

**KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY,  
KUMASI, GHANA  
COLLEGE OF HEALTH SCIENCES  
SCHOOL OF PUBLIC HEALTH  
DEPARTMENT OF POPULATION, FAMILY AND REPRODUCTIVE  
HEALTH**



**ASSESSMENT OF INSTITUTIONAL REFERRAL PROCESS OF  
PREGNANCY –RELATED CASES IN BOSOMTWE DISTRICT,  
GHANA.**

**BY  
JOYCE GIFTY OTCHERE**

**JUNE, 2019**

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(BSc. Nursing)**

**A THESIS SUBMITTED TO THE DEPARTMENT OF POPULATION,  
FAMILY  
AND REPRODUCTIVE HEALTH, COLLEGE OF HEALTH SCIENCES,  
SCHOOL  
OF PUBLIC HEALTH KWAME NKRUMAH UNIVERSITY OF SCIENCE &  
TECHNOLOGY, IN PARTIAL FULFILMENT FOR THE AWARD OF THE  
DEGREE OF MASTER OF PUBLIC HEALTH IN POPULATION AND  
REPRODUCTIVE HEALTH**

**JUNE, 2019**

## DECLARATION

I hereby do declare that except for references to other people's work which has been duly acknowledged, this piece of work is my own composition and neither in whole nor work been presented for the award of a degree in this university or elsewhere.

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STUDENT'S SIGNATURE..... DATE.....

STUDENT'S NAME: OTCHERE JOYCE GIFTY

**PG.2392314**

SIGNATURE..... DATE.....

DR EMMANUEL NAKUWA

ACADEMIC SUPERVISOR

SIGNATURE ..... DATE.....

DR EASMON OTUPIRI

(HEAD OF DEPARTMENT)

## DEDICATION

This work is dedicated to my husband, Dr. Dominic Korsah Otchere and my Dad Barrister Seth Owusu for their unconditional and immerse support.

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## ACKNOWLEDGEMENT

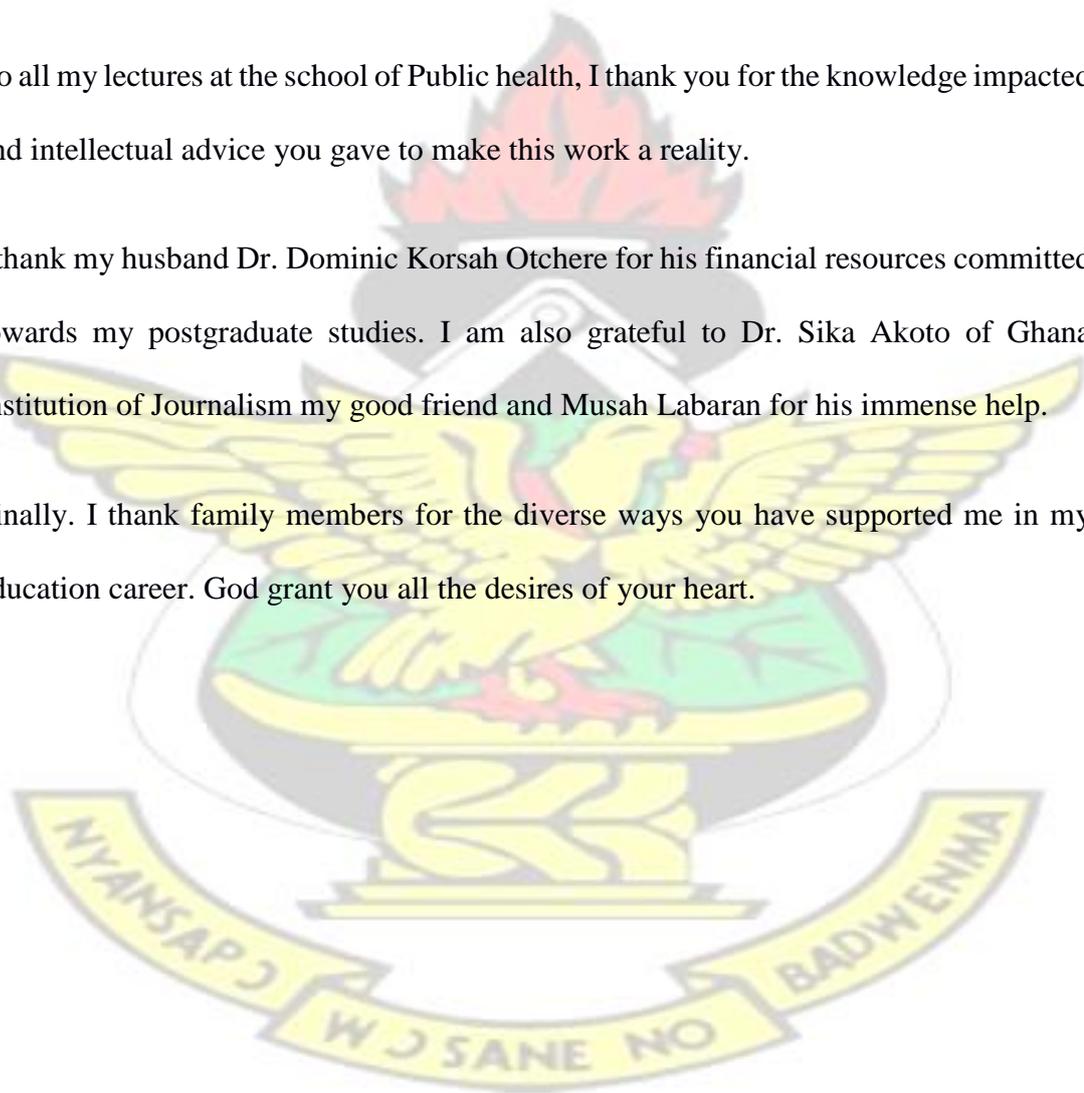
I am thankful to God Almighty for his protection and guidance throughout my educational career. Having led me on the difficult path to this far, I am so grateful.

I owe a debt of gratitude to my supervisor Dr. Emmanuel Nakuwa, for his technical advice and direction he offered me throughout my postgraduate studies. May God richly bless you.

To all my lectures at the school of Public health, I thank you for the knowledge impacted and intellectual advice you gave to make this work a reality.

I thank my husband Dr. Dominic Korsah Otchere for his financial resources committed towards my postgraduate studies. I am also grateful to Dr. Sika Akoto of Ghana Institution of Journalism my good friend and Musah Labaran for his immense help.

Finally. I thank family members for the diverse ways you have supported me in my education career. God grant you all the desires of your heart.



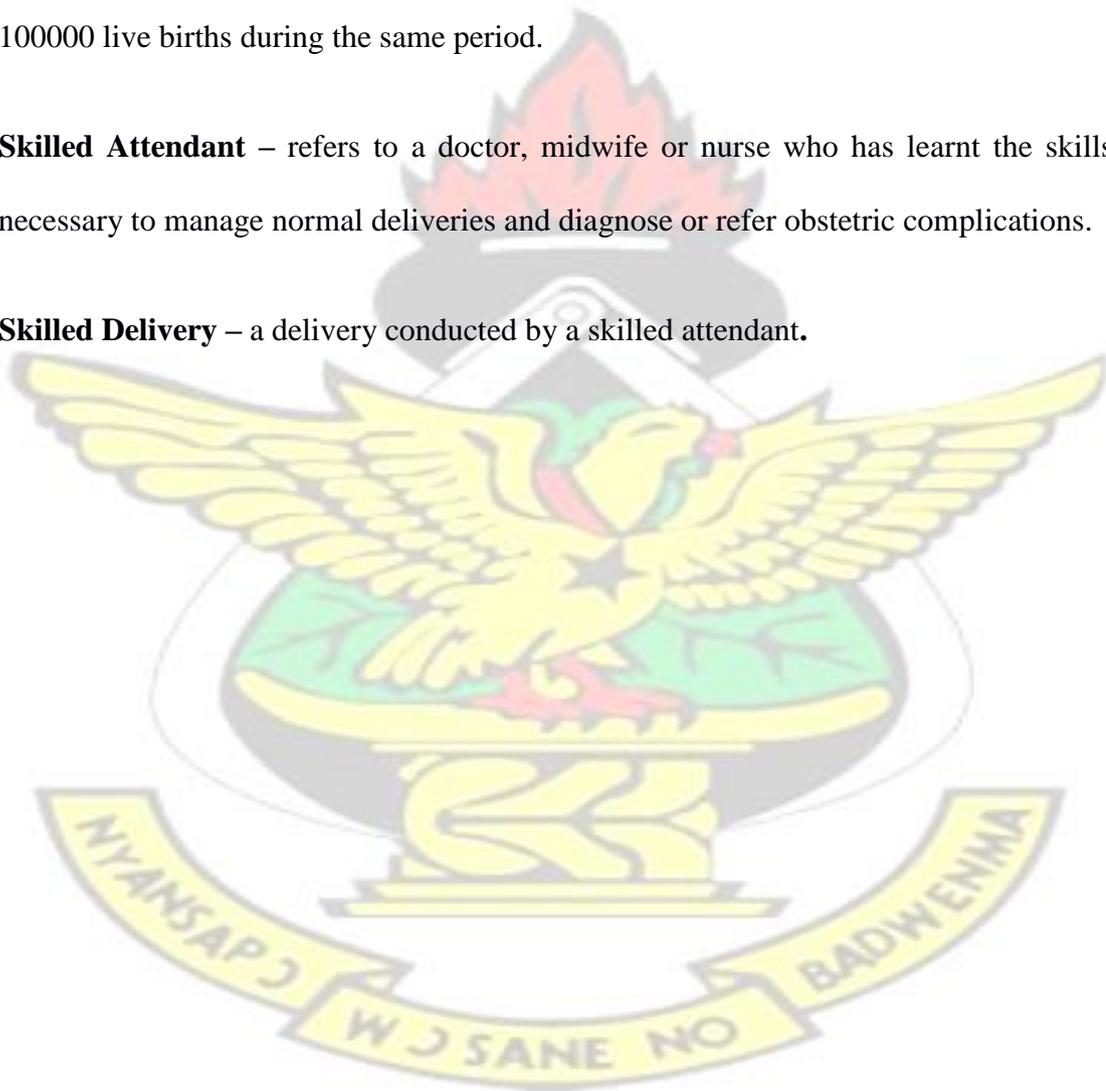
## DEFINITIONS OF TERMS

**Maternal death** – the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of pregnancy from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes.

**Maternal Mortality Ratio** – the number of maternal deaths during a given year per 100000 live births during the same period.

**Skilled Attendant** – refers to a doctor, midwife or nurse who has learnt the skills necessary to manage normal deliveries and diagnose or refer obstetric complications.

