literature on maternal health issues and maternal referral pathways in various countries and healthcare institutions. There were similarities in most of the methodologies used in the various studies that were encountered. Most of the studies used either qualitative or quantitative approach where descriptive survey methods, questionnaires, interviews and observations were employed for collecting data for their respective studies. Various lessons were learnt from the review and from other literature that was not included in this study.

The evidence established that maternal health issues are giving the most attention. This is due to the fact that addressing maternal health care is crucial to the survival of pregnant mothers, unborn babies and newly born babies.

The extant literature revealed that countries need to formulate policies and programmes directed towards pregnant mothers that can help reduce the higher rates of maternal deaths in countries, especially SSA. This is because having policies targeted at maternal health issues is likely to tackle the problems that cause maternal deaths. The availability of adequate policies set up bedrock or guide for the effective management of problems that cause maternal deaths.

Finally, the evidence disclosed that there should be effective maternal referral pathways in developing countries to help reduce the rates of maternal deaths. This is because an effective maternal referral pathway is likely to bridge the gap between the location of the pregnant mother and that of the healthcare facility. This implies that the ability of a pregnant mother to access a healthcare facility within the shortest possible time after being referred is likely to improve her health and survival.

2.8 Summary and Conclusion

This chapter evaluated maternal referral pathways in healthcare institutions by introducing the Three Delays, Access Model and the Systems Thinking Approach as the theoretical foundations for evaluating maternal referral pathways. The Three Delays, Access Model and the Systems Thinking Approach function effectively both in developed and developing countries to help understand and address issues of maternal health and its related challenges. The review of an empirical literature has clearly indicated the importance of designing effective maternal referral pathways, especially transferring a pregnant mother or patient from the primary level of care through the secondary level of care and finally, to the tertiary level of care. The evidence revealed that the effectiveness of maternal referrals is one of the ways in reducing maternal deaths caused by access factors.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter outlines how the study was organized and undertaken. It highlights the approaches used in eliciting the required responses to the research objectives and questions. The chapter further lays emphasis on the research approaches and design adopted for the study. Moreover, study population, sample size determination and sampling techniques employed have all been discussed and justified. Finally, sources of data, data collection instruments and procedures, validity and reliability, ethical considerations and data management and analysis for the study are all considered.

3.1 Study Area

The location chosen for this study was La Dade-Kotopon Municipality. The La Dade-Kotopon Municipal Assembly used to be a Sub-Metropolitan Assembly under the Accra Metropolitan Assembly until June 2012 when it attained a Municipal status. The La Dade-Kotopon Municipal Assembly was established by Local Government Act, 1993 (Act 462) with Legislative Instrument 2133. The Municipality covers an area of 36.033 square kilometres. It is bounded on both North and West by the Accra Metropolis, on the East by the Ledzokuku Krowor Municipality and on the South by the Gulf of Guinea. The population of La-Dade Kotopon Municipality, according to the 2010 Population and Housing Census, is 183,528 with females constituting 52.7% while males formed 47.3%.

The study selected the Police Hospital and the La General Hospital from the municipality as a case study to evaluate maternal referral pathways (GSS et al., 2014).

3.1.1 The Police Hospital

The first study area chosen for the study was the Police Hospital in the La Dade-Kotopon Municipality in Greater Accra Region. This hospital was established in 1976 which offers various health services to both service personnel and civilians. The hospital is located at adjacent Danquah Circle, Cantonments. As of 2016, the hospital had total staff strength of 433. The hospital has over 20 units that render various kinds of services to both service personnel and civilians. The units are Administration, Medical Records and NHIS, PRO, Medicine, Surgery, Obstetrics and Gynecology, Pediatrics, Finance, QMS, Works, Physiotherapy, Laboratory, X-Ray, OPD, Anesthesia, Eye Clinic, Dentistry, Theatre, Female Ward, Male Ward, Maternity Ward, Executive Ward, Pharmacy, Public Health, Civilian Employees Association and Mortuary. The kinds of services the hospital provides include the following; OPD services, In-Patient services, Obstetric and Gynecological services, Accident and Emergency services, Pharmaceutical services, ECG, Laboratory services, X-Ray services, Ultra Sound, Ear Nose Throat and Dental services (ENT), Community Psychiatric services, Maternal Health services, Diabetic and Sickle Cell services. The hospital also serves as a referral point to other private health facilities and clinics in the municipality (Ghana Police Hospital, 2016).

3.1.1.1 Vision of the Hospital

“To maximize the healthy life of every Police Officer, to ensure they are medically fit for police duties”

3.1.1.2 Mission Statement of the Hospital

“To provide every Police Officer with access to at least free primary health care”

3.1.1.3 Objectives

The hospital uses Regional Police Clinics, Police Training School Clinics and a Mobile Medical Team for the achievement of its vision and mission.

3.1.1.4 Morbidity Trend

Malaria cases dominate the morbidity of inhabitants that visited Ghana Police Hospital in the year, 2015. The records show that people who were diagnosed of Malaria were 18,717 out of 66,444 top nine (9) morbidity cases respectively. Moreover, Upper Respiratory Tract Infection and Hypertension cases were 9,381 and 9,071 respectively. Diabetes Miletus and Dental cases are the least cases that were reported in the hospital with 2,934 and 2,785 cases. Details of top Nine (9) morbidity cases for the year 2015 are shown in Table 3.1

Table 3.1: 2015 Top Nine (9) Morbidity Cases

Diseases	Cases	Percent (%)
1. Malaria	18,717	28
2. Upper Respiratory Tract Infection	9,381	14
3. Hypertension	9,071	14
4. Gynecological Cases	7,909	12
5. Rheumatism & Other Joint Paints	6,784	10
6. Eye	5,632	8
7. Skin Diseases & Ulcers	3,231	5
8. Diabetes Miletus	2,934	4
9. Dental	2,785	4
Total	66,444	100

Source: Ghana Police Hospital, 2015

3.1.2 The La General Hospital

The second study area chosen by the researcher to conduct this study is the La General Hospital in the La Dade-Kotopon Municipality in Greater Accra Region. The hospital was established in 1963 as a Polyclinic to provide health services to the general public. In 2004, the facility was upgraded into a hospital. The hospital is located at Jomo Street on the La Beach Road. As of 2016, the hospital had total staff strength of 347. The hospital has over 20 units that render various kinds of services to both service personnel and civilians. The Units are; Administration, Accounts, Records, Stores, Pharmacy, Surgical Ward, Theatre, Anesthesia, Laboratory, Maternity, Obstetrics and Gynecology, ENT, Dental, OPD, X-Ray, Psychiatric, Diabetic, Sickle Cell, Accident and Emergency, Public health, Pediatrics, Children, Female and Male wards respectively. The kinds of services the hospital provides include the following; General Medicine, General Surgery, Obstetric and Gynecological services, Maternal Health/ Family Planning, Ear Nose Throat and Dental services (ENT), Community Psychiatric services, Public Health, Laundry, Blood Bank, Mortuary, OPD services, Accident and Emergency services, Pharmaceutical services, Laboratory services, X-Ray services, Ultra Sound, Diabetic and Sickle Cell services. The hospital also serves as a referral point for other private health facilities and clinics in the municipality (La General Hospital, 2016).

3.1.2.1 Vision of the Hospital

“A healthy population with universal access to quality health service”

3.1.2.2 Mission Statement of the Hospital

“To provide and prudently manage comprehensive and accessible quality health service with emphasis on primary health care in accordance with approved national policies”

3.1.2.3 Core Values

- People Centered (Staff, Clients, Partners)
- Professionalism
- Team work
- Excellence and Innovation
- Discipline
- Integrity

3.2 Study Approach

A mixed-method approach was used for the study. This involved both quantitative and qualitative data collection from pregnant mothers who accessed either La General Hospital or Police Hospital in the La Dade Kotopon Municipality for the year ending 2016.

The quantitative method involved the use of statistical results to make judgments and interpretations to aid in conclusion. The most used data collection instrument in quantitative studies is the questionnaire. Based on this, the study made use of a semi-structured questionnaire to elicit information from the pregnant mothers who were either on admission or not but were receiving maternal care. A typical question that formed part of the questionnaire was “*how would you assess the behavior of healthcare providers after being referred to their healthcare facility*”. Such a question provided the pregnant mothers with options to choose from. Moreover, the statistics (percentages and frequencies) were used as a basis for discussions to make conclusions and recommendations to address referral pathways in the La-Dade Kotopon Municipality.

The qualitative method involved the use of inductive and deductive reasoning, pictures and observations to make judgments and interpretations of the findings (Neuman, 2006). In view of this, the study made use of an in-depth interview guide to elicit information directly from key informants (healthcare professionals) at the maternity unit. A typical question that formed part of the interview guide was “*what are some of the reasons for referring mothers to higher level facilities*”. Such a question required the health practitioners to express their thoughts based on their understanding. In view of this, a thematic content analysis approach was used to reflect the views and explanations given by the health care professionals.

3.3 Study Design

The study adopted a case study design with a descriptive survey. The descriptive survey ensured the use quantitative and qualitative data in order to evaluate maternal referral pathways in La General Hospital and Police Hospital. The focus on maternal referral pathway at La-Dade Kotopon Municipality was made possible by visiting pregnant mothers, La General Hospital and Police Hospital within the municipality to collect data on maternal health issues that were referred and the rationale behind such referrals. This required the use of a semi-structured questionnaire and an in-depth interview guide to collect all the data needed to address the research problem and objectives.

3.4 Target Population

The study targeted pregnant mothers/patients, midwives and gynecologists at La General Hospital and Police Hospital in La-Dade Kotopon Municipality. These healthcare facilities were used to ascertain the kind of maternal referral pathways within the municipality. Pregnant mothers who were on admission and at the OPD were involved to provide the study with the challenges they normally go through during referrals within La-Dade Kotopon Municipality. These stakeholders were relevant for the study in the sense that they were able to provide the study with the answers that best address the research problem and objectives.

3.5 Sampling Technique

The study used a purposive sampling technique to select key informants (pregnant mothers, midwives and gynecologists) in their respective healthcare facilities. These categories of people were essential as they could provide an in-depth knowledge and relevant information on maternal referral pathways within La-Dade Kotopon Municipality. The purposive sampling technique was used to select 390 pregnant mothers/patients, 10 midwives and 2 gynecologists from both La General Hospital and Police Hospital.

3.6 Determination of Sample Size

Sample size decision was informed by Yamane (1967) simplified version formula for proportion. At 95% confidence interval and $P = 0.05$, the formula is given as:

$$n = \frac{N}{1 + Ne^2}$$

Where: n = sample size; N = population size and e = level of precision (5%).

In this study, N is the population of the Police Hospital was 413. With a precision or sampling error of 0.05, the estimated sample size is as follows:

$$n = \frac{413}{1 + 413(0.05)^2} = 203$$

Therefore the sample size for Police Hospital was 214.

The same sample size determination formula was applied in determining the sample size for La-General Hospital.

$$n = \frac{N}{1 + Ne^2}$$

Where: n = sample size; N = population size and e = level of precision (5%).

In this study, N is the population of the La-General Hospital was 347. With a precision or sampling error of 0.05, the estimated sample size is as follows:

$$n = \frac{347}{1 + 347(0.05)^2} = 185.81$$

Therefore the sample size for La-General Hospital was 188.

The population and sample size of both the Police Hospital and the La-General Hospital are shown in Table 3.2

Table 3.2 Summary of Population and Sample Size

Police Hospital	Population	Sample
Pregnant Mothers/Patients	397	207
Midwives	13	6
Gynecologists	3	1
La General Hospital		
Pregnant Mothers/Patients	338	183
Midwives	8	4
Gynecologists	1	1
Total	760	402

Source: Field Data, 2016

3.7 Sources of Data

Data for the study was obtained from both primary and secondary sources. The collection and analyses of data provided answers to the research questions. This section outlines the sources and the methods used in gathering data for the study.

3.7.1 Primary Data

The study employed a wide range of methods and sources to gather the primary data. The main instrument of data collection was semi-structured questionnaires which were completed by respondents (pregnant mothers). This ensured that the respondents could provide answers in addressing the research questions. A semi-structured questionnaire was used in the study because it gave room for detailed answers for open-ended questions in cases where response could not be articulated in few words. Moreover, an in-depth interview guide was designed to collect vital information from key informants (midwives and gynecologists). This was necessary because the study sought to understand maternal referrals on the part of the professionals.

3.7.2 Secondary Data

The secondary data sources included both published and unpublished works on the area of maternal referral pathways. In this study, secondary data were obtained from the OPD attendance register. Other documents covering policy on patients' referral was also used as a supporting document to provide suggestions for challenges in maternal referrals.

3.8 Data Collection Instruments

The study relied on a semi-structured questionnaire and an interview guide as data collection instruments to collect data in addressing maternal referral pathways in La-Dade Kotopon Municipality.

3.8.1 Questionnaire

A research questionnaire containing carefully framed questions was used to collect data for the study. The questionnaire was categorized into five (5) thematic parts with each section addressing specific and peculiar issues to help address the research objectives. The questionnaire had about 20 questions of which most were close-ended. The open-ended questions allowed the pregnant mothers to express themselves freely without restrictions. On the other hand, the close-ended questions restricted the participants by providing them with alternative answers to choose from.

The first part aimed at the collection of demographic information on the participants. Some of the demographic information included age, educational level, occupation, religion and marital

status. These were needed to determine the category of individuals that accessed maternal services within La-Dade Kotopon Municipality.

The second part focused on the knowledge of pregnant mothers on referral pathways in La-Dade Kotopon Municipality. These were needed to ascertain if they had knowledge on the essence of maternal referral pathways and why they needed to comply with when recommended.

The third part examined the proximity and procedures of maternal referral pathways in La-Dade Kotopon Municipality. This sought to find out the distance between the location of the referred pregnant mother and that of the healthcare facility. Issues pertaining to their intentions to comply with referral cases or not were all also addressed under this part.

The fourth part was directed at the quality of maternal referral pathways in La-Dade Kotopon Municipality. In view of that, the study looked at the behavior and performance of healthcare providers towards referred mothers.

The last part looked at the challenges associated with maternal referral pathways in La-Dade Kotopon Municipality and the suggestions to help improve maternal referral pathways in the Municipality.

3.8.2 Interview Guide

Interviews were conducted to gather data about the pregnant mothers' experiences with referrals. The interview guide was broadly organized into four (4) areas as follows; demographic characteristics of healthcare providers examined the length of service in their current healthcare facility and their current job title in the profession. The knowledge on referral pathway among healthcare providers was ascertained to address the research problem and objectives. The

procedures and rationale looked at the technical issues pertaining to maternal referrals among healthcare facilities. Lastly, the challenges aimed at identifying critical issues that occur in referring maternal cases and the kinds of recommendations that could be implemented to minimize irregularities in referred maternal cases in La-Dade Kotopon Municipality.

3.9 Data Collection Procedure

The data collection was done in stages. The first stage took place at the La General Hospital and Police Hospital. The study used two days to critically review the maternal registry books at the various healthcare facilities mentioned above to ascertain the state of maternal referrals in La-Dade Kotopon Municipality. The registry books provided useful information with regards to the referrals and provided the actual numbers.

The second stage of the study was to conduct an in-depth interview with the midwives and the gynecologists of both La General Hospital and the Police Hospital. The study used four days in conducting this exercise. These key informants were needed because the study wanted to understand their influence on the functioning of the referral system required information from other participants rather than relying only on the pregnant mothers.

The third and last phase of the study was aimed at distributing questionnaires to the pregnant mothers that were either on admission or at the maternity unit. The researcher used twelve (12) days for the data collection. However, questionnaires were completed by 390 respondents (pregnant mothers) within the municipality. The pregnant mothers were involved because they were the main beneficiaries of effective maternal referrals.

3.10 Reliability, Validity and Piloting

To ensure the reliability of the study's findings, the study made use of midwives, gynecologists and pregnant mothers that could provide answers to address inadequacies in maternal referral pathway in La-Dade Kotopon Municipality. In view of this, a pilot study was conducted with ten (10) pregnant mothers in three communities in Teshie within La-Dade Kotopon Municipality. The initial questionnaire designed consisted of 25 questions. The piloting was done to check the accuracy and understanding of each question, and also, the time it would take respondents to answer each questionnaire. From the pilot study, it was observed that five (5) questions were too technical that needed to be taken from the mothers' questionnaire unto the healthcare providers' interview guide. Also, the aftermath of the piloting showed that the average time used by mothers in answering each questionnaire was 27 minutes. The reduction in the number of questions thereafter reduced the average time from 27 minutes to 18 minutes. This was considered to be satisfactory by the researcher.

Finally, a pilot study was conducted with two (2) midwives and one (1) gynecologist at a private health centre in Teshie within La-Dade Kotopon Municipality. The initial interview guide designed consisted of 20 questions. From the pilot study, it was observed that six (6) questions were not needed. The aftermath of the piloting showed that the average time used by midwives and gynecologists in responding to each interview was 20 minutes. The reduction in the number of questions thereafter reduced the average time from 20 minutes to 15 minutes. This was considered to be satisfactory by the researcher.

3.11 Ethical Considerations

For the purpose of the study, pregnant mothers were given questionnaires to complete without interference. On the other hand, midwives and gynecologists were asked questions to respond by relying on the interview guide. The study protected the privacy and confidentiality of respondents by not disclosing the names of the respondents. For protecting the rights of La General Hospital and Police Hospital, an introductory letter was obtained from the Department of Public Administration and Health Services Management of the University of Ghana Business School and sent to the healthcare institutions under study. The introductory letter highlighted the purpose and intent of the study. Moreover, the literature used in the study was duly acknowledged to prevent academic violations.

3.12 Data Management and Analysis

The quantitative data was analyzed with a Statistical Package for Social Science, version 21. The statistics generated from the SPSS were in the form of numerical values such as percentages and frequencies. Additionally, the SPSS was used to generate the measures of central tendencies such as mean, mode, standard deviation and median. Bar graphs, pie charts and tables were used to explain the quantitative results.

In respect to the qualitative data, the data collected from the midwives and gynecologists with the use of an interview guide was analyzed. A thematic content analysis approach was done by transcribing the data collected to reflect the views and explanations of the midwives and gynecologists. This was extensively discussed and where necessary, some vital data was quoted to reflect the response of the participants.

3.13 Summary and Conclusion

This chapter outlined the methods, processes and instruments used for collecting data for the study. In view of that, the study employed a mixed method where a descriptive survey design was used. A semi-structured questionnaire and an interview guide were used to collect data from the pregnant mothers, midwives and gynecologists within La-Dade Kotopon Municipality. The study made use of both primary and secondary data for the study. The data was analyzed using Statistical Package for Social Science (SPSS), version 21.

CHAPTER FOUR

PRESENTATION OF FINDINGS

4.0 Introduction

This chapter presents the findings obtained at La General Hospital and Police Hospital in the La Dade Kotopon Municipality. The findings were based on the following: demographic characteristics; knowledge of referral system/pathway; proximity, procedures and rationale; quality of maternal referral pathway in the municipality; and challenges and recommendations. These thematic areas helped to provide answers to the research questions and objectives of the study. This therefore helped the study to address the main objective of evaluating maternal referral pathways in La Dade Kotopon Municipality where healthcare professionals and pregnant mothers/patients were involved in the study.

4.1 Demographic Characteristics of Pregnant Mothers/Patients

This section looks at the background of the pregnant mothers. These include the age, educational level, religion and marital status.

4.1.1 Age, Educational Level, Occupation, Marital Status and Religion of Pregnant Mothers

The ages of the pregnant mothers ranged from 17 years to 58 years. The average age was 38 years which represented 8.2% whilst pregnant mothers at age 37 constituted 9.1%.

In terms of their educational level, 87(23%) of the pregnant mothers had attained primary education whilst 135(35.7%) had acquired secondary education. On the other hand, 49(13%) of the pregnant mothers had attained vocational training, whilst 53(14%) had acquired tertiary level of education. Moreover, 36(9.5%) of the pregnant mothers had acquired professional training. However, 18(4.8%) of the pregnant mothers had not attained any form of education.

With respect to the occupation of the pregnant mothers, 123(32.5%) were traders whilst 183(48.4%) of the pregnant mothers were artisans (hairdressers and seamstress). Moreover, 22(5.8%) were teachers. On the other hand, 9(2.4%) of the pregnant mothers were police women whilst 13(3.4%) were farmers. Also, 5(1.3%) of the pregnant mothers were journalists. However, 23(6.1%) of the pregnant mothers did not work or have any job.

Considering the marital status of the pregnant mothers, 267(70.6%) were married whilst 93(24.6%) of the pregnant mothers were single. Also, 11(2.9%) of the pregnant mothers had been divorced with 7(1.9%) of the pregnant mothers being widowed.