**Skilled Delivery** – a delivery conducted by a skilled attendant.



## ABBREVIATIONS

ANC – Ante Natal Care

BEOC – Basic Emergency Obstetric Care

CHPS – Community-based Health Service Planning Services

CHAG – Christian Health Association of Ghana

DHD – District Health Directorate

DHA – District Health Administration

DHMT – District Health Management Team

DIC – Disseminated Intravascular Coagulation

EMoNC – Emergency Obstetrics Care

GSS – Ghana Statistical Service

GDHS – Ghana Demographic and Health Survey

GHS – Ghana Health Service

HIRD – High Impact Rapid Delivery

MDGs – Millennium Development Goals

MNH – Maternal and Neonatal Care

MMR – Maternal Mortality Ratio

MOH – Ministry of Health

PIH – Pregnancy Induced Hypertension

PPH – Post Partum Hemorrhage

SDGs – Sustainable Development Goals

TBA – Traditional Birth Attendants

WHO – World Health Organization

## ABSTRACT

**Background:** Referral is a vital but often neglected component of maternal and newborn health services in most developing countries, where most maternal deaths occur. It is widely accepted that substantial reductions in maternal mortality and severe morbidity are impossible to achieve in many developing countries, where referral systems perform well below expectations, without an effective referral system for complicated cases. Thus, a key tenet of the nationwide safe motherhood program launched by the Government of Ghana in 2002 was to improve maternity referral system, as an important back up for antenatal, labour and delivery, and postnatal services in the primary level health care facilities especially and at the district level. The aim of this study was to assess the effectiveness of maternal health referrals between St. Michael's Hospital, Pramso and other healthcare facilities in Bosomtwe District of Ghana.

**Methods:** A quantitative descriptive cross sectional study, was conducted using a twenty-five item questionnaire from initiating health facilities and a twenty item questionnaire from receiving facility containing questions about the referred process, availability of resources and service provision, transportation and staff knowledge and skills. In all thirty-seven skilled attendants were interviewed. Twenty-two in initiating health facilities and fifteen in the receiving facility in the district were interviewed. Data were entered and analyzed using SPSS version 16.0 and results was presented in frequency tables and percentages.

**Results:** It is evident from the study that the health institutions in the Bosomtwe District rarely adhere to the standard referral policy of the Ghana Health Service. Patients with pregnancy-related cases are referred from the initiating facilities in the district in cases of complications. Labour cases exceeding an average of 18 hours or pregnancy with

complications are referred to the St. Michael Hospital, Pramso. Patients due for referrals are listed in the referral register. A staff of the initiating facility and a relative of the client accompany the referred client to the receiving facility. The initiating facility presents a letter to the receiving facility to confirm the referral and wait for feedback on the case.

In the district, notwithstanding the challenges related to transportation and infrastructure, the health facilities are prepared to initiate and refer cases to the next level health facilities. The staff are equipped to provide maternity, child health, emergency obstetric care services and family planning services. The receiving facility was also prepared to receive and effectively manage pregnancy-complicated cases. The facilities have adequately trained staff to provide services. Nonetheless, like the staffs of the initiating facilities, the staffs have limited knowledge on the GHS referral policy as they rarely receive training on the policy. The challenges of the receiving facility were more related to transportation as there was no ambulance for referral purposes. The facilities also encountered challenges related to reluctance of clients to be referred and limited knowledge of staff on some pregnancy related cases that impeded smooth and effective referral process and management.

**Conclusions:** The study recommends that GHS and the district health administration should set up a more effective monitoring team to check and periodically review the referral process in order to reduce all forms of barriers that increases the delays in the referral channel. The team should be well equipped financially and logistically to effectively deliver on their mandate.

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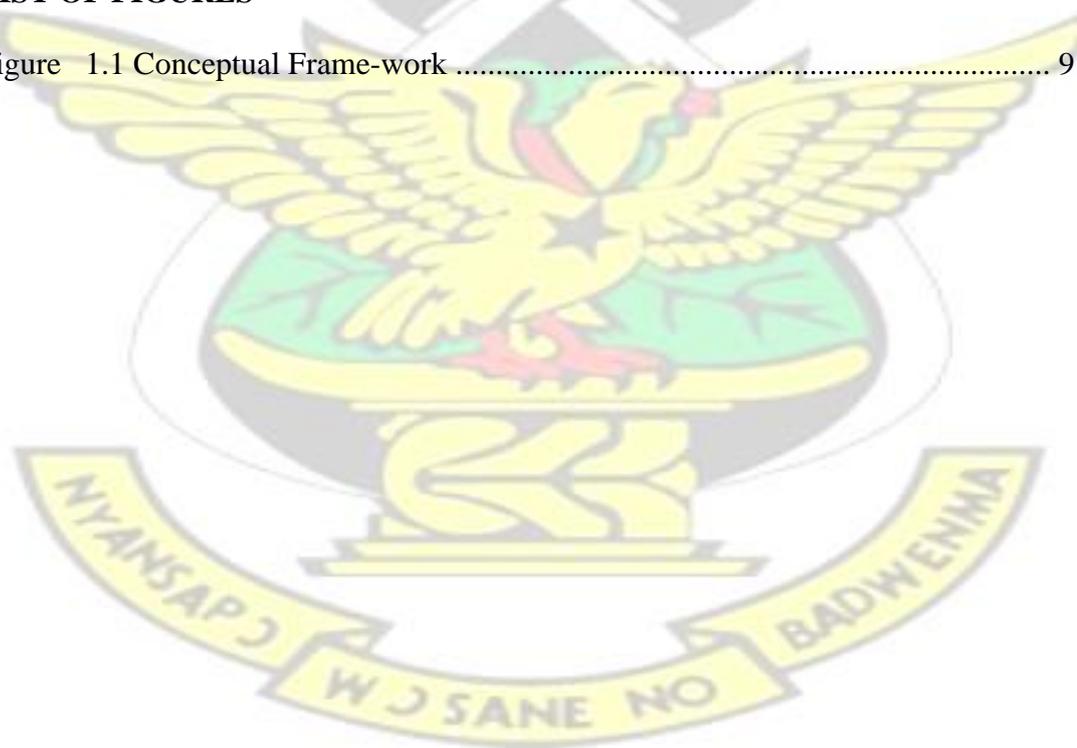
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# CHAPTER ONE

## INTRODUCTION

This chapter serves as an introduction to the study. It comprises the background to the study, the problem statement, rationale, research questions, general and specific objectives and conceptual framework.

### 1.1 Background Information

In Sub-Saharan Africa, half of the deaths is attributable to maternal problems. Maternal mortality is enormous problem (WHO, 2005). Despite substantial progress on maternal mortality, the MDG 5 target was not met (WHO, 2016). According to WHO (2016), the global maternal mortality ratio (MMR) declined by 44%, well short of the targeted 75% fall. According to the World Health Statistics (2016), the African Region and the region of the Americas made the least progress in reducing the MMR, making declines of 44% and 49% respectively between 1990 and 2015.

Fortunately, the new global agenda of Sustainable Development Goals (SDGs) kept the spotlight on the unfinished agenda of ending preventable maternal mortality amongst others. For instance, the SDG 3.1 aims to reduce the global MMR to less than 70 per 100 000 live births by 2030, and to have no country with an MMR above 140 – significantly below the current global MMR of 216 per 100 000 (WHO, 2015).

It is widely accepted that substantial reductions in maternal mortality and severe morbidity are impossible to achieve without an effective referral system for complicated cases (Murray et al., 2001).

Several measures have been adopted by many African countries in an attempt to reducing maternal mortality in response to this disquieting situation. Stepping up the referral system between the primary and secondary levels of healthcare to reduce the delay with getting appropriate care at the health facilities.

A functional referral system identified as an important back up for the primary level healthcare facilities in terms of antenatal, labour and delivery and post-natal care. However, despite its usefulness, maternal health referral is often a poor constituent of newborn healthcare and general maternal healthcare in most less developed nations, where most maternal deaths occur (Giovine & Ostrowski, 2010). Studies have shown that in many developing countries, referral systems perform well below expectations (Bossyns & Lerberghe, 2004).

In settings of scarce resources, the implementation of obstetric care programs and maternity referral procedures in particular is complicated. One of the tenets of the nationwide safe motherhood program launched by the Government of Ghana in 2002 was to improve maternity referral system, especially at the district level, to help facilitate quick access to quality comprehensive emergency obstetric care services and at reducing the danger of death associated with obstetric complications. Any intervention to improve access requires consideration of a multitude of socio-economic and cultural factors. One aspect is access and establishment of referral systems (Pembe et al., 2010).

The importance of referral in maternal and newborn care, especially in the event of an obstetric emergency, is related to the unpredictable a pregnancy complication may arise of which cannot be dealt with at the primary level (Lucas & Gilles, 2004). It is widely accepted that substantial reductions in maternal mortality and severe morbidity are impossible to achieve without an effective referral system (Murray et al., 2001). Early detection and referral to higher levels of care might also substantially reduce neonatal deaths due to complications of childbirth, that have been found to contribute up to

onethird of neonatal deaths in some developing countries (Broek, 2013). Furthermore, pregnancy complications can progress rapidly to become severe and life threatening.

Referral systems plays a crucial role in providing quality maternity services.

The four delays model (Thaddeus and Maine, 1994) provides a conceptual framework of factors influencing the timely arrival to seek appropriate care in obstetric emergencies. These are: (i) delays in the recognition of the problem; (ii) delays to take a decision to seek care in the household; (iii) delays in reaching the appropriate facility; and (iv) delays in the care received once the woman reaches the facility.

Although distance and cost of care are among the major factors in taking decision to seek care, the quality of care provided by facilities and the communities' perception of the quality may also influence the decision. The third delay of the model, Phase III, is concerned with the delay in arrival at the health facility after the decision to seek care had made. This phase is determines by the distribution and location of health facilities and health professionals equipped to deal with emergency obstetric and neonatal care.

## **1.2 Problem Statement**

Without an effective referral mechanism for complicated maternal cases, it is impossible to achieve substantial reductions in maternal mortality and severe morbidity, especially in countries constrained by scarce resources (Murray et al, 2001). A functioning referral system is generally considered as necessary element of successful Safe Motherhood programmes (Murray and Pearson, 2006). In many less developed countries, there is enormous evidence of referral system failure as the system is continuous failing to meet expectations. Studies have shown that the health referral system is poor countrywide (Murray and Pearson, 2006).

Physical facilities are relatively easier to establish referral system, as they are matter of policy. In the district implementation approach, limited documentation exists. Yet, majority of the blame of the failure of the district level healthcare is bases on the lapses in the referral system. The failure and difficulty of the districts in reducing maternal morbidity and mortality is attributed to the inadequacies of the referral system by many studies.