The religious background of the pregnant mothers indicated that, 296(78.3%) were Christians with 79(20.9%) belonging to the Islamic religion. Moreover, only 3(0.8%) of the pregnant mothers were traditionalist. (See Table 4.1)

Table 4.1 Educational Level, Occupation, Marital Status and Religion of Pregnant Mothers

Educational Level	Frequency	Percent (%)
Primary	87	23
Secondary	135	35.7
Vocational	49	13
Tertiary	53	14
Professional	36	9.5
No Education	18	4.8
Total	378	100
Occupation		
Teaching	22	5.8
Trading	123	32.5
Journalism	5	1.3
Farming	13	3.4
Police	9	2.4
Artisanship (Hairdresser, Seamstress)	183	48.4
No Occupation	23	6.1
Total	378	100
Marital Status		
Single	93	24.6
Married	267	70.6
Divorced	11	2.9
Widowed	7	1.9
Total	378	100
Religion		
Islamic	79	20.9
Christianity	296	78.3
Traditional	3	0.8
Total	378	100

Source: Field Data, 2016

4.2 Knowledge of Pregnant Mothers on Maternal Referral Pathway

This section looks at the awareness and knowledge of pregnant mothers on maternal referral pathways. This demonstrates the understanding of pregnant mothers that have either been referred before or on admission.

4.2.1 Understanding of Pregnant Mothers on Maternal Referral Pathways

In explaining maternal referral pathways, 107(28.3%) of the pregnant mothers were of the notion that husbands taking their wives to hospitals for medical care constituted their understanding of maternal referral pathway. On the other hand, 163(43.2%) indicated that taking mothers to higher levels for health care was the meaning of maternal referral pathway. Moreover, 95(25.1%) of the pregnant mothers disclosed that maternal referral pathway was the taking of mothers from primary level of care through secondary level of care, and finally, to the tertiary level of care. However, 13(3.4%) of the pregnant mothers revealed that they did not know the meaning of maternal referral pathway. Although majority of the pregnant mothers seemed to have understood the meaning of maternal referral pathway, some still did not have insight into the meaning of maternal referral pathway. (See Table 4.2)

Table 4.2 Understanding of Pregnant Mothers on Maternal Referral Pathways

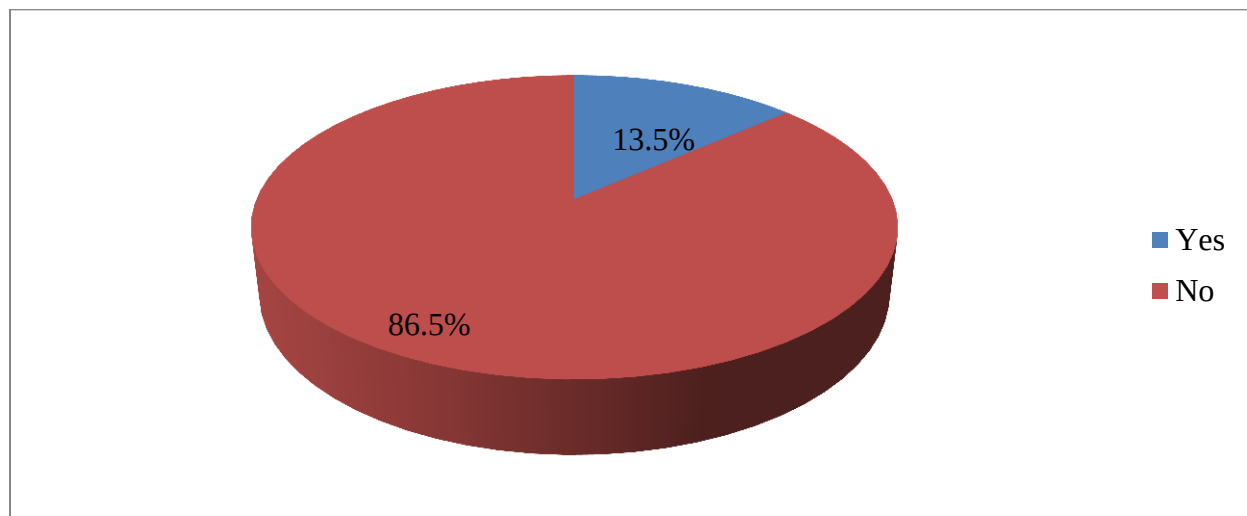
Understanding	Frequency	Percent (%)
Husbands taking their wives to hospitals	107	28.3
Taking mothers to higher levels for better care	163	43.2
Taking mothers from lower levels through middle levels to higher levels of care	95	25.1
No idea	13	3.4
Total	378	100

Source: Field Data, 2016

4.2.2 Awareness of Pregnant Mothers on Maternal Referral Pathways

In assessing the awareness of the pregnant mothers, 327(86.5%) of them disclosed that they did not have any idea of the kind of maternal referral pathway in the municipality, whilst 51(13.5%) of them revealed that they knew of the stages referred pregnant mothers went through in the municipality. This means that majority of the pregnant mothers did not know of the maternal referral pathway in the La Dade Kotopon Municipality. (See Figure 4.1)

Figure 4.1 Awareness of Pregnant Mothers on Maternal Referral Pathways



Source: Field Data, 2016

4.2.3 Understanding of Pregnant Mothers on Maternal Referral Pathways

Of the 13.5% pregnant mothers that indicated that they understood the maternal referral pathway in the municipality, 22(43.1%) stated that the kind of referral pathway in the municipality is when severe cases are taken to the police hospital, whilst 12(23.5%) of the pregnant mothers opined that mothers with unsatisfied medical care returned home for better maternal care. On the other hand, 17(33.4%) were of the view that emergency maternal cases are mostly referred from lower levels to either La General Hospital or Police Hospital. (See Table 4.3)

Table 4.3 Understanding of Pregnant Mothers on Maternal Referral Pathways

Understanding	Frequency	Percent (%)
Severe cases go to Police Hospital	22	43.1
Patients unsatisfied with medical care return home	12	23.5
Emergency cases are referred to either La General Hospital or Police Hospital	17	33.4
Total	51	100

Source: Field Data, 2016

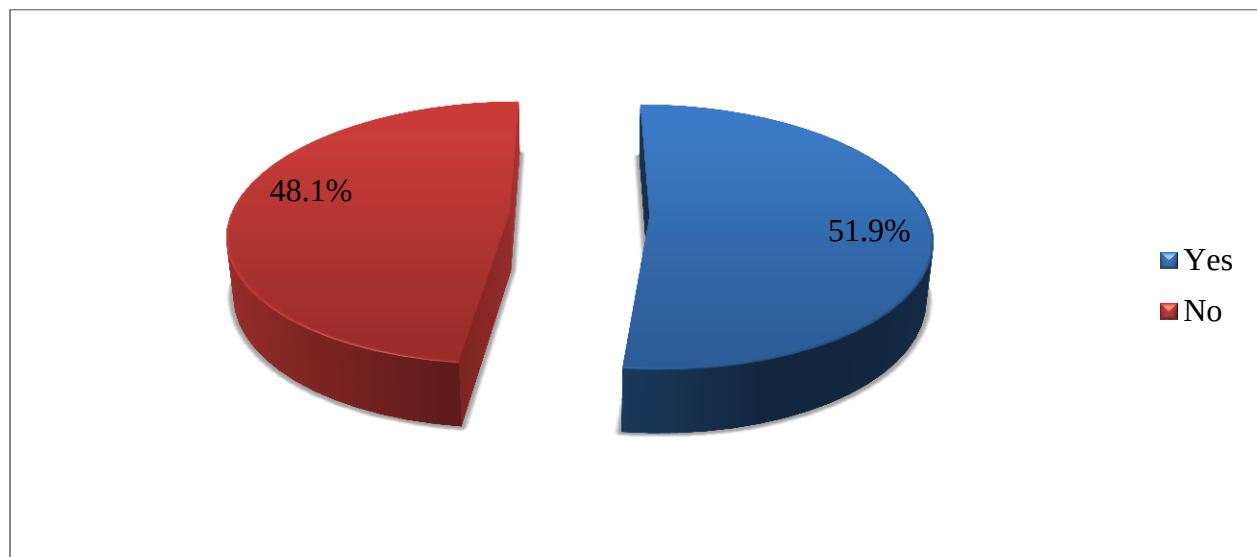
4.3 Factors Affecting Maternal Referral Pathways by Pregnant Mothers

This examined the various factors that affect and necessitate maternal referral pathways in the La Dade Kotopon Municipality in the perspectives of the pregnant mothers.

.4.3.1 Proximity from Pregnant Mothers House to Health Facility

On the proximity of maternal referred cases to referred centers, 196(51.9%) of the pregnant mothers revealed that their place of residence was closer to the healthcare facility they were normally referred to whilst 182(48.1%) was of the notion that their place of residence was far from the healthcare facility they were normally referred to. This implies that some of the pregnant mothers' residence was still far from the various healthcare facilities after being referred. (See Figure 4.2)

Figure 4.2 Proximity from Pregnant Mothers' House to Health Facility

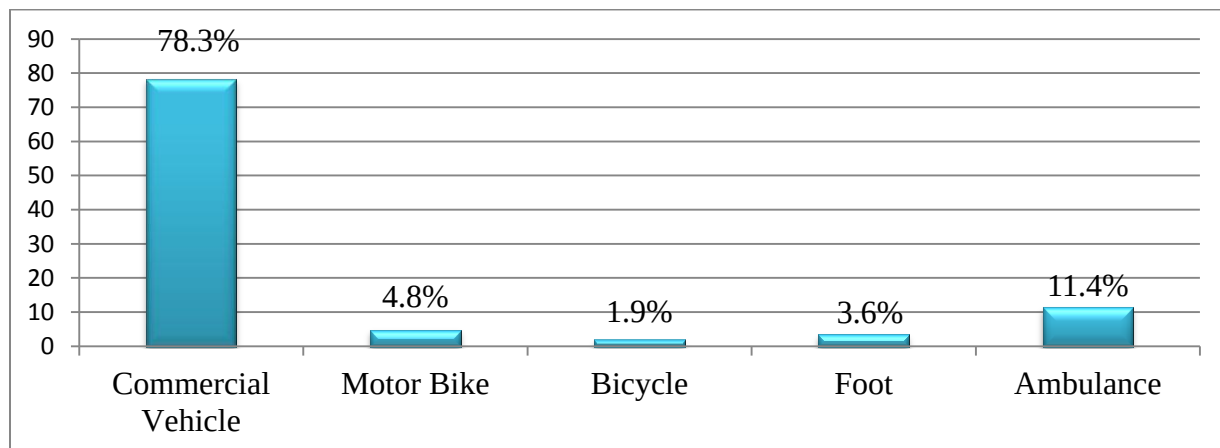


Source: Field Data, 2016

4.3.2 Transportation by Pregnant Mothers

On the issue of transportation to the referred center, 296(78.3%) of the pregnant mothers revealed that they used vehicles as a means of transport to the referred healthcare facility, whilst 57(15%) disclosed that they went to the healthcare facilities on foot. On the other hand, 18(4.8%) of the pregnant mothers stated that they went to their referred healthcare facility by motor-bikes whilst 7(1.9%) said that they took bicycles to the healthcare facility after being referred. However, 43(11.4%) were brought to the referred center with an Ambulance. (See Figure 4.3)

Figure 4.3 Transportation by Pregnant Mothers

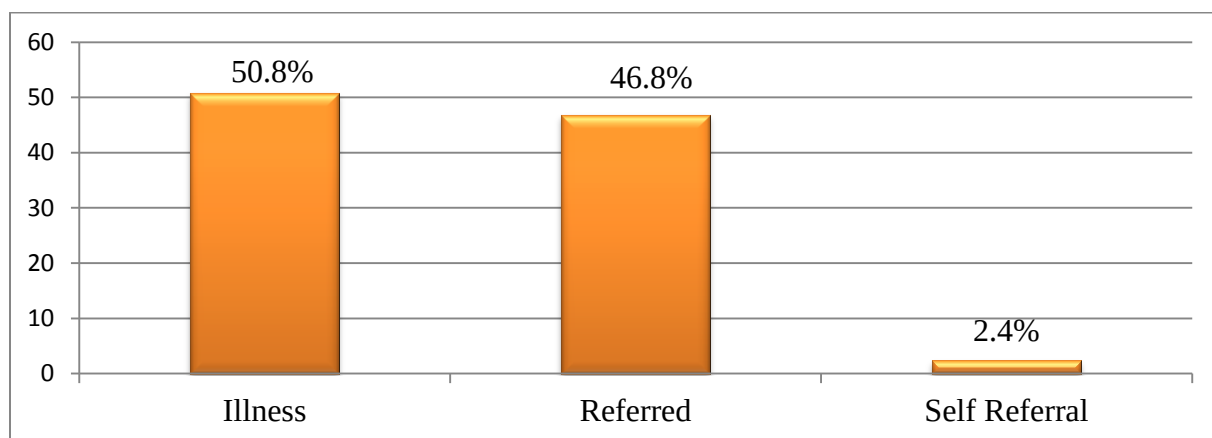


Source: Field Data, 2016

4.3.3 Pregnant Mothers Reasons for Coming to Hospital

On the reasons of coming to the referred center, 192(50.8%) of the pregnant mothers indicated that they came to the hospital because of illness, whilst 177(46.8%) of the pregnant mothers said that they were at the hospital as a result of being referred by a lower healthcare facility. Also, 9(2.4%) said that they came to the facility as a result of self-referral (See Figure 4.4)

Figure 4.4 Pregnant Mothers Reasons for Coming to Hospital

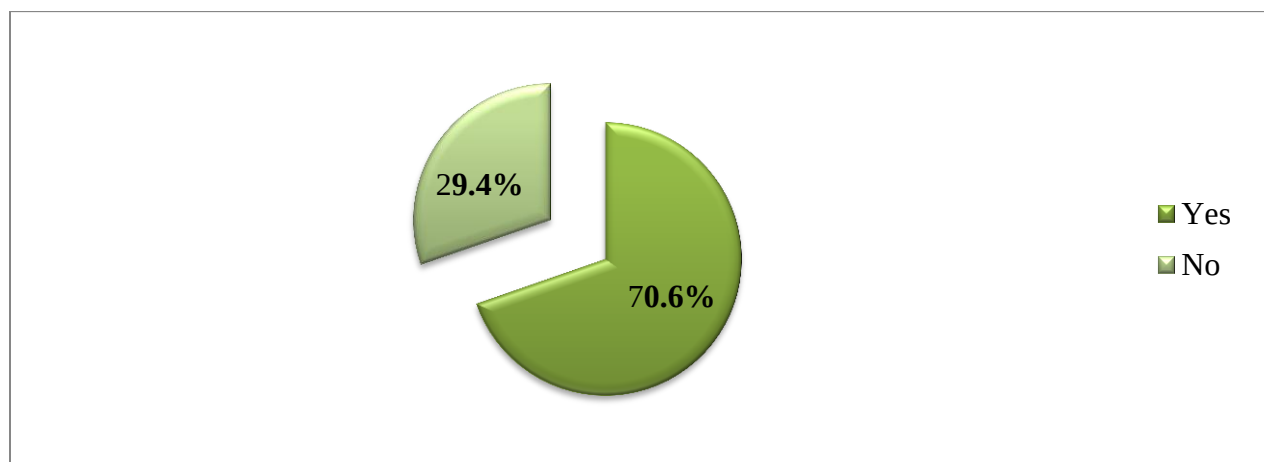


Source: Field Data, 2016

4.3.4 Pregnant Mother Referrals

On the question of whether pregnant mothers had been referred before or not, 267(70.6%) of the pregnant mothers indicated that they had been referred to a higher healthcare facility before, whilst 111(29.4%) stated that they had not been referred to a higher healthcare facility before. This implies that most of the residents had been referred from a lower level of care to a higher level of care. (See Figure 4.5)

Figure 4.5 Pregnant Mother Referral

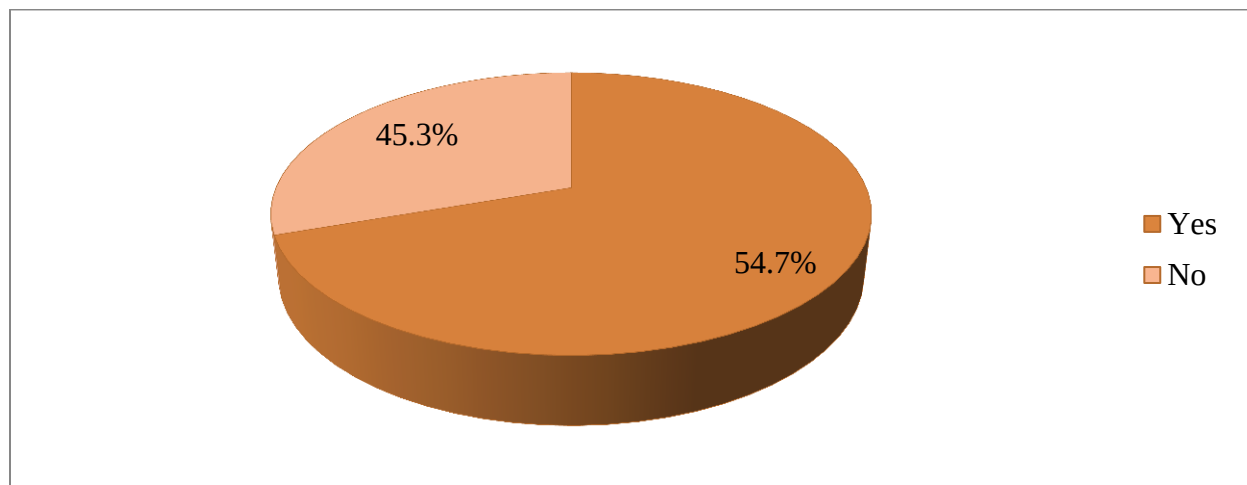


Source: Field Data, 2016

4.3.5 Pregnant Mothers Knowledge on Reasons for Referral

Among those referred, 121(45.3%) of them stated that the lower healthcare facility explained the reasons for being referred to the higher healthcare facility. In contrast, 146(54.7%) of the pregnant mothers said that the lower healthcare facility did not explain the reasons why they were being referred to a higher level for medical care. This signifies that some pregnant mothers still lack the knowledge of the reasons why their lower level healthcare facilities refer them to a higher level for quality health care. (See Figure 4.6)

Figure 4.6 Pregnant Mothers Knowledge on Reasons for Referral

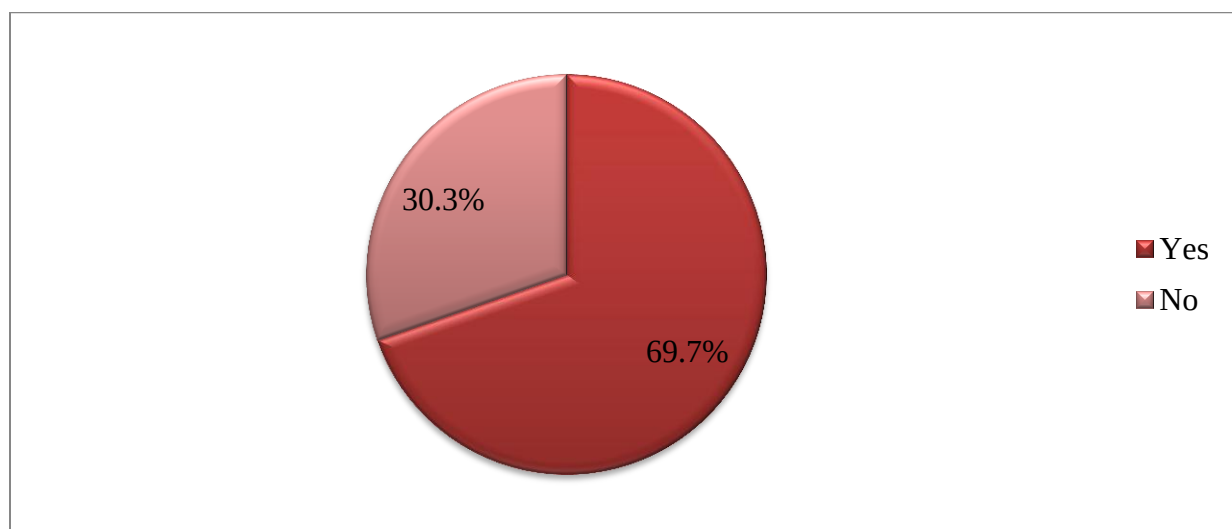


Source: Field Data, 2016

4.3.6 Pregnant Mothers Future Referrals to Healthcare Facility within the Municipality

Among the pregnant mothers that had been referred before, 186(69.7%) of them opined that they would receive medical care in their referred healthcare facility anytime their lower level healthcare facility referred them. On the contrary, 81(30.3%) of the pregnant mothers indicated that they would not subject themselves to the referred healthcare facility anytime their lower levels refer them to do so. This shows that majority of the residents are content with the kind of health care given at the higher levels. (See Figure 4.7)

Figure 4.7 Future Referrals to Healthcare Facility within the Municipality by Pregnant Mothers



Source: Field Data, 2016

4.3.7 Pregnant Mothers Justifications for Future Referrals

Among the pregnant mothers that indicated that they would agree to any future referrals to the higher healthcare facilities in the municipality, 98(52.7%) opined that the higher levels provided them with quality medical care, whilst 57(30.6%) stated that the higher levels had shorter patient waiting time after being referred to their facility. Also, 31(16.7%) of the pregnant mothers said that the doctor-patient relationship was cordial, and therefore they would agree to any future referrals.