Transportation, distance to health facility, financial barriers, standard guidelines and criteria for referrals are the key measures of referral malfunctioning. Relational factors involved serve as barriers in terms of the patient family-nurse relationship at the time of the decision to refer a patient. Referral of pregnancy-related cases has been underdocumented, under-researched, and under-theorized in most studies (Giovine & Ostrowski, 2010). Previous researchers on the implementation of communications, emergency loans, transport systems, community financing, or numerous groupings of these elements offer few or no empirical information on whether they decrease maternal mortality at the institutional level (Fournier et al., 2008).

The Bosomtwe district has recorded an increasing trend in maternal deaths over the past years since 2011. The number of maternal deaths recorded in the said district in 2011 was five. It increased to six in 2012 and seven in 2013, one in 2014, one in 2015 and four in 2016. In 2017, recorded maternal death in the district was two and this increased to six in the first quarter of 2018. Most of these maternal deaths occurred within 24hours at St. Michael's Hospital, which is the major receiving hospital in the Bosomtwe district. These deaths were associated with challenges associated with reaching St. Michael's hospital, Pramso from the peripheral health facilities as a result of clients not referred promptly, poor communication between referral levels or delay from the

readiness of relatives to accompany clients for referral. Extensive literature has revealed that, a good maternal referral system can reduce maternal deaths to a large extent. Therefore, it is imperative to explore the challenges inherent in the effectiveness and availability of maternal health referral modalities between St. Michael's Hospital, Pramso, and the peripheral health facilities in the Bosomtwe district of Ghana.

### **1.3 Rationale for the study**

Referrals is a key component of maternal health service delivery. An effective referral system is critical in order to rationalize the use of resources, improve quality, access, and availability of health services. Effective maternal referral to St. Michael's Hospital, Pramso, from the surrounding health facilities in Bosomtwe district is a key determinant in reducing maternal mortality in the said district. However, no baseline study has been conducted over the years to ascertain the effectiveness of the referral process. The availability of such a data will provide the information required to enhance the effectiveness of the referral process in the district. This ground - breaking work would strengthen on-going efforts to improve maternal referral practices and ensure quality maternal health in Bosomtwe district. It would also provide a framework for the assessment of maternal referrals process in other districts across the nation.

This study would amongst other things serve to streamline and strengthen maternal referral practices in the district and make it more efficient. It would also ensure quality care at all levels of health services in the district.

### **1.4 Scope of study**

The study centered on pregnancy related referrals from initiating facilities within the Bosomtwe district to St Michael's hospital, Pramso.

## **1.5 Research Questions**

The study intend to find answers to the following questions:

1. What is the nature of the pregnancy-related referrals process between the initiating facilities within Bosomtwe district and St Michael's hospital, Pramso?
2. What is the readiness of the initiating health facilities to identify and refer pregnancy-related cases?
3. What is the preparedness of the receiving health facilities to effectively manage pregnancy-related cases?
4. What are the barriers impeding effective handling of pregnancy-related referrals in the district?

## **1.6 Research objectives**

### **1.6.1 General Objective**

The general objective of the study is to examine the effectiveness of the referred process of pregnancy-related cases in the Bosomtwe district in the delivery of healthcare.

### **1.6.2 Specific Objectives**

The study specifically seeks to:

1. Assess the referral process of pregnancy-related cases between the initiating facilities within Bosomtwe district and St Michael's hospital, Pramso.
2. Assess the readiness of the initiating health facilities to identify and refer pregnancy-related cases in the Bosomtwe district.
3. Examine the preparedness of the receiving health facilities to effectively manage pregnancy-related cases in the Bosomtwe district.
4. Identify the barriers impeding effective handling of pregnancy-related referrals in the district.

## 1.7 Conceptual Framework

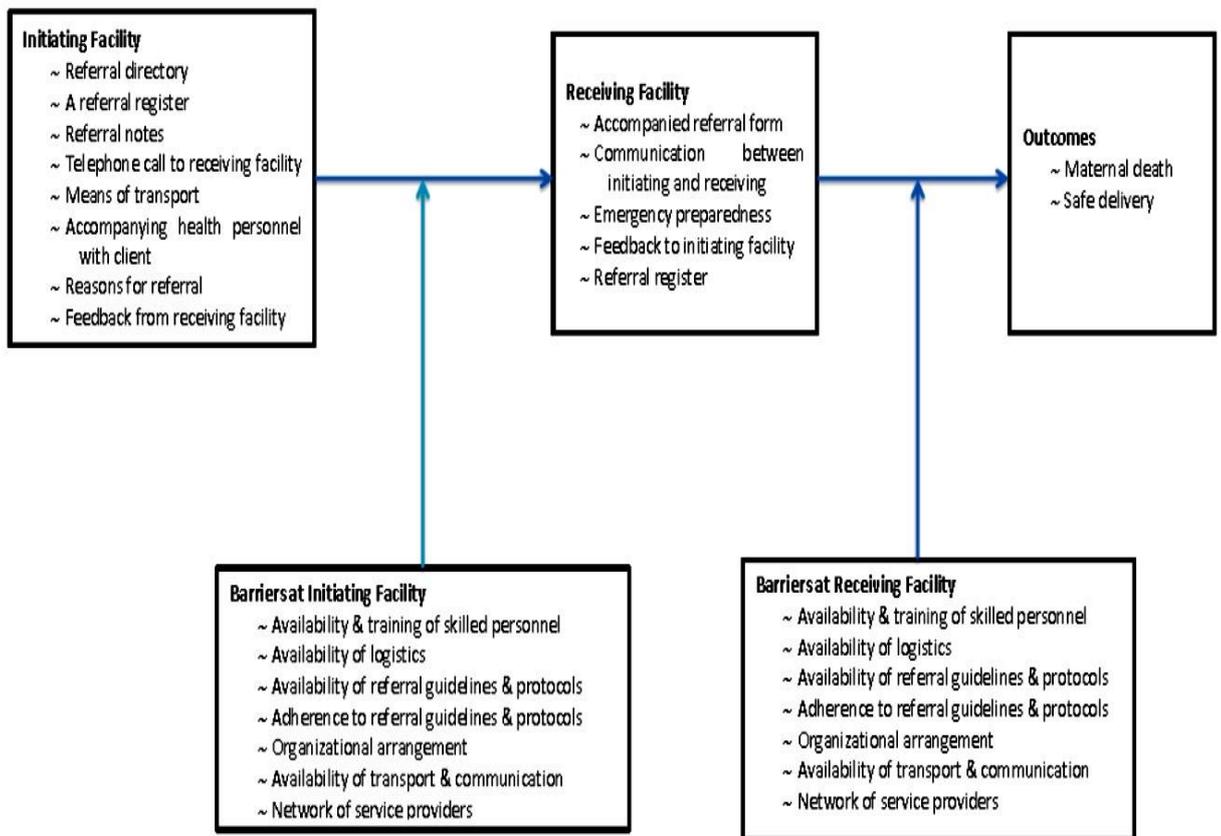
The referral mechanism involves communities, primary, secondary and tertiary facilities. These referrals is mostly between the primary and secondary, primary and tertiary or secondary and tertiary health facilities. It requires coordination, cooperation and transfer of information so that clients receive care promptly and at the right level. Figure 1.1 describes the interplay of variables that determine the process of maternal healthcare referral system between referring and receiving health facilities in the study area. It is based on the S-P-O Model of quality improvement proposed by Donabedian (Shi & Singh, 2008). In this model, health care delivery is divided into three parts: structure, process, and outcomes of care. The pregnancy-related referral system consist of inputs, processes, and outputs/outcomes that link together to ensure prompt identification, referral, and management of a pregnancy-related cases.

The structural dimension of the model refers to the features of the health facility and how medical and other services are organized. It constitutes availability of properly trained personnel, equipment, facilities, information systems, and materials (hospital beds, medicines, ambulance). The structure of the health facility significantly impacts the ability of the facility to handle maternal and pregnancy related issues. Aspects of the organizations such as committee structures, managerial expertise, availability of treatment guidelines and clinical/administrative protocols that are key parts of the structure affects healthcare delivery. Structural measures indicate the extent to which health care organizations have the capacity to provide adequate levels of care and involve non-clinical support services. Many rural healthcare facilities often refer maternal issues and pregnancy related cases to facilities located in district capitals and cities due to several barriers like the availability and training of skilled personnel, availability of logistics, availability of referral guidelines and protocols, adherence to

referral guidelines and protocols, organizational arrangement, availability of transport and communication and network of service providers.

Processes refer to the activities carried out in providing and receiving care. That is to say, the activities that are actually carried out by the healthcare facilities define the process. That is, the process of care or how things are done. The content of the medical and psychological interactions between patients and providers are also included in the processes. Processes encompass the specific way in which care is provided. They involve the specific tasks undertaken to achieve the required outputs. It includes activities such as blood pressure measurement, blood glucose testing, charts, midwives' notes, prescription pattern, protocols and management information systems. The referral process begins with the initiating facility. The initiating health facility is required to keep referral notes, have referral directory and register, extend telephone call to the receiving facility, make available transportation, accompanying health personnel with client, reason(s) for referral stated and feedback received from the receiving facility. The receiving facility is also required to take a referral form from the initiating facility, communicate with the personnel from the initiating facility, prepare for the emergency, make available referral register and send feedback to the initiating facility. The adherence of the initiating and receiving facilities to these processes (clinical, administrative guidelines and protocols) has crucial effect on all aspects of maternal care (output). The level of maternal deaths and safe delivery therefore depends on proper and effective referral process. The framework guiding these discussed principles is shown in Figure 1.1.

**Figure 1.1 Conceptual Framework**



Source: Adapted from Shi and Singh (2008:34)

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.0 Introduction

This chapter seeks to examine other research work in journals, articles, newspapers, textbooks and annual reports that relates to the research. The chapter is made of sections listed as discussed below.

#### 2.1 The Global Burden of Maternal and Perinatal Mortality

Complications of pregnancy related cases continue to be a major cause of death for women of reproductive age in most developing countries (Broek, 2013). An estimated 303,000 women are expected to die in 2015 due to maternal causes, which makes

maternal mortality the second leading cause of death among women aged 15-49, after HIV (WHO, 2015). Maternal mortality ratio, often described as the number of maternal deaths per 100 000 live births was worldwide reported at 216 in 2015. This trend results in about 830 women who die every day due to pregnancy and childbirth complications. Almost all these deaths took place in resource - limited environments, and most of them could have been prevented. With nearly two thirds of the global maternity, the African region bore the highest burden. (WHO, 2016).

During the MDG era, the global MMR decreased by 44 percent, representing an annual average decrease of 2.3 percent between 1990 and 2015. Accelerated progress is now required, as the achievement of SDG target 3.1 requires a massive annual mitigation rate of at least 7.3%.

Over the last couple of years, the way of reducing maternal and perinatal mortality has moved from the risk strategy involving the identification of high - risk pregnancies that really can generate difficulties in the provision of services of skilled care during delivery and emergency obstetric care. The change was down to the fact that more and more maternal deaths happen during labour, delivery and postpartum on the first day. The difficulties that ultimately, results to these deaths are mercurial, but can be treated early when detected (Campbell & Graham, 2006). The severity in which this strategy lowers maternal and neonatal mortality is not recognized even though the capacity to cope with abnormalities at the primary level is reduced by the unavailability of qualified human resources and equipment.

## **2.2 Components of the Referral System**

Referral is characterized as a system where a health worker at one level of the health system who has insufficient resources (drugs, equipment, skills) to handle a clinical

condition tries assistance at the same or greater level from a substantively different staffed and well-equipped facility. Referral is the movement of health care seekers to reach different types of treatment through the healthcare system (Giovine & Ostrowski, 2010). It is a set of assessments carried out by a health care provider because it could not provide required action to meet the needs of patients.

It requires a two-way system, for example from the community to the appropriate level of care and back. It involves not only direct patient care, but also support services such as transport. Referral involves cooperation, coordination, and information transfer between the various service delivery levels. An efficient referral system ensures that patients can access care at the primary (lower) levels and referred promptly for secondary or tertiary care if required. Likewise, referral back to the lower facility instituted when the reason for referral is address.

In the context of maternal health, a referral may be defined as a process by which immediate client needs for essential or comprehensive obstetric care services is assessed and clients are helped to gain access to services. Referral should also include reasonable follow-up efforts to facilitate contact between service providers and to solicit clients' feedback on satisfaction with services.

Key explanations behind choosing to allude either a crisis or routine case include: to look for master supposition with respect to the client; to look for extra or changed administrations for the client; to look for affirmation and to look for utilization of analytic and restorative devices. The facility that begins the referral procedure is the initiating facility and it writes an outward referral to convey the client's condition and status. The health facility that acknowledges the alluded case is the receiving facility and toward the finish of their management; they set up a back referral to the initiating

facility to tell the starting facility what has been finished. This finishes the referral circle between the two health facilities.

A referral register is a means to keep up a rundown of all outward and internal referrals from one health facility. Data enrolled incorporates client alluded, to where, when and why, regardless of whether the case is shut or proceeding. Whether it was a proper referral or if there were any issues. A few regions keep up a catalog of administrations of rundowns all associations giving pro consideration. Such a catalog can encourage the scan for the most fitting specialist organization for a specific referral. Where such a registry is used, it is imperative that the contact data is up-dated with the latest.

Being a framework, examination of a referral arrangement requires thought of every one of its parts. The plan and working of a referral framework in any individual nation will affect a wellbeing framework determinants and general determinants (WHO, 2008). Wellbeing frameworks determinants incorporates: abilities of lower levels; accessibility of specific faculty; preparing limit; hierarchical plans; system of specialist organizations; adherence to referral conventions; transport and correspondence; accessibility of coordination. General determinants incorporate factors, for example, populace size and thickness; geological landscape and separations between urban focuses; example and weight of illness; interest for and capacity to pay for referral care.

### **2.2.1 Relationship between Health Service Providers**

For a referral system to function in its best relations between service providers, it is necessary to formalize and concur on referral protocols. In addition, all levels of the healthcare system, like primary health services, must function properly. This involves each unit: to be either clear about its own job, obligations and constraints; and to have readily accessible care procedures for situations for this standard of care; to have

appropriate form of communication and transport. The communication is usually via the referral form, but can also be via radio, telephone or fax. When the government cannot provide a primary health care with an ambulance, a community- oriented transport organization system is used. A common thing that contributes to the congestion of high levels of facilities is that clients bypass facilities at a lower level. Improving the availability of resources and the standard of care at the lower levels would be the first concern, boosting primary healthcare facilities are principal to making desirable and coherent in the minds of clients.

A referral approach will work effectively if all service providers (where a certain structure relates) conform to the referral learning, refer judiciously and follow the agreed healthcare procedures. The supervisory organization and facility supervisors are responsible for overseeing reference statistics and providing guidance where necessary. National authorities for healthcare e.g. The Health Ministry must expect the district health administration to take actions periodically to ensure that the referral structure is progressive in terms of enhancement.

### **2.2.2 Initiating Facility**

In the initiating facilities, health workers must have ready access to the agreed district, regional or national protocols for its facility level and be very familiar with them. Conventions needs to incorporate likely conditions for referral and subtle elements of the data and archives that ought to be send with the client. Settling on the choice to refer the client must come after the health care provider has assembled and investigated the pertinent data as a guide. Choosing to refer does not imply that the health care provider is insufficient or terrible.

It is fundamental to have an institutionalized referral frame all through the system of specialist co-ops to guarantee that a similar basic data is given at whatever point a referral is started. The referral shape must intend to encourage, correspondence in the two bearings - the initiating facility finishes the best part or the outward referral. Each patient alluded out ought to be joined by a composed record of the clinical discoveries, any treatment given before referral and explicit explanations behind making the referral. The referral form ought to go with the client and give an unmistakable assignment of the specific receiving health facility the client is been sent to. A deliberately filled referral card can enable the client to get auspicious consideration at the receiving health facility. In a few circumstances, it will be conceivable and important to speak with the receiving health facility to make an arrangement or different courses of action for the referral, or to tell them of the pending landing of a crisis case. On the off chance that the client is sick, it may be important for Midwife/Nurse to go with them to the receiving health facility.

The issue to refer may scare or be troubling for the client and family. It is essential for the initiating health care provider to have sympathy and give the client applicable data, for example, reasons and significance of the referral, dangers related with not going; how to get to the receiving facility – area and transport; who to see and what is probably going to occur and the procedure of follow-up on their arrival. Health care providers can demonstrate sympathy in understanding the ramifications of referral for the client and their family. The client might panic of the obscure, alarmed of ending up more sick or notwithstanding kicking the bucket. Worried about gathering the expenses of transport, treatment and family settlement; worried about leaving work that should be finished. At the end, every health facility in the system ought to have a referral enlist to

monitor every one of the referrals made, got and is used to screen referral examples and patterns.

### **2.2.3 The Receiving Facility**

If warned, the receiving facility can anticipate arrival and receive a referral form from the initiating facility. The receiving facility will use the information sent on the referral form to start a thorough evaluation of the client and start the case management. The receiving facility will use its special resources to provide high- quality client service and to retain documentation in accordance with standards. As the client progresses, receiving health facility plans the rehabilitation or follow- up program with the client and his family. When the client's care is finished at the receiving facility, it is important to refer back to the original initiating facility. The receiving facility fills the bottom part of the reference form. This communication contains information on special research, findings, diagnosis and treatment carried out by the receiving facility as well as the expected follow - up from the initiating facility.

The feedback can be send to the initiating facility by the client or by fax or post. This communication not only guarantees proper patient care and follow - up, but also produces the initiating facility and its staff with continuous education. The care providers at the initiating facility should check that the referral back is received, and in the absence of the referral back, track the relevant staff at the receiving facility to provide correct information. The receiving facility can also provide feedback on the appropriateness of the referral to the initiating facility. If there are any issues with the use of referral, timing, speed or information sent, it is important that the receiving facility provide specific feedback to the initiator. This will help the initiating facility to

support referral processes in the future. From this perspective, the receiving facility completes its own register of referrals in and out.

#### **2.2.4 Supervision, Capacity Building, and Continuous Quality Improvement**

According to WHO, around 5% and 10% of clients in a primary healthcare unit are referred to a better level for medical services or for highly specialized care (WHO, 2010). Supervisors should discuss the cases referred. Identify those that should have been properly treated without referral at the facility itself; identify cases that should have been referred but have been handled locally. Check the received referrals to see if the information is sufficient and been acted upon by the facility. Follow-up cases that were referred but have not received any feedback to ensure that the client has reached the receiving health facility. Identify any timing, timeliness and veracity of the information sent. The results of this analysis is discussed together with the hospital and clinical staff. When discussing the issues, staff identifies what needs to improve the situation. This could include clinical training or strengthening certain parts of the referral system or its procedures. Facility managers and supervisors must ensure that these referrals is monitored frequently. Education and capacity building can be strengthened through good supervision.

At last, the referral structure must also be subject to discussion in viewpoint of real experiences in order to accomplish the overall goals of the healthcare system. Continuously, the viability of the referral system may have to be examined, far beyond the statistical patterns and trends.

#### **2.3 Components of a Maternal Referral System**

A maternal referral system includes basic and comprehensive obstetric care, transport and cost-sharing schemes in the community (Fournier et al, 2008). Moreover, surveys

have said it is a crucial and often poor component of maternal and newborn health (MNH) services. In cases of obstetric and newborn emergency, where healthcare seekers need to reach a high level of care in a small and often-fatal time frame. The establishment of a responsive emergency referral system and the transport mechanisms that support these referrals requires tightly interlocking components that can interact quickly and safely transfer a woman from the complication site to a definitive level of care. Women may have a window time of only two hours between the onset of postpartum haemorrhage and death in the case of postpartum hemorrhage (PPH), which is identified as the leading cause of maternal death (WHO, 2005). During this short period, clinical judgment, stabilization and transfer protocols, communication technology, transport and cost arrangements must be closely interlocked.

A practical maternal referral framework is vital in maneuvering up antenatal, work and conveyance, and postnatal administrations in the essential dimension of consideration offices (Pembe et al., 2010). In the most recent decade. The way to deal with decrease maternal and perinatal mortality has moved from the hazard approach including recognizable proof of high hazard pregnancies that can create complexities and crisis in obstetric care. The move has been because of the way most maternal passing happen amid work. When analyzed early, these passing will be dealt with promptly (Gabrysch and Campbell, 2009).

A model is the free maternal conveyance presented by legislature of Ghana in 2008 to enhance maternal wellbeing. It has discovered that 99% of maternal passing happen because of the time slack between initiating facility referral and receiving health facility. Then again, in creating nations, for example, Ghana, episodic proof demonstrates that the referral frameworks for crises are regularly feeble. Some of the health facilities have no vehicle or approach to require a vehicle; at different occasions,

there might be no fuel or driver accessible. Health staffs may confront long periods of movement over almost impassible streets. Any breakdown along the way from home to health facility, or to receiving health facility can keep clients and infants getting to crisis care.

Murray and Pearson have distributed a precise audit and proposed an examination agendum to distinguish how projects can likely advance convenient and suitable maternal referral. Sibley has explored the adequacy of customary birth specialists (TBAs) in advancing referral from the network to health facilities offering crisis obstetric consideration. In the first place, there is a need to act quickly to certain maternal conditions, for example, extreme baby blues drain. Along these lines, look into requirements to analyze acknowledgment of risk signs, as well as to what extent it take for acknowledgment of the issue to happen. The requirements on quick activity by families, for example absence of transport, and absence of cash, are normal. Macintyre and Hotchkiss have built up a calculated system of elements at the individual, family, and network levels influencing referral in Africa that is similarly pertinent to different areas of the world.