Out of the pregnant mothers that revealed that they would decline to any future referrals to the higher healthcare facilities in the municipality, 109(56.8%) of them said that the healthcare professionals in the higher healthcare facilities had poor attitude towards pregnant mothers that had been referred into their facility. Moreover, 67(34.9%) of the pregnant mothers hinted that there was a long patient waiting time at the higher healthcare facilities in the municipality.

Furthermore, 16(8.3%) of them stated that the medical bills for referred mothers were always high. (See Table 4.4)

Table 4.4 Pregnant Mothers Justifications for Future Referrals

Yes	Frequency	Percent (%)
Better Medical Care	98	52.7
Cordial Doctor-Patient Relationship	31	16.7
Short Patient Waiting Time	57	30.6
Total	186	100
No		
Poor Attitude of Healthcare Professionals	109	56.8
High Cost of Medical Bills	16	8.3
Long Patient Waiting Time	67	34.9
Total	192	100

Source: Field Data, 2016

4.4 Pregnant Mothers Rating of the Quality of Maternal Referral Pathway in the Municipality

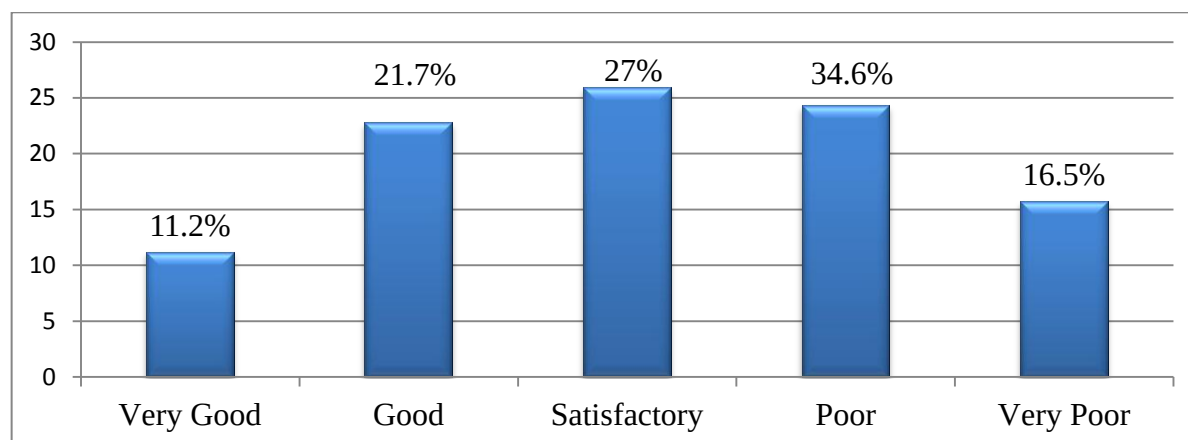
This addresses the perception of referred pregnant mothers towards healthcare providers in terms of attitude of healthcare providers and quality of care at the referral center.

4.4.1 Pregnant Mothers Rating of the Attitude of Healthcare Professionals

On the attitude of healthcare professionals, 30(11.2%) and 58(21.7%) of the pregnant mothers rated the attitude and behavior of healthcare professionals in their referred healthcare facility as very good and good respectively, whilst 72(27%) of the pregnant mothers stated that the attitude of healthcare professionals was satisfactory. In contrast, 63(23.6%) and 44(16.5%) of the pregnant mothers rated the attitudes of healthcare professionals in their referred healthcare

facility as poor and very poor respectively. From the values, one concludes that the attitudes of healthcare professionals in the higher healthcare facilities are fairly good. (See Figure 4.8)

Figure 4.8 Pregnant Mothers Rating of the Attitude of Healthcare Professionals

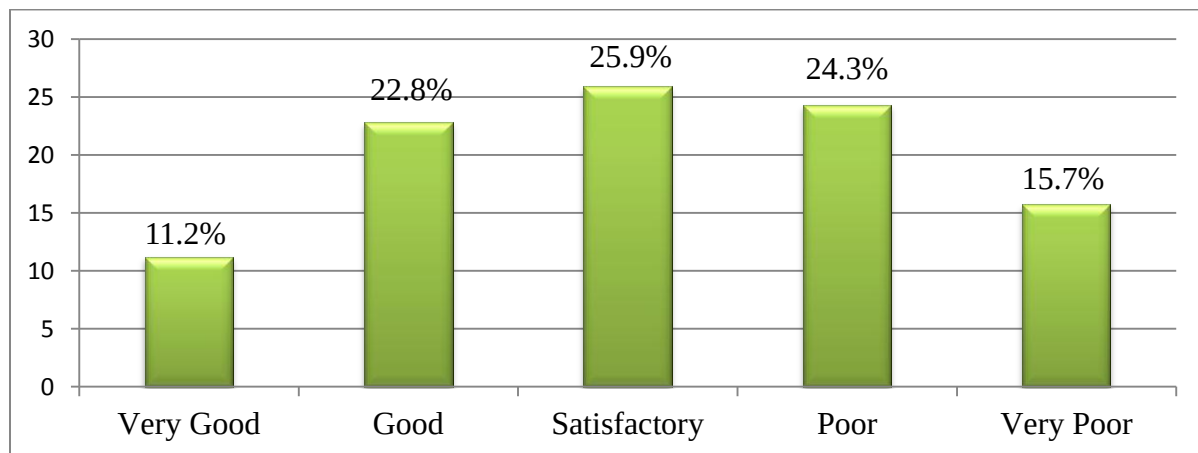


Source: Field Data, 2016

4.4.2 Pregnant Mothers Rating of the Performance of Healthcare Providers

On the performance of healthcare professionals, 30(11.2%) and 61(22.8%) of the pregnant mothers rated the delivery of healthcare professionals in their referred healthcare facility as very good and good respectively. Sixty-nine (25.9%) of the pregnant mothers stated that the delivery of healthcare professionals was satisfactory, 65(24.3%) and 42(15.7%) of the pregnant mothers rated the delivery of healthcare professionals in their referred healthcare facility as poor and very poor respectively. From the values, the levels of performance of healthcare professionals in the higher healthcare facilities are fairly good. (See Figure 4.9)

Figure 4.9 Pregnant Mothers Rating of the Performance of Healthcare Providers

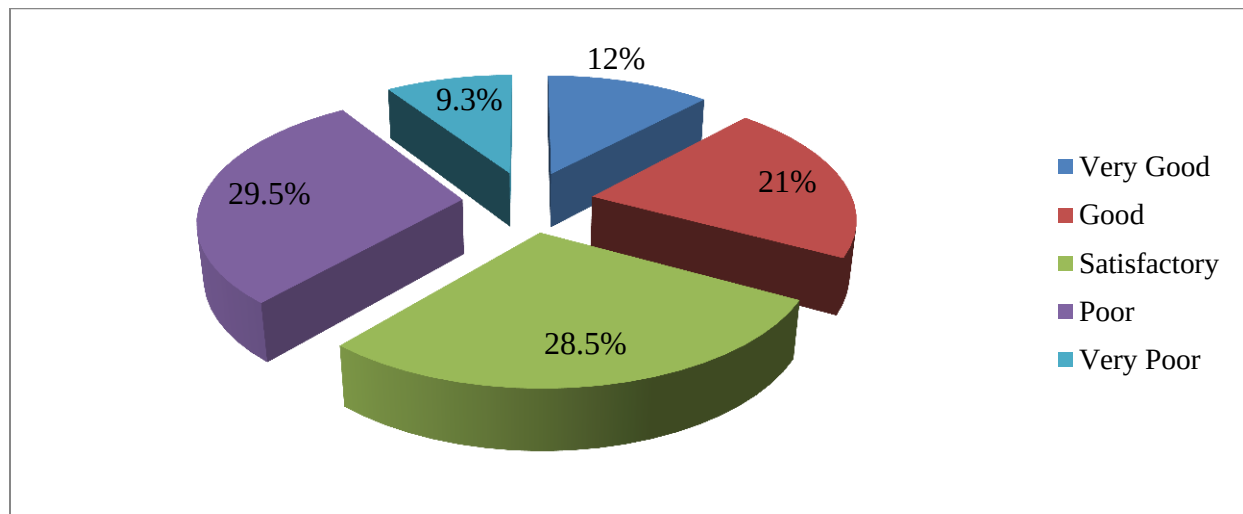


Source: Field Data, 2016

4.4.3 Pregnant Mothers Rating of the State of Maternal Referral Pathways in the Municipality

On the state of maternal referral pathways in the municipality, 32(12%) and 56(21%) of the pregnant mothers opined that it was very good and good respectively. Seventy-six (28.5%) of the pregnant mothers indicated that the state of maternal referral pathway in the municipality was satisfactory, whilst 78(29.2%) and 25(9.3%) stated that the state of maternal referral pathway in La Dade Kotopon Municipality was poor and very poor respectively. (See Figure 4.10)

Figure 4.10 Pregnant Mothers Rate of the State of Maternal Referral Pathways in the Municipality



Source: Field Data, 2016

4.5 Challenges and Recommendations on Maternal Referrals by Pregnant Mothers

With regards to the challenges associated with maternal referrals in the municipality, 53(14.4%) and 34(9.3%) of the pregnant mothers indicated that poor attitudes of healthcare professionals and long patient waiting times were a challenge that affected the state of maternal referral pathways in the municipality. Moreover, 52(14.2%) and 94(25.6%) of the pregnant mothers hinted that poor medical care and lack of information on the reasons of being referred to a higher healthcare facility were some of the challenges affecting maternal referral pathways in the municipality. Also, 59(16.1%) and 43(11.7%) of the pregnant mothers opined that high cost of medical bills at referred centers and lack of ambulance to convey emergency referred mothers to higher healthcare facilities are some of the challenges the municipality is facing. Lastly, 32(8.7%) stated that emergency maternal cases were not accompanied by healthcare professionals to the higher facility, and this to them was a challenge to maternal referrals in the La Dade Kotopon Municipality.