Examples of basic leadership inside the family unit may prompt a critical postponement, particularly when authorization of the spouse is required before looking for consideration yet he is away, or when it is not obvious to the family where to look for consideration from among a scope of formal and casual area suppliers. In any case, one of the key factors that have added to cut down the quantity of maternal and neonatal passing is the accessibility of talented chaperons at the process level with referral reinforcement. Referral back up for moms and their babies is basic to social insurance with the end goal to oversee difficulties amid pregnancy, conveyance, baby blues and infant issues. The nature of maternal and infant wellbeing at the district hospitals where

Doctors are mostly available includes a conditional 24-hours services. This empowers the initiating facilities to act fittingly to the crises, necessities and privileges of their clients. It requires compelling connections among essential social insurances and referral facilities as productive and auspicious transportation of patients to the referral facility, correspondence and association of administrations. While much needs to be done to address the key issues of maternal and infant wellbeing at the network and essential medicinal services levels, there is also the need to likewise take a gander at the nature of maternal and infant wellbeing at the referral clinic. Further, there is a need to advance prescribed procedures in overseeing health facilities as that would help give better consideration to moms and their babies. Finally, the accessibility of area activity, designs and mapping of assets, and deficits in expert labour is not be neglected.

#### **2.4 Studying a Health Referral System**

An efficient referral system is an integral component of the District Health System (Murray & Pearson, 2006). The referral system intends to ensure an operational link between the primary and secondary levels of health care and requires advanced logistics, which includes vehicles, communications technology such as radios, telephones or mobile phones and an appropriate reporting system (Hussein et al, 2012). A well-functioning referral system is extremely difficult to manage. The technical aspects of a hospital reference can only be satisfactorily resolved with the local community. In particular, transportation and financing issues. All health facilities should ideally have a telephone or radio link to the district hospital, where they can request an ambulance. This is expensive, however, and difficult to run without interruption. Where telephone or radio links are not available and an ambulance is not available, other solutions (community vehicles or taxis) are used. The modalities of financing expenses of referral and further treatment are not plainly specific in most

health facilities. It is the obligation of the district health administration team to check the nature of the referral framework whether patients and midwives realize how to arrange a critical referral. Monetary controls must be clear ahead of time. The accompanying alternatives are possible: cost sharing between network supportive group/health insurance schemes.

Patients referred to the hospital are treated at preferential rate in light of the fact that their first contact point was the initiating facility and has being referred. Once the patient has been seen at the receiving facility, the patient is then sent back to the initiating health to continue care in order to reduce the costs for both the patient and the entire system. Given that documented information about the patient from the initiating facility is often less than satisfactory, standardized forms and an efficient two - way information system are essential for a smooth operation of the referred system. Modern communication like radios, telephones or mobile phones should be encouraged to be use more. The District Health Management Team has the responsibility to coordinate the testing of relevant communication systems. The referral system is not limited to patient transfer. Whenever a referral was made, the information system, the financing system and the cooperation mechanisms between health care providers within the district are also activated. If there is deficit in any of these areas, then there are lapses in the referral processes.

One model of referral conceptualization is the movement of patients through the system from a lower level to a higher level, with either a type of facility or a type of provider at the primary care level. It is common to have three different levies for most countries. A primary level of health care consisting of health posts and centres. This level addresses health problems of the majority of the population. Certain medicines are available at the primary care level and administered by a mixture of either health care

workers, nurses (which may or may not include midwives). A number of laboratory tests should be carried out which correspond to the level of care.

Ghana is a low - income country with a pyramidal health infrastructure with CHPS compounds, clinics and health centers as the primary level of base care facilities and referral hospitals in the apex district. District hospitals are the first maternal referral hospitals where most obstetric interventions are available, including surgery and blood transfusion. The use of prenatal care services is high, with more than 90 percent of pregnant women visiting at least once, but midwives carry out only 50 percent of delivery services in healthcare facilities (Ghana Health Service, 2010). The maternal mortality ratio (MMR) estimated to be 578 per 100,000 live births based on the 2008 demographic and health survey (Ghana Statistical Service (GSS), Ghana Health Service (GHS), ICF Macro, 2009).

The Ministry of Health of Ghana launched a policy document on Referral Guidelines as part of ongoing efforts to improve the referral system in the country. Early Diagnosis and reference to higher standards of care could also significantly reduce neonatal deaths due to childbirth complications. The general objective of such a referral system is that patients receive effective treatment at a minimum cost at the right place (Murray et al, 2001).

The World Health Organization (WHO) Technical Report released in 2004 review healthcare delivery structures and describe referral as a set of programmes run by a healthcare provider or facility in response to its inability to provide the quality or type of intervention appropriate to the patient's needs.

## **2.5 Requirements of an Effective health referral system**

An effective referral system ensures a close relationship between all levels of the health system and helps to ensure people receive the best possible care close to their home (Bossyns & Van Lerberghe, 2004). It also helps to make the efficient use of hospitals and primary health care facility. Support for health centers and outreach services provided by experienced staff from the hospital or district supports capacity building and improves access to better healthcare services. In many poor countries, a high proportion of clients seen in hospital outpatient clinics might have been looked after in primary health facility (WHO, 2004). A good referral system can help to ensure clients receive optimal care at the appropriate level and not necessarily costly. Use of hospital facilities is optimally cost-effectively. Clients who mostly need specialist services can access them timely, primary health services is utilize and their reputation enhanced.

An effective referral health system must have criteria to be able to measure progress (WHO, 1999). Many of the requirements for a functional reference system is extensively identify in literature. These are adequate resourced referral system (WHO, There should be standard case management (treatment protocols and guidelines); there should be clearly delineated levels of care and an accompanying mix of appropriate skills for each level of care. It must take into consideration the patient's ability to pay; it should encourage patient education, i.e. Patients should be aware of what services are available at each level and what the service offers in order to be able to request acceptable referral; logistical issues such as transport should also be considered.

In addition, referrals should be made to the nearest appropriate and affordable health facility, which should be free in emergencies as far as possible. Its equipment must be fully equipped for referrals. This includes facilities able to provide basic emergency

obstetric care (BEOC) and comprehensive emergency obstetric care (CEOC) for maternal and neonatal care. The WHO standard is at least one basic facility for at least 125 000 people. This requires a planned reference to the appropriate facility. The United Nations monitoring indicators for the availability of obstetric services define basic essential obstetric care facilities with six signal functions and a comprehensive EOC for those six and two (surgical and blood transfusion) (WHO, 1999). Health professionals (in particular teams) should be available for hospital care after referrals. The referral hospital must have at least four departments: surgery, paediatrics, internal medicine, obstetrics and gynaecology, as well as basic ancillary services such as radiation and laboratory services. Feedback and follow - up on hospital referrals are essential in the referral system. It might be as easy as a standard feedback form. The system should be able to monitor and assess the quality of care, referral practices and mechanisms of support.

Apart from these factors, it is important to emphasize that other factors should be in place to ensure that referral systems function effectively. Staff should be competent and available; roles and functions should be clearly define. Hospital level should be prompt and adequate devotion is essential for the patient; and after discharge, referral back to the primary care level.

## **2.6 Components and Function of Maternal Referral System in Ghana for Emergency Obstetric Care in Ghana**

The safe motherhood referral system is a national program to reduce the risk of obstetric complications associated with maternal death. The system are supported by three main components. Firstly, it aims to improve communication and secondly transport opportunities to eliminate delays in achieving the objective results. To be effective, the maternal referral system must have a functional and improved radio and

telecommunications between community health facilities and district health services, as well as ambulance transport between them. Alternative financing options, including cost - sharing schemes for the community, are a prerequisite for eradicating financial obstacles to maternity care. However, Community-funded schemes to facilitate the timely reference of maternal cases to the next level of care in many communities in Ghana are not available. Thirdly, training and equipment for improving the clinical management of obstetrical emergencies are required.

Two categories of women use obstetric services in the Safe Motherhood Programme: (i) those with obstetric complications referred to by community health centers and benefiting from all system components and (ii) those referred to in the district health centre. There are six categories of obstetric emergency, defined by medical diagnosis or by reasons of reference: haemorrhage, uterine rupture, pre - eclampsia / eclampsia, dystocic labour, infection and others (for other obstetric emergencies that directly cause maternal death, such as abortion, or circuitously, mostly anaemia and malaria). It is therefore against this background and pattern of referrals that an analysis of the practical functioning of referral systems is made.

For almost all district health directorates directly responsible for the planning of primary health services, the concern is not about referrals but about lack of financing for operational activity. This combined with the lack of man- power to carry out their various responsibilities. Although there are exceptions, there are no qualified staffs in most health facilities and CHPS compounds. Furthermore, with the multiplication of new districts in the Ashanti region, which is taking place with little or no prior planning for health facilities, some districts have found themselves in a worse position in terms of human and financial resources. District health team also expressed uncertainty about

how to establish referral guidelines in the region and which indicators to use to determine how the process works (Bossyns & Van Lerberghe, 2004).

One of the responsibilities of district hospitals as defined by WHO in its technical report series; the hospital in rural and urban districts is seen as supporting the provision of primary healthcare services. One of the ways in which this is done, is through the provision of clinical leadership to the network of primary health care facilities in the district. The district hospital should help to make the referral system work well by supporting primary healthcare services on one hand and acting as a gateway to more specialist care on the other.

### **2.7 Readiness of the Primary Health care Facilities to Adequately Identify and Refer Obstetric Emergencies to Secondary Level**

In the 1990s the district health concept to health service planning became the backbone of health policy in many African countries, and Ghana is no exception. The central assumption was that access to medical services would involve a two - tiered system, in particular in rural communities. A health center network would provide comparatively low - tech proximity care, while district hospitals would provide support for patients referred to by health centres (WHO, 2004). The division of labour between the two complementary and easily recognizable levels appeared to be a rational and cost - effective way of addressing the health problems of the poorest people. Real evidence of effective complementarity is scarce between the two levels. There is, on the other hand, ample evidence that the referral systems fail to live up to expectations. Referral systems are software and much harder to set up than physical installations. There is very little documentation on this aspect of the district approach. However, referral systems are mostly responsible for failing to deliver positive results in health districts. In particular,

maternal health studies easily blame insufficient referral systems for failure (Thaddeus and Maine, 1994).

Like many other areas of rural Africa, Ghana's reference system exists on paper, but hardly in practice. Apart from obvious emergencies, there are few referrals. There is also no denying that so many patients benefiting from a referral are not even referred or do not adhere in due time. Patients who arrive in the hospital often arrive after considerable delays and are only a fraction of the patients. For example, the number of women who arrive at birth with a life - threatening condition that requires a major intervention is less than 10 percent of the low - end estimates (Bossyns & Van Lerberghe, 2004).

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.0 Introduction**

This chapter provides a description of how the study was conducted. It consists of the study design and methods, study population, profile of study area and population, study variables, sampling techniques, data collection techniques and tools, pre-testing, data handling, data analysis, ethical consideration, limitation of study and assumptions

#### **3.1 Study Design and Methods**

Assessment is concerned with monitoring in order to ensure that predefined standards of care is followed in providing care (Bowling, 2009). The study was a quantitative descriptive cross sectional study conducted in June 2018 within Bosomtwe district. The study assessed the structure, process and outcome of referrals in Bosomtwe District at both the referring and receiving facilities, to ascertain the compilers level of pre-defined standards. It was conducted using structured questionnaires to collect data.

### 3.2 Study population

The respondents were selected on the basis that they provided obstetrics care services at both initiating and receiving health facilities within Bosomtwe district. Midwifery and Nursing supervisors and assistants were interviewed in both initiating and receiving health facilities within Bosomtwe district and St Michael's hospital, Pramso.

### 3.3 Profile Study area and population

#### Background Information

Bosomtwe District is in the Ashanti Region of Ghana. It was formerly part of the Bosomtwe-Atwima-Kwanwoma district and it was carved out by LI 1852 of 29th February, 2008. Kuntense, the district capital is about 28 km from Kumasi. The district shares common borders with Ejisu-Juaben district and Kumasi Metropolis on the North; Bosomtwe-Freho district on the East, Atwima Kwanwoma District on the West and Bekwai Municipality on the South. The district has a land size 2,411 km<sup>2</sup>. The district has four sub-districts and 63 communities with an estimated 2014 population of 104,471. For health care delivery, the district is divided into four (4) sub-districts namely; Amakom sub-district, Kuntense sub-district, Pramso sub-district and Jachie sub-district. Predominantly, people living in the district are Ashantes with few other tribes such as Dagomba, Ga, and Ewe. For the purposes of community health service delivery, the district has been demarcated into 27 CHPS zones, 6 completed CHPS Compounds with Adwumam CHPS Compound which is the latest.

**Table 1: Population Distribution by Sub-Districts and their Communities**

| Sub-District | Population | % Population | # Communities | % Communities |
|--------------|------------|--------------|---------------|---------------|
| Amakom       | 17069      | 16.33%       | 11            | 17.46%        |

|                    |                                   |               |           |               |
|--------------------|-----------------------------------|---------------|-----------|---------------|
| <b>Kuntanase</b>   | <b>36,307</b>                     | <b>34.69%</b> | <b>22</b> | <b>34.92%</b> |
| <b>Jachie</b>      | 23,858<br><b>27,237</b><br>17,069 | <b>26.20%</b> | <b>13</b> | <b>20.63%</b> |
| <b>Pramso</b>      | <b>23,858</b><br>104,471          | <b>22.78%</b> | <b>17</b> | <b>26.98%</b> |
| <b>Dist. Total</b> | <b>104,471</b>                    | <b>100 %</b>  | <b>63</b> | <b>100%</b>   |

### Health Services

The district has quite satisfactory number of health facilities and health delivery is carried out by various category of staff working in eighteen out of twenty one (21) public and private health institutions. These institutions are eight government, eight Christian health association of Ghana (CHAG) or Mission and five private facilities. There is staff strength of four hundred and seventy three health personnel (public and mission). Out of this, two hundred seventy five are CHAG staff with one hundred and ninety eight Ghana Health Service personnel.

The district has 52 outreach points where Reproductive and Child Health Services is rendered. Four of these outreach sites was opened in 2010. One of the strengths of the district is the community based surveillance program. Sixty- six functional and active Community Based Surveillance Volunteers (CBSVs) have been trained to support community health activities. They record and report on monthly basis diseases, deliveries and deaths in their various communities.

**Table 2: Distribution of Health Facilities in the District.**

| Hospitals              | Health Centres | CHPS Compound       | Clinics                       | Maternity Homes                           | Training Institutions         |
|------------------------|----------------|---------------------|-------------------------------|---|-------------------------------|
| Kuntanase Hospital (G) | Jachie H/C (G) | Piase CHPS Comp (G) | Nyameani Methodist Clinic (M) | Comfap Maternity Clinic New Kokobriko (P) | Pramso Midwifery Training (M) |

|                                      |                          |                                 |  |  |  |
|--------------------------------------|--------------------------|---------------------------------|--|--|--|
| St. Michael's Hospital ( <i>M</i> )  | Tetrefu H/C ( <i>G</i> ) | Abono CHPS Comp. ( <i>G</i> )   | Brodekwano Methodist Clinic ( <i>M</i> ) | God's Grace Maternity Home( <i>P</i> ) |  |
| Divine Mercy Hospital ( <i>P</i> )   | Sewua H/C ( <i>G</i> )   | Akokofe CHPS Comp. ( <i>G</i> ) | Amakom Methodist Clinic ( <i>M</i> )     |  |  |
| Ayush Memorial Hospital ( <i>P</i> ) |                          | Oyoko CHPS Comp ( <i>G</i> )    | SDA Clinic – Konkoma ( <i>M</i> )        |  |  |
|                                      |                          |                                 | ST. Mary's Clinic - Apinkra ( <i>M</i> ) |  |  |
|                                      |                          |                                 | Anglican Eye Clinic-Jachie ( <i>M</i> )  |  |  |
|                                      |                          |                                 | Adwumam Clinic ( <i>G</i> )              |  |  |

**NB: G – Government Institutions, M – Mission, P - Private**

The district has experienced a steady rise in the number of maternal deaths from 2011.

It recorded five maternal deaths in 2011. It increased to six in 2012 and to seven in 2013.

Maternal deaths was one in 2014, one in 2015, four in 2016, two in 2017 and increased to six in the first quarter of 2018. Efforts are currently being made to improve maternal health issues under the High Impact rapid Delivery (HIRD) of Health Interventions. Under the district health directorate, there were trainings in partograph use; monthly midwife meetings and internal reposting of midwives to certain facilities, most especially to St. Michael's Hospital, Pramso. Causes of the maternal deaths was hypertensive disease; sickle cell disease/heart failure; sickle cell disease; post-partum haemorrhage (PPH); DIC; Acute heart failure/Pregnancy Induced hypertension and septic incomplete abortion.

These deaths were associated with the delay in reaching the health facility due to; clients not referred promptly, poor communication between referral levels, delay from relatives accompanying clients to referral facilities.

### 3.4 Study variables

| Objective   | Variables  | Indicator  | Operational Definition   | Measuring Scale          | Method of Data Collection  | Data Collection Tool    |
|---|--|--|--|--------------------------|----------------------------|-------------------------|
| 1. Assess the referral process of pregnancy-related cases between the initiating facilities within Bosomtwe district and St Michael's hospital, Pramso. | Expected pregnancies   | Number of pregnant women in fertility age  | The total number of women aged between 15-49 years   | Ratio                    | Review of district records | Data compilation forms. |
|   | Socio-demographic characteristics of referred women              | Age of mother  | Age in completed years   | Ratio                    | Review of health records   | Data compilation forms  |
|   |  | Parity   | The number of life births  | Ratio                    | Review of health records   | Data compilation forms  |
|   | Institutional Referrals  | Total number of referrals  | The total number of pregnant women advised by a health worker to attend a higher-level healthcare facility | Ratio                    | Review of health records   | Data compilation forms. |
|   | Types of Cases referred  | Total number of the various cases referred   | The nature of the referred cases   | Nominal                  | Review of health records   | Data compilation forms  |
|   | Reasons for referral   | Reasons for referral   | Specific reasons for referring a pregnancy-related case  | Nominal                  | Review of health records   | Data compilation forms  |
|   | Compliance with referral   | Proportion of women complying to referral directives   | Proportion of women complying to referral directives   | Ratio                    | Review of health records   | Data compilation forms  |
|   | Outcome of Referral  | Outcome of Referral  | The clinical outcome of a referred case.   | Nominal                  | Review of health records   | Data compilation forms  |
| Feedback to referring facility  | Proportion of referred cases with feedback to referring facility | Documentary evidence of the outcome of referral communicated to the referring facility by the receiving facility | Ratio  | Review of health records | Data compilation forms     |                         |
| 2. Readiness of the initiating health facilities to identify and refer  | Availability of agreed referral protocol/guidelines              | Proportion of health facilities with referral protocol/guidelines  | Availability of national referral guidelines/protocols in the facility                                     | Ratio                    | Interview                  | Interview guide.        |

|   |                |   |  |       |                 |               |
|---|----------------|---|--|-------|-----------------|---------------|
| pregnancy- related cases in Bosomtwe district | Human resource | Availability of skilled personnel                         | The number of trained skilled personnel (midwives, nurses and doctors) at post   | Ratio | Interview       | Questionnaire |
|   |                | Training and professional competence of skilled personnel | Proportion of skilled personnel who have up-to-date knowledge and skills in the management of obstetric complications and emergencies in the past 12 months. | Ratio | Interview       | Questionnaire |
|   | Logistics      | Availability of basic or comprehensive obstetric          | Proportion of facilities with having a full complement of basic  | Ratio | Facility survey | Checklist     |

|  |                                       |  |  |         |                 |               |
|--|---------------------------------------|--|--|---------|-----------------|---------------|
|  |                                       | emergence care medicines and equipments.   | or comprehensive obstetric emergence care medicines and equipments.  |         |                 |               |
|  | Referral protocol and guidelines      | Availability of Referral protocol and guidelines   | Proportion of facilities having national referral protocol and guidelines on the premises  | Ratio   | Facility survey | Checklist     |
|  | Availability of referral register     | Availability of referral register.   | Proportion of facilities having referral register on the premises  | Ratio   | Facility survey | Checklist     |
|  | Availability of referral directory    | Availability of referral directory   | Proportion of facilities having national referral directory on the premises  | Ratio   | Facility Survey | Checklist     |
|  | Means of communication and transport. | Availability of a means of communication and transport for referrals.  | Proportion of facilities having a means of communication and transport   | Ratio   | Facility survey | Checklist     |
| 3. Preparedness of the receiving health facilities | Staff strength                        | Staff knowledge on the usage of partograph<br>Availability of skilled staff<br>Training emergency obstetric care   | Staff knowledge on the usage of partograph<br>Availability of skilled staff<br>Training emergency obstetric care   | Nominal | Interview       | Questionnaire |
|  | Equipment, Logistics & Materials      | Availability of partograph to monitor the progress of labour<br>Emergency drug tray Availability of ambulance/transportation<br>GHS referral policy<br>Referral forms<br>Referral register | Availability of partograph to monitor the progress of labour<br>Emergency drug tray Availability of ambulance/transportation<br>GHS referral policy<br>Referral forms<br>Referral register | Nominal | Interview       | Questionnaire |
|  | Infrastructure (building)             | Availability of buildings  | Availability of buildings  | Nominal | Interview       | Questionnaire |