On the suggestions to minimize the challenges that the municipality faces during maternal referrals, 53(14.4%) of the pregnant mothers suggested that provision of adequate ambulance service for the municipality was likely to minimize maternal deaths caused by delays in reaching the healthcare facility. Also, 88(24%) of the pregnant mothers were of the notion that giving prior information to mothers of their referrals was likely to improve maternal referrals in the municipality. Seventy-four (20.2%) opined that affordable medical bills for referred maternal cases should be an option to consider in addressing maternal referrals. Lastly, 83(22.6%) and 69(18.8%) of the pregnant mothers indicated that healthcare professionals should follow emergency maternal referred cases to higher facilities and lower levels should be equipped adequately to minimize frequent referrals. (See Table 4.5)

Table 4.5 Challenges and Recommendations of Maternal Referrals by Pregnant Mothers

Challenges	Frequency	Percent (%)
Poor attitude of healthcare professionals	53	14.4
Long patient waiting time	34	9.3
Poor medical care	52	14.2
Lack of prior referral information	94	25.6
High cost of medical bills	59	16.1
Lack of Ambulance	43	11.7
Unaccompanied emergency maternal cases	22	8.7
Total	367	100
Suggestions		
Adequate Ambulance	53	14.4
Prior maternal referral information	88	24
Affordable medical bills	74	20.2
Adequate medical equipment for lower levels	83	18.8
Accompanied maternal emergency cases	69	18.8
Total	367	100

Source: Field Data, 2016

4.6 Demographic Characteristics of Healthcare Professionals

The healthcare professionals had attained either tertiary level education or professional level education in their respective professions. The minimum number of years that the healthcare professionals had worked in the hospitals was two years whilst the maximum number of years was seven years.

4.7 Knowledge of Healthcare Professionals on Maternal Referral Pathway

The healthcare professionals interviewed had a clear understanding of what a maternal referral pathway is.

A midwife at the Police Hospital stated that:

“Maternal referral pathway is the movement of maternal cases from the primary level of care through the secondary level of care, and finally to the tertiary level of care for quality medical care”.

Also, a midwife at the La General Hospital said that:

“Maternal referral pathway is the movement of a mother from primary level of care through the secondary level of care and finally, to the tertiary level of care”.

These explanations given by the two midwives have shown that maternal referral pathways are well-understood by healthcare professionals as they conceptualize maternal referral pathways as taking a pregnant mother from primary level of care through the secondary level of care and finally, to the tertiary level of care.

4.8 Procedures and Rationale in Maternal Referrals by Healthcare Professionals

The healthcare professionals indicated that they normally receive complicated maternal cases from Maamobi Polyclinic, Kaneshie Polyclinic, private healthcare facilities, CHPS compounds and other healthcare facilities outside the municipality. On the other hand, severe maternal cases were referred from La General Hospital and Police Hospital respectively to either Korle-Bu Teaching Hospital or 37 Military Hospital for an advanced medical care.

A midwife at the La General Hospital indicated that:

“We refer maternal cases to either Korle-Bu Teaching Hospital or 37 Military Hospital because some maternal cases are very complicated and beyond the capacity of La General Hospital”.

On the other hand, a midwife at the Police Hospital said that:

“My hospital receive complicated maternal cases from Maamobi Polyclinic, Kaneshie Polyclinic, Private Healthcare facilities etc.”

According to the healthcare professionals, the two hospitals sometime had limited supply of blood in their blood banks, no surgeons, no water and inadequate beds in the hospitals were the main reasons why some maternal cases were referred to Korle-Bu Teaching Hospital or 37 Military Hospital.

A Gynecologist at the Police Hospital stated that:

“Our hospital refers maternal cases to 37 Military Hospital because we do not have enough blood and sometimes insufficient beds to accommodate the pregnant mothers”.

On the other hand, a midwife at the La General Hospital said that:

“We mostly refer maternal and infant cases to Korle-Bu Teaching Hospital because the few surgeons we have are at times either travelled outside Greater Accra region for similar cases or on leave”.

The healthcare professionals hinted that the hospitals did not follow any laid down protocols during complicated maternal referred cases. The two hospitals in their attempt to receive and

admit referred maternal cases into their facilities, normally checked for referral covering letter that had been issued by the lower facility, consulted the medical officers and in-charges to ascertain the capacity of the hospitals before admitting referred maternal cases. The payment modalities in the two hospitals were that the entire expenses were borne by the patient or their relatives. From the referred facility, the patient must be able to provide evidence of a receipt that an ambulance fee had been paid before the ambulance was permitted to carry the patient to the higher healthcare facility. In most instances, health assistants or student nurses accompanied referred maternal cases to the higher facilities. This was only done when there were few midwives in the referred healthcare facility but where there were adequate midwives, one midwife was chosen to accompany the patient referred.

A staff at the Police Hospital revealed that:

“There is no prior communication between the Police Hospital and Korle-Bu Teaching Hospital before maternal referrals are made. Also, emergency maternal cases that come to our hospital do not follow laid down protocols because the pregnant mother is in serious pain”.

4.9 Challenges and Recommendations of Maternal Referrals by Healthcare Professionals

The La General Hospital and the Police Hospital face a myriad of challenges with regards to maternal referrals in the municipality. Some of these problems encountered are inadequate and unavailability of medical officers especially surgeons during maternal referred cases into the two hospitals. Other challenges include: inadequate blood in the blood bank, congestion and inadequate beds at the maternity/labor ward makes admitting mothers difficult, work overload with few midwives, patients with no relatives and patients accessing several healthcare facilities to aggravate their sickness before finally coming to the La General Hospital and the Police

Hospital. This, according to the healthcare professionals were the major causes of maternal deaths in the municipality.

A Gynecologist at the La General Hospital stated that:

“Our hospital lack surgeons that will attend to pregnant mothers when the need arises, we also have limited beds at the maternity/labor wards”.

Also, a midwife at the La General Hospital said that:

“Sometimes blood is available but the issue of incompatibility arises. For instance, a pregnant mother with blood group AB does not get the same blood group AB and this makes matters difficult”.

A Gynecologist at the Police Hospital indicated that:

“...sometimes when a pregnant mother is referred to our hospital, we have to go to nearby health facility to look for blood to save the life of the pregnant mother and this is because we sometimes short of blood”.

4.10 Summary and Conclusion

This chapter presented the findings obtained at La General Hospital and Police Hospital in the La Dade Kotopon Municipality. The findings were based on the following: demographic characteristics; knowledge of referral system/pathway; proximity, procedures and rationale; quality of maternal referral pathway in the municipality; and challenges and recommendations. This information helped to address the research objectives and the models employed for this study.

CHAPTER FIVE

DISCUSSION OF FINDINGS

5.0 Introduction

This section discusses the findings in relation to the level of awareness and knowledge of pregnant mothers on maternal referral pathways; factors necessitating maternal referrals; and challenges associated with maternal referrals in the municipality in addition to the answers given by the health professionals at the facility. Finally, the three delays, system thinking approach, access model and the literature are discussed in line with the findings of this study.

5.1 The Level of Awareness and Knowledge of Patients on Maternal Referral Pathways

The first objective of this study was to ascertain the knowledge of pregnant mothers on maternal referral pathways in the La-Dade Kotopon Municipality. The study established that some pregnant mothers/patients lacked the understanding of maternal referrals. This was apparent as 107(28.3%) of the pregnant mothers were of the notion that husbands taking their wives to hospitals for medical care was their understanding of maternal referral pathways. Moreover, 13(3.4%) of the pregnant mothers revealed that they did not have any idea of the meaning of maternal referral pathways. To buttress the above claim, 12(23.5%) of the pregnant mothers opined that poor medical care influenced their decision to resort to home remedy. Also, 327(86.5%) of the pregnant mothers disclosed that they did not have an idea of the kind of maternal referral pathways in the municipality.

The findings from this study confirmed a study by Iyengar and Iyengar (2009), Mumtaz et al. (2004), Pembe et al. (2010) and Rwashana et al. (2014) that, some pregnant mothers/patients still lack the understanding of maternal referrals. This has contributed to the increasing maternal

deaths in developing countries such as those in the Sub-Saharan Africa (SSA). A study into Eastern African Countries revealed that most of the maternal deaths that occurred were attributed to poor maternal referral systems. To the authors, other factors included the deplorable nature of roads and inadequate knowledge of mothers regarding compliance with referrals (Iyengar & Iyengar, 2009; Pembe et al., 2010; Rwashana et al., 2014). The argument has been that pregnant mothers in SSA countries have low level of awareness and limited knowledge about maternal health. The low level of awareness and limited knowledge about maternal referrals across all age groups accounts for the high maternal mortality rates in SSA (Pacagnella et al., 2012; Rwashana et al., 2014). By applying the Access and the Three Delays models, the findings provide evidence that pregnant mothers need to be conscious of their decisions to seek and access health care. However, equipping pregnant mothers in terms of knowledge and creating awareness facilitate access and improve decision to seek health services, eliminate financial barriers of access, increase quality and improve maternal outcomes (Rosato et al., 2008).

5.2 Factors Necessitating Maternal Referrals in the Municipality

The second objective of this study was to identify the factors that necessitate maternal referrals in the La-Dade Kotopon Municipality. The findings revealed that the La General Hospital refers maternal cases to the Police Hospital, while both hospitals refer severe and complicated maternal cases to either Korle-Bu Teaching Hospital or 37 Military Hospital for an advanced medical care. The study established that factors influencing maternal referrals in lower healthcare facilities are severe and complicated maternal cases that are beyond the capacity of the La General Hospital and Police Hospital. Moreover, the limited supply of blood in blood

banks, inadequate number of surgeons, severe and complicated maternal cases, lack of water and inadequate beds in the study settings are some of the main reasons why some maternal cases are referred to Korle-Bu Teaching Hospital or 37 Military Hospital.

These factors are predominant in SSA as studies by Peters et al. (2008), Ronsmans and Graham (2006), and Sibley, Sipe and Koblinsky (2004) also revealed that most healthcare facilities in SSA lack medical equipment, inadequate medical officers due to brain drain, severe and complicated maternal cases, deplorable nature of roads, inadequate blood in blood banks, inadequate beds and even inadequate health facilities in the hinterlands. To the authors, these factors contribute to a high influx of maternal referrals from the rural areas to the urban centers for an advanced maternal care. The findings from these studies have shown that factors influencing maternal referrals are not only in the La Dade Kotopon Municipality alone but also, across the length and breadth of Africa. By applying the Access, Three Delays and Systems Thinking Approach models, the findings provide evidence that maternal referral pathways require collaborative efforts of the pregnant mother, referring health facility and the receiving health facility. According to the models, access to health care requires an interaction between technical, behavioral and other socio-economic factors such as availability of surgeons, adequate blood in blood banks, medical equipment, decision making of pregnant mothers, affordable health financing system (health insurance and out-of-pocket payment) and effective communication between referring health facility and receiving health facilities. Making provisions for all these factors facilitate access to health services, eliminate financial barriers of access, increase quality and improve maternal outcomes (Rosato et al., 2008).

5.3 Challenges Associated with Maternal Referrals in the Municipality

The last objective of this study was to identify the challenges associated with maternal referrals in the Municipality using the two hospitals. The challenges have been discussed below using key challenges such as bypassing of laid down protocols, inadequate surgeons and midwives and inadequate blood in blood banks.

5.3.1 Bypassing of Laid Down Protocols

The study established that both La General Hospital and the Police Hospital did not follow any laid down protocols during complicated maternal referral cases. A midwife at the La General Hospital stated that, in most instances, there is no prior communication between the lower healthcare facility and the higher healthcare facility. This means that La General Hospital and the Police Hospital in most occasions do not comply with laid down procedures. The reason behind this instance is due to the urgent need for medical attention to be given to the maternal case that is being referred. From the referred facility, the patient/pregnant mother encounters challenges with respect to providing evidence of a receipt that an ambulance fee has been paid before the ambulance is permitted to carry the patient to the higher healthcare facility. This normally slows down the rate at which complicated maternal referral cases reach higher healthcare facilities. In view of that, the receiving health facilities bypass these cumbersome processes in order to provide quicker medical care to the pregnant mother.

This is in agreement with the findings from studies conducted by Iyengar and Iyengar (2009) and Majoka et al. (2005) that most healthcare facilities in SSA do not follow laid down procedures whenever maternal cases are referred from lower levels to higher levels. This to the authors is one of the contributing factors of the failure of maternal referral systems in the Sub region. Also,

Hussein et al. (2012) stated that most of the women in developing countries do not regard the laid down maternal referral pathway, they seek to what they described as ‘self-referrals’ which normally take place among women who can afford. By applying the Systems Thinking Approach model, the findings provide evidence that maternal referral pathways require collaborative efforts of the pregnant mother, referring health facility and the receiving health facility as any break in the chain is likely to result in maternal death. This means that maternal referrals should be seen as a holistic system that follows a laid down procedure without bypassing any protocol (Rwashana et al., 2014).

5.3.2 Inadequate Surgeons and Midwives

Other problems that affect maternal referrals from the La General Hospital and the Police Hospital to Korle-Bu Teaching Hospital or 37 Military Hospital are inadequate and unavailability of medical officers, especially surgeons during maternity cases. In most instances, no midwife follows the pregnant mother/patient to the referred centre due to the limited number of midwives in both La General Hospital and the Police Hospital. This often creates room for health assistants or student nurses to accompany the referred patient to the higher facilities. However, this is only done when there are few midwives in the referred healthcare facility; but where there is adequate number of midwives, one midwife is tasked to accompany the patient being referred. Lastly, the few midwives and surgeons available are faced with work overload and congestion at maternity wards. This in the long run, makes hospitals unable to admit referred maternal cases.

The findings from this study are not different from studies conducted by Mthetwa (2006) and Pembe et al. (2010) in Eastern Africa. To the authors, healthcare facilities are plagued by

challenges such as limited number of midwives, inadequate surgeons and medical officers. The authors disclosed that the major hindrance to maternal referral pathways in Sub-Saharan Africa as compared to the developed world is the problem of inadequate healthcare professionals. This is due to the fact that most healthcare professionals desire to work in the cities (Kotzee & Couper, 2006). By applying the availability dimension of the Access model, the findings provide evidence that pregnant mothers need not only to accept maternal referrals, but also, healthcare professionals such as midwives, gynecologists and surgeons ought to be available and be prepared to respond to obstetric emergencies and complicated maternal cases. However, making available these healthcare professionals are likely to reduce maternal deaths that occur as a result of inadequate health professionals (Pembe et al., 2010).

5.3.3 Inadequate Blood in Blood Banks

Issues of inadequate blood in blood banks at La General Hospital and the Police Hospital force these hospitals to refer referred maternal cases that require blood transfusion to higher level of care. In most instances, the blood available is not compatible with the patient because of differences in blood groups. The findings from this study are similar to that of studies conducted by Majoka et al. (2005) and Pembe (2010) into healthcare institutions in Sub-Saharan Africa. The study revealed that healthcare facilities were faced with enormous challenges when it comes to maternal referrals. To the authors, limited supply of blood in blood banks affects maternal referrals in developing countries such as SSA.

This means that for developing countries to reduce maternal deaths, blood banks in various hospitals should be adequate to transfuse blood in a situation where the patient is in shortage of blood. By applying the availability dimension of the Access model, the findings provide

evidence that healthcare facilities ought to make provision of resources like blood and other medical equipment needed to respond to emergency maternal cases. Consequently, making available these resources will reduce the waiting time that referred pregnant mothers go through in order to receive maternal care (Pembe et al., 2010).

5.4 Summary and Conclusion

This section discussed the findings in relation to the level of awareness and knowledge of pregnant mothers on maternal referral pathways; factors necessitating maternal referrals; and challenges associated with maternal referrals in the municipality in addition to the answers given by the health professionals at the facility. Finally, the three delays, system thinking approach, access model and the literature were discussed in line with the findings of this study

CHAPTER SIX

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.0 Introduction

This chapter summarizes the study into the objectives, methods, key findings and draws conclusions from the findings to make recommendations to help improve maternal referral pathways in the La Dade Kotopon Municipality.

6.1 Summary of Objectives, Methods and key findings

6.1.1 Research Objectives

This section revisits the three sub-objectives set out to be achieved at the end of the study. The three objectives included:

- i. To ascertain the level of awareness and knowledge of pregnant mothers on maternal referral pathways in the La-Dade Kotopon Municipality.
- ii. To identify the factors that necessitate maternal referrals in the Municipality.
- iii. To identify the challenges associated with maternal referral cases in the Municipality.

6.1.2 Research Methods

The study employed a mixed-method approach where a case study design with a descriptive survey was designed to help collect data for the study. A sample size of 402 respondents involving 390 pregnant mothers, 10 midwives and 2 gynecologists from both the Police Hospital and the La-General Hospital were involved in the study. A purposive sampling technique was

used to select midwives, gynecologists and pregnant mothers for the study. Questionnaires were administered to pregnant mothers whilst in-depth interviews were conducted with healthcare professionals (midwives and gynecologists) at La General Hospital and Police Hospital in the municipality.

6.1.3 Key Findings

The first objective of this study was to ascertain the level of awareness and knowledge of pregnant mothers/ patients on maternal referral pathways in the municipality. The study established that some pregnant mothers lacked the understanding of maternal referral pathways. This was apparent as most of the respondents indicated that a husband taking their wives to hospitals for medical care meant a maternal referral pathway. The outcome of the study showed that some of the pregnant mothers/patients did not understand the kind of maternal referral pathways in their municipality.

The second objective of this study was to identify the factors that necessitate maternal referrals in the Municipality. The findings revealed that La General Hospital refer maternal cases to the Police Hospital whilst, both La General Hospital and Police Hospital refer severe and complicated maternal cases to either Korle-Bu Teaching Hospital or 37 Military Hospital for advanced medical care. The factors that influence maternal referrals in the La General Hospital and Police Hospital are severe and complicated maternal cases, limited supply of blood in blood banks and inadequate surgeons in both La General Hospital and Police Hospital. These are the major factors that influence maternal referrals from La General Hospital and Police Hospital to Korle-Bu Teaching Hospital or 37 Military Hospital.

The last objective of this study was to identify the challenges associated with maternal referrals in the La-Dade Kotopon Municipality. The study established that both La General Hospital and the Police Hospital are plagued by maternal referral challenges such as non-compliance with laid down protocols by healthcare professionals, inadequate number of midwives, inadequate number of surgeons, inadequate state ambulance services and limited supply of blood in blood banks.

6.2 Conclusion

The purpose of this study was to evaluate maternal referral pathways in the La Dade Kotopon by focusing on La General Hospital and Police Hospital. A review of literature revealed that effective maternal referral pathways have an influence on improving the health of pregnant mothers that are referred from the lower levels of care to the higher levels of care. The study employed the Three Delays Concept, Access Model and the Systems Thinking Approach to address maternal referrals between healthcare facilities. These models were used to determine the interaction of pregnant mothers and healthcare providers in providing maternal care services. These models used necessitated the need for a mixed method approach where questionnaires and interview guide were used to gather data from pregnant mothers, midwives and gynecologists at both La General Hospital and the Police Hospital in the municipality.

The findings showed that pregnant mothers do not understand maternal referral pathways. Factors such as inadequate surgeons and midwives, inadequate blood in blood banks and severe and complicated maternal cases are some of the factors that necessitate maternal referrals in the municipality. However, the hospitals are plagued with inadequate surgeons and midwives, inadequate blood in blood banks, poor maternal records and non-compliance with maternal

referral protocols, which have affected the operations of these hospitals. The study recommends that there should be an improvement in capacity building of the hospitals; appointment of highly competent staff, improvement in blood situations, and effective supervision to ensure compliance with maternal referral protocols. These problems have always affected their service delivery, thus, compelling the hospitals to refer most maternal cases to either Korle-Bu Teaching Hospital or 37 Military Hospital.

6.3 Recommendations

From the findings of the study, the researcher makes the following recommendations to enhance maternal referrals in the Municipality and the Ghanaian Public Health Sector as a whole.