|  |                                  |   |   |         |           |               |
|--|----------------------------------|---|---|---------|-----------|---------------|
|  | Medicines and non-medicine items | Medicines like IV fluids, Oxytocics, Diuretics, Magnesium Sulphate, Cannular, and Foley's urethra catheter  | Availability of IV fluids, Oxytocics, Diuretics, Magnesium Sulphate, Cannular, and Foley's urethra catheter                                 | Nominal | Interview | Questionnaire |
| 4. Barriers to referral of pregnancy-related cases | Socio-cultural                   | The existence of any social, cultural or language barrier to referral                                       | Pregnant women's perception of the existence of a social, cultural, or language barrier to referral   | Nominal | Interview | Questionnaire |
|  | Geographical                     | The existence of barrier resulting from distance from the health facility                                   | The proportion of referring facilities sited more than 8km from the main receiving facility   | Ratio   | Interview | Questionnaire |
|  | Transportation                   | Barrier resulting from difficulty in obtaining access to any means of transportation                        | The proportion of referral facilities having difficulty with obtaining any means of transportation while referring pregnancy-related cases. | Ratio   | Interview | Questionnaire |
|  | Communication                    | The existence of any barrier to referral due to the lack of a communication gadget.                         | The proportion of referring facilities with no access to communication gadget while referring pregnancy-related cases..                     | Ratio   | Interview | Questionnaire |
|  | Finance                          | Barrier resulting from the inability of referred patients to pay for the available means of transportation. | The proportion of referred patients unable to pay for the available means of transportation during referral..                               | Ratio   | Interview | Questionnaire |
|  | Referral tools                   | Barrier to referral resulting from inability of staff to use referral tools                                 | The proportion of skilled staff unable to use the recommended referral tools.   | Ratio   | Interview | Questionnaire |
|  | Feedback to referring facility   | Barrier resulting from referral facility not obtaining feedback from receiving facility.                    | Proportion of feedback from receiving facilities for referred cases.  | Ratio   | Interview | Questionnaire |

### **3.5 Sampling Techniques**

Purposive sampling was used and only Midwifery and nurses' supervisors and their assistants were selected for the study from both initiating and receiving facilities. This was on the bases that they provided obstetric care services to pregnant women. St Michael's hospital, Pramso is the biggest health facility in the district. Hence, most referrals are referred to St. Michael's hospital, Pramso. This study therefore makes St. Michael's hospital, Pramso the major receiving facility within the district.

### **3.2 Data collection techniques and tools**

A twenty-five item questionnaire for the initiating facility and twenty-item questionnaire for receiving facility was designed by the researcher to collect primary data from respondents. These were pre-coded to make analysis easier. Research Assistants were trained to assist in the data collection. Respondents self-administered the questionnaire.

Furthermore, the referral register of the referring facilities was assessed to verify whether all the pregnancy-related cases referred to St. Michael's hospital complied with the referral directive.

### **3.6 Pre-testing**

The study tools were pre-tested in Ashanti Akyem South district to identify potential problems in the tools and the study design. A day was used for this and feedback from the pre-testing was factored into the study design and tools. This was done to identify and detect ambiguous questions and level of midwives and nurses understanding with respect to the nature of questions asked. Sentences which were not clear and gave different, intended meaning and understanding by respondents was modified accordingly.

### **3.7 Data Handling**

Pre-coded answered questionnaire was kept safe with the principal researcher on daily bases. Data was also stored on the researcher's laptop, Pen drive and personal in-box as well as on a compact disc to prevent loss. Data (returned questionnaires) was also stored in plastic files. Soft copies were also be stored for at least three years in case they may be needed in future for confirmation of results. Only the researcher had access to the data to ensure confidentiality.

### **3.8 Data Analysis**

The data analysis was done at the end of the data collection. Responses were grouped and categorized on the basis of information provided. The analysis was done using SPSS version 16.0. These were presented in frequency tables and percentages.

### **3.9 Ethical Considerations**

Ethical clearance for the study was obtained from the Committee on Human Research Publication and Ethics (CHRPE) at KATH. In addition to this, clearance was also sought from the District Health Management Team of Bosomtwe district. Once all these approvals were granted, informed consent was obtained from the respondents of the study. The respondent were assured of privacy, confidentiality, and only the researcher and assistants had access to the data collected.

### **3.10 Limitations of the Study**

The following were some of the limitations of the study:

District and facility records was not accurate. In some cases, data were either unavailable or complete.

Secondly, Assistants who were familiar to both initiating and receiving health facilities, which could result in social desirability bias, collected data. However, interviewers were

well trained to create a climate of trust with the respondents aiming at obtaining sincere responses.

### **3.11 Assumptions**

1. The study assumed that existing district records and answers provided by respondents are accurate.
2. All respondents provided obstetric care to pregnant women
3. Respondents were frank in answering questions



## **CHAPTER FOUR**

### **DATA PRESENTATION AND RESULTS**

This chapter presents and analyses the data. The chapter discussed information on both the initiating health facilities and the referral facility. The thematic areas captured were

related to labour monitoring and referred facilities, referral policy, form and register, availability of resources and service provision, medicine/non-medicinal items and emergency management protocols, transportation capacity of the health facilities, challenges encountered when referring client and staff knowledge and skills.

#### 4.1 Information on Initiating Facility Care Providers

This section of the study examines the institutional referring process of pregnancy-related cases in Bosomtwe District and the challenges in the referring process. The initiating health facilities considered included Abono Chips Zone, Adwumam CHPS

Compound, Akokofe chips compound, Ayush Memorial Hospital, Confap Maternity Home, Divine Mercy Hospital, God's Grace Maternity Home, Jachie Health Center, Lake Bosomtwe Methodist Clinic, Nyameani Methodist Clinic, Oyoko Chips Zone, Piase Clinic, Sawua health Centre, SDA Clinic Konkoma, St. Mary's Anglican Health Centre and the Tetrefu Health Centre. These facilities were selected from the Amakom sub- district, Jachie Sub-district, Kuntanase Sub-district and Pramso.

**Table 4.1: Basis of the decision to refer patients**

| Pregnancy Related Diseases/Issues  | YES       | NO      |
|------------------------------------|-----------|---------|
| Bleeding in pregnancy              | 22(100.0) | 0(0.0)  |
| Complicated Abortion               | 19(86.4)  | 3(13.6) |
| Hypertension in Pregnancy          | 19(86.4)  | 3(13.6) |
| Premature rupture of the membranes | 18(81.8)  | 4(18.2) |
| Breech presentation                | 21(95.5)  | 1(4.5)  |

|   |          |         |
|---|----------|---------|
| Multiple pregnancies                                  | 15(68.2) | 7(31.8) |
| Prolonged pregnancy (Post term pregnancy, Postdatism) | 21(95.5) | 1(4.5)  |
| Fetal death in-utero                                  | 21(95.5) | 1(4.5)  |

Note: Percentages are in the Parentheses

Multiple responses Source:

Field Survey (2018)

Table 4.1 shows that the initiating health facilities in the Bosomtwe District refer patients with complications related to bleeding in pregnancy to the next level. The majority (86.4%) of the respondents also agreed that patients with complicated abortions are also referred to the next level health facilities whereas 13.6% believed otherwise. The majority (86.4%) of the respondents also agreed that cases of hypertension in pregnancy was referred immediately to the next level. The majority of the respondents further agreed that cases of patients related to premature rupture of the membranes, breech presentation, multiple pregnancies, and prolonged pregnancy (Post term pregnancy (Postdatism) and fetal death in-utero was referred to the next level health facilities within the district or outside the district.

**Table 4.2: Labour Monitoring and Referred Facilities**

| Questions/Items/Statement   | Frequency | Percent |
|---|-----------|---------|
| Do you use partograph to monitor the progress of labour?  |           |         |
| Yes   | 22        | 100     |
| No  | 0         | 0.0     |
| <b>Labour cases exceeding an average of 18 hours or pregnancy with complications are referred to:</b> |           |         |
| St. Michael Hospital (district referral point)  | 20        | 90.9    |

|                              |  |   |       |
|------------------------------|--|---|-------|
|                              | Outside the district                     | 2 | 9.1   |
| If outside the district, why |  |   |       |
|                              | Poor obstetric care quality              | 0 | 0.0   |
|                              | Long distance to district referral point | 2 | 100.0 |
|                              | Transportation difficulties              | 0 | 0.0   |

Source: Field Survey (2018)

Table 4.2 shows that all the respondents agreed that the initiating health facilities monitor the progress of labour of patients using partograph. Labour complicated issues as shown by the Table 4.2 are largely referred to the St. Michael Hospital, Pramso (district referral point). Nonetheless, 9.1% of the respondents also believe that pregnancy related cases with complications are sometimes referred to health facilities outside the district due to long distance to the district referral point.

#### 4.1.1 Referral Policy, Form and Register

This part of the study examines the referral policy, form and register of the initiating health facilities at the Bosomtwe District. The result is presented in Tables 4.3 and 4.4.

**Table 4.3: Possession of GHS Referral Policy by initiating health Facilities**

| Questions/Statement/Items  | YES      | NO       |
|--|----------|----------|
| Do you have a copy of GHS referral policy at your facility                   | 3(13.6)  | 19(86.4) |
| If yes, can I see it   | 2(66.7)  | 1(33.3)  |
| <b>Places at the facility where the copy of the referral policy is found</b> |          |          |
| Maternity Outpatient Department  | 3(100.0) | 0(0.0)   |
| Labour Ward  | 2(66.7)  | 1(33.3)  |
| Others   | 0(0.0)   | 3(100.0) |

Note: Percentages are in the Parentheses

Source: Field Survey (2018)

Table 4.3 shows that the majority (86.4%) of the respondent believe that the initiating health facilities do not have a copy of the Ghana Health Service (GHS) referral policy for referral guidance whereas 13.6% believed otherwise. The health facilities with copies of the GHS referral policy kept them at the Maternity Outpatient Department and Labour Ward.

**Table 4.4: Possession of Referral Form and Register for Referral Process**

| Questions/Items  | YES      | NO        |
|--|----------|-----------|
| Do you have referral forms   | 6(27.3)  | 16(72.7)  |
| Do you have referral register  | 17(77.3) | 5(22.7)   |
| How is referrals of pregnancy-related complications communicated to the next level |          |           |
| Telecommunication (Phone)  | 12(54.5) | 10(45.5)  |
| Letter   | 17(77.3) | 3(22.7)   |
| Mail   | 0(0.0)   | 22(100.0) |
| Vehicle  | 4(18.2)  | 18(81.8)  |
| Who accompanies client to the referred hospital                                    |          |           |
| Staff  | 1(4.5)   | 21(95.5)  |
| Client relative  | 2(9.1)   | 20(90.9)  |
| Both   | 20(90.9) | 2(9.1)    |

Note: Percentages are in the Parentheses

Source: Field Survey (2018)

Table 4.4 shows that the majority (72.7%) of the respondents agreed that the initiating health facilities in the Bosomtwe District do not have referral forms whereas 27.3% believe otherwise. Nonetheless, the majority (77.3%) of the respondent believe that the initiating health facilities have referral register that keeps records of referred patients to the next level of health facilities. Referrals of pregnancy-related complications are communicated to the next level health facilities through phone or telecommunication and letter of referral. The majority (90.9%) of the respondents agreed that both a delegated staff and client relative accompanies clients to the referred hospital.