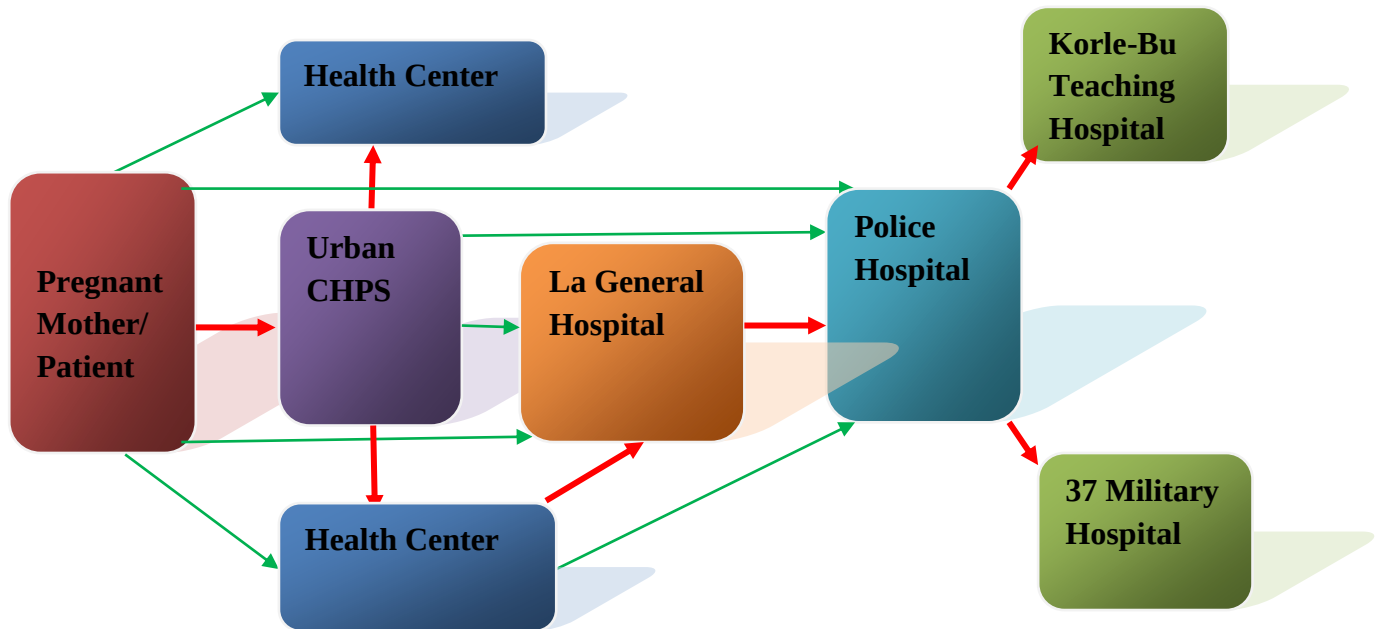
- i. It is recommended, however, that adequate and efficient ambulance services ought to be provided to facilitate referrals, especially maternal referrals.
- ii. It is recommended, however, that there should be better supervision to ensure compliance with maternal referral protocols.
- iii. It is recommended, however, that effective referral guidelines ought to be available to describe how the maternal referral process should work.
- iv. It is recommended, however, that there should be an improvement in the blood situation of the respective hospitals.
- v. It is recommended, however, that there should be examination of the capacity of district hospitals in order to minimize further referrals. The capacity of providers and district hospitals should be reviewed to promote minor treatments at primary levels.

- vi. It is recommended, however, that there should be a prior communication between the referring facilities and the receiving facilities to ascertain if the receiving facilities are ready to accommodate referred patients.

6.4 Proposed Maternal Referral Pathway for La Dade Kotopon Municipality

The study recommends that maternal referral pathways in La Dade Kotopon Municipality should follow the proposed framework. A pregnant mother or patient should first visit the CHPS compound for medical care or alternatively, go straight to the health center. In a situation where the condition persists, the CHPS compound should refer the pregnant mother to the health center or to La General Hospital. The La General Hospital upon receiving a pregnant mother or patient from either the CHPS compound or the health center should commence treatment. In a situation where La General Hospital is not well-equipped to deal with the situation, the patient should be referred to the Police Hospital for an advanced medical care. In an event where the condition is complicated, the Police Hospital can refer the case to either 37 Military Hospital or Korle-Bu Teaching Hospital. Ideally, maternal referral pathways in La-Dade Kotopon Municipality should follow the proposed pathway. Figure 5.1 overleaf shows the proposed referral pathway for La Dade Kotopon Municipality.

Figure 6.1: Proposed Referral Pathway for La Dade Kotopon Municipality of Ghana



Source: Author's own Construct, 2016

6.5 Limitations

The study intended to do a descriptive survey of the various healthcare facilities in La Dade Kotopon Municipality, but was limited to only La General Hospital and Police Hospital. This limited the extent to which the findings could be generalized to reflect maternal referral status in the Greater Accra Region.

Another limitation is the issue of gathering data from the pregnant mothers. There were congestions in the facilities which led to cumbersome processes that patients had to go through before they were attended to. This situation made it difficult to have enough time with study participants.

6.6 Suggestions for Future Researchers

The issue of maternal referrals is gradually becoming a problem in developing countries such as Ghana. The findings from the study call for more studies to be conducted on maternal referrals. The study encountered problems of referrals between public hospitals. This has informed the necessity of future researchers to evaluate the effectiveness of maternal referral pathways between public and private healthcare facilities to bridge the gap and to improve maternal health.

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APPENDIX A

UNIVERSITY OF GHANA

DEPARTMENT OF PUBLIC ADMINISTRATION AND HEALTH SERVICES

MANAGEMENT

QUESTIONNAIRE FOR PREGNANT MOTHERS/ PATIENTS

My name is Jatuat Abraham, a post graduate student (Pursuing MPhil in Health Services Management) from the University of Ghana Business School who is researching on the topic *“The Evaluation of Maternal Referral Pathways in Public Hospitals in La Dade-Kotopon Municipality: A Case Study of La General Hospital and Police Hospital”*. I wish to assure you that this is an academic study and all information obtained shall strictly be used for academic purposes. You are also assured of absolute anonymity and confidentiality.

SECTION A: DEMOGRAPHIC CHARACTERISTICS

1. How old are you?
2. Educational Level: 1. No Education [] 2. Primary [] 3. Secondary []
4. Vocational [] 5. Tertiary [] 6. Professional []
3. Occupation: 1. Teacher [] 2. Trader [] 3. Farmer [] 4. No occupation []
5. Other (specify)
4. Marital Status: 1. Single [] 2. Married [] 3. Divorced [] 4. Widowed []
5. Religious Denomination: 1. Islamic [] 2. Christianity [] 3. Traditional []
4. Others (specify).....

SECTION B: KNOWLEDGE OF REFERRAL SYSTEM/PATHWAY

6. In your understanding, what is maternal referral pathway/system?
-
-
7. Do you know of the maternal referral pathway in La-Dade Kotopon Municipality?
1. Yes [] 2. No []
8. If Yes, what do you know about the maternal referral pathway in La-Dade Kotopon Municipality?
-
-

SECTION C: PROXIMITY, PROCEDURES AND RATIONALE

9. Is the healthcare facility closer to your house? 1. Yes [] 2. No []
10. What is your means of transport to this health facility? 1. Car/Vehicle [] 2. Motor []
3. Bicycle [] 4. Foot []
11. What brought you to this healthcare facility? 1. Illness [] 2. Referral []
3. Self-Referral [] 4. Others (Please specify)
12. Have you been referred before? 1. Yes [] 2. No []
13. If yes, was the reason made known to you? 1. Yes [] 2. No []
14. Will you agree anytime you are referred to this health facility? 1. Yes [] 2. No []
15. Please, provide reason(s) for your response to the above question
-
-

SECTION D: QUALITY OF MATERNAL REFERRAL PATHWAY IN THE MUNICIPALITY (Please for those being referred or referred before)

16. How would you assess the behavior of healthcare providers after being referred to their healthcare facility? ? 1. Very Good [] 2. Good [] 3. Satisfactory []
4. Poor [] 5. Very Poor []
17. How would you rate the delivery of healthcare providers after being referred to their healthcare facility? 1. Very Good [] 2. Good [] 3. Satisfactory []
4. Poor [] 5. Very Poor []
18. How would you rate the state of maternal referral system in La-Dade Kotopon Municipality? 1. Very Good [] 2. Good [] 3. Satisfactory [] 4. Poor []
5. Very Poor []

SECTION E: CHALLENGES AND RECOMMENDATIONS

19. What are some of the challenges you encounter during maternal referral cases in La-Dade Kotopon Municipality?
.....
.....
20. What suggestion do you give to improve maternal referrals in La-Dade Kotopon Municipality??
.....
.....

Thank You For Your Contribution

APPENDIX B

UNIVERSITY OF GHANA

DEPARTMENT OF PUBLIC ADMINISTRATION AND HEALTH SERVICES

MANAGEMENT

INTERVIEW GUIDE FOR THE HEALTHCARE PROFESSIONALS

My name is Jatuat Abraham, a post graduate student (Pursuing MPhil in Health Services Management) from the University of Ghana Business School who is researching on the topic *“The Evaluation of Maternal Referral Pathways in Public Hospitals in La Dade-Kotopon Municipality: A Case Study of La General Hospital and Police Hospital”*. I wish to assure you that this is an academic study and all information obtained shall strictly be used for academic purposes. You are also assured of absolute anonymity and confidentiality.

SECTION A: DEMOGRAPHIC CHARACTERISTICS OF HEALTH WORKERS

1. Educational Level
2. Your designation in the hospital
3. Number of years in the hospital

SECTION B: KNOWLEDGE OF MATERNAL REFERRAL PATHWAY

4. In your understanding what is maternal referral pathway?

SECTION C: PROCEDURES AND RATIONALE

5. Which health facilities does your facility refer complicated maternal cases to?
6. Which health facilities do you receive complicated maternal cases from?

7. What are some of the reasons for referring mothers to higher level facilities?
8. Do you follow the health facilities' protocol during referrals?
9. How does the facility receive referred maternal cases?
10. What is the payment structure of transportation during referral?
11. Who takes the patient to the referred center?
12. How do the two (2) health facilities communicate about maternal cases being referred?

SECTION D: CHALLENGES AND RECOMMENDATIONS

13. What are some of the challenges the health facility face during maternal referral cases?
14. What suggestion do you give to improve maternal referrals in the Municipality?