**Table 4.5: Follow-up on Referred Clients and Reception of Receiving Facility**

| Questions/Items  | Category          | Frequency | Percent |
|--|-------------------|-----------|---------|
| Do you follow up your clients after referral to the next level                                 |                   |           |         |
|  | Yes               | 22        | 100.0   |
|  | No                | 0         | 0.0     |
| How will you describe the reception by the staff of the hospital when referred cases are sent? |                   |           |         |
|  | Very satisfactory | 1         | 4.5     |
|  | Satisfactory      | 21        | 95.5    |
|  | Poor              | 0         | 0.0     |
| Do you receive feedback on referred cases  |                   |           |         |
|  | Yes               | 10        | 45.5    |
|  | No                | 12        | 54.5    |

Source: Field Survey (2018)

Table 4.5 shows that the respondents agreed that the initiating health facilities in Bosomtwe District follow up on clients after referral to the next level of health facilities. The majority (95.5%) of the respondents believe that the reception of the receiving health facilities is satisfactory whereas 4.5% also described the reception as very satisfactory. Nonetheless, the majority (54.5%) of the respondents believe that the initiating health facilities do not receive feedback on referred cases whereas 45.5% believe otherwise.

#### **4.1.2 Availability of Resources and Service Provision**

The availability of resources at the initiating health facility is discussed in this section of the study. This part of the study looks at the human resource capacity and their ability

to provide the required services to clients at the primary level. The result is presented in Table 4.6, Table 4.7 and Table 4.8.

**Table 4.6: Human Resource Capacity of the Facilities**

| Question                                    | N  |
|---|----|
| How many staff do you have in this facility | 22 |
| Medical officer                             | 1  |
| Medical assistant                           | 6  |
| Midwives                                    | 22 |
| General nurses                              | 1  |
| Health assistants                           | 4  |
| Valid N (listwise)                          | 1  |

Source: Field Survey (2018)

Table 4.6 shows that in terms of the human resource capacity of the initiating health facilities, there is an average 8 staff per facility. The initiating health facilities have an average of one medical officer, one medical assistant, two midwives and four general nurses. Also, the initiating facilities have an average of 2 healthcare assistants.

**Table 4.7: Type of Reproductive Health Services Provided**

| Service Type                      | YES       | NO      |
|-----------------------------------|-----------|---------|
| Maternity                         | 22(100.0) | 0(0.0)  |
| Child health                      | 20(90.9)  | 2(9.1)  |
| Emergency obstetric care services | 17(77.3)  | 5(22.7) |
| Family Planning Service           | 19(86.4)  | 3(13.6) |

Note: Percentages are in the Parentheses

Source: Field Survey (2018)

Table 4.7 shows that the respondent agreed that the initiating health facilities of the Bosomtwe District provide several forms of reproductive health services. The entire respondent agreed that the initiating health facilities offer maternity health services. The respondent further agreed to provide child health, emergency obstetric care services and family planning health services to people of Bosomtwe District.

**Table 4.8: Obstetric Minor Surgical Services Provided by the Facility**

|  | YES       | NO       |
|--|-----------|----------|
| In this facility, are obstetric minor surgical procedures provided |           |          |
| Manual removal of placenta   | 19(86.4)  | 3(13.6)  |
| Episiotomy tear repair   | 22(100.0) | 0(0.0)   |
| if not, what are the reasons                                       |           |          |
| Lacks equipment  | 0(0.0)    | 3(100.0) |
| Lacks infrastructure (building)                                    | 0(0.0)    | 3(100.0) |
| Lacks skilled staff  | 3(100.0)  | 0(0.0)   |
| Others   | 0(0.0)    | 3(100.0) |

Note: Percentages are in the Parentheses

Source: Field Survey (2018)

Table 4.8 shows that the majority (86.4%) of the respondents agreed that the initiating health facilities provide obstetric minor surgical procedure like the manual removal of placenta. The respondent also agreed that the initiating health facilities provide episiotomy tear repairs. From the three respondents that disagreed that the initiating health facilities provide obstetric minor surgical services, they attributed the absence of the service to the inadequacy of the skills of the staff of the initiating health facilities.

#### 4.1.3 Medicine/Non-Medicinal Items and Emergency Management Protocols

This section of the study discusses the emergency drugs set at the initiating health facility, the medicine and non-medicinal items on tray and the emergency management protocols for some pregnancy complications. The result of the section is presented in Table 4.9 and Table 4.10.

**Table 4.9: Drugs on Tray for Patients**

| Questions/Items/Statement                                 | YES      | NO      |
|---|----------|---------|
| <b>Do you have emergency drugs set for the following?</b> |          |         |
| Eclampsia   | 15(68.2) | 7(31.8) |
| Ante partum hemorrhage                                    | 15(68.2) | 7(31.8) |
| Postpartum hemorrhage                                     | 21(95.5) | 1(4.5)  |

|   |             |                   |
|---|-------------|-------------------|
| <b>Is your emergency tray set all the time?</b>                                       | 20(90.9)    | 2(9.1)            |
|   | <b>Have</b> | <b>Don't Have</b> |
| <b>What medicine/non-medicine items do you always have on your tray?</b>              |             |                   |
| IV fluids (5% Dextrose, Normal Saline, 5% Dextrose in Normal Saline, Ringers lactate) | 22(100.0)   | 0(0.0)            |
| Oxytocics (Ergometrine, Oxytocin, Syntometrine)                                       | 22(100.0)   | 0(0.0)            |
| Diuretics (Mannitol 20%, IV Lasix 100mg)  | 22(100.0)   | 0(0.0)            |
| Magnesium Sulphate (MgSO <sub>4</sub> )   | 22(93.3)    | 1(6.7)            |
| Cannular (G14, G18, G20, G22)   | 22(100.0)   | 0(0.0)            |
| Foley's urethra catheter  | 17(77.3)    | 5(22.7)           |

Note: Percentages are in the Parentheses

Source: Field Survey (2018)

Table 4.9 shows that the majority (90.9%) of the respondents agreed that the initiating health facilities always have their emergency tray set. The majority of the respondents agreed that the initiating health facilities have emergency drugs set for Eclampsia, Antepartum hemorrhage and Post-partum hemorrhage. All the respondents agreed that the initiating health facilities always have on their trays Intravenous fluids (5% Dextrose, Normal Saline, 5% Dextrose in Normal Saline, Ringers lactate), uterotonics (Ergometrine, Oxytocin, Syntometrine), diuretics (Mannitol 20%, IV Lasix 100mg) and cannular (G14, G18, G20, G22). The majority of the respondents also agreed that the initiating health facilities always have on their tray Magnesium Sulphate (MgSO<sub>4</sub>) and Foley's urethra catheter.

**Table 4.10: Emergency Management Protocols**

| Questions/Items/Statement   | YES | NO |
|---|-----|----|
| <b>Do you have emergency management protocols for the following</b> |     |    |

|                        |          |          |
|------------------------|----------|----------|
| Labour                 | 12(54.5) | 10(45.5) |
| Eclampsia              | 18(81.8) | 4(18.2)  |
| Ante partum hemorrhage | 10(45.5) | 12(54.5) |
| Post-partum hemorrhage | 15(68.2) | 7(31.8)  |
| Uncomplicated malaria  | 17(77.3) | 5(22.7)  |
| Infection prevention   | 20(90.9) | 2(9.1)   |
| Severe Anemia          | 8(36.4)  | 14(63.6) |

Note: Percentages are in the Parentheses

Source: Field Survey (2018)

Table 4.10 shows that the majority (54.5%) of the respondents agreed that the initiating health facilities have emergency management protocols for labour whereas 45.5% believe otherwise. The majority (81.8%) of the also respondents agreed that the initiating health facilities have emergency management protocols for Eclampsia whereas 18.2% believe otherwise. The respondents also agreed that the initiating health facilities have emergency management protocols for postpartum hemorrhage, uncomplicated malaria and infection prevention. However, the respondents perceived that the initiating health facilities do not have emergency management protocols for antepartum hemorrhage and severe anemia.

#### 4.1.4 Transportation

The transportation capacity of the primary level or the initiating health facilities is discussed in this part of the study. The result is presented in the Table 4.11.

**Table 4.11: Transportation for Referred Patients**

| Questions   | YES    | NO       |
|---|--------|----------|
| Do you have a stand by ambulance?                                 | 2(9.1) | 20(90.9) |
| If no, what other means of transport do you have in the facility? |        |          |

|                  |           |           |
|------------------|-----------|-----------|
| Pickup           | 0(0.0)    | 20(100.0) |
| Motor bike       | 0(0.0)    | 20(100.0) |
| Public transport | 20(100.0) | 0(0.0)    |
| Bicycle          | 0(0.0)    | 20(100.0) |

Note: Percentages are in the Parentheses

Source: Field Survey (2018)

Table 4.11 shows that the majority (90.9%) of the respondents agreed that the initiating health facilities of Bosomtwe District do not have a standby ambulance to transport referred patients to the receiving points. The initiating facilities are perceived to largely rely on public transports to transfer referred patients to the receiving points.

#### 4.1.5 Challenges Encountered when Referring Client

The challenges encountered by the primary level or the initiating facility in the process of referring clients to the referral or next level point facility are identified in this part of the study. The result is presented in Table 4.12.

**Table: 4.12: Challenges of Referring Clients**

| Factors/Items                        | YES      | NO       |
|--------------------------------------|----------|----------|
| Availability of transportation       | 18(81.8) | 4(18.2)  |
| Cost of Transportation               | 13(59.1) | 9(40.9)  |
| Reluctance of clients to be referred | 17(77.3) | 5(22.7)  |
| Distance to the point of referral    | 5(22.7)  | 17(77.3) |
| Road network                         | 7(31.8)  | 15(68.2) |

Note: Percentages are in the Parentheses

Source: Field Survey (2018)

Table 4.12 shows that the majority (81.8%) of the respondents agreed to the unavailability of transportation facilities like ambulance as a key challenge encountered in the referring of patients to the receiving points. The majority (59.1%) of the

respondents also agreed to the cost of transportation as a challenge to the referring of clients from the initiating health facilities to the receiving points. The reluctance of clients to be referred is also perceived by the majority (77.3%) of the respondents as a key challenge encountered when referring clients. Nonetheless, the respondents do not perceive as key challenge in the process of referring clients to the point of referral factors like distance to the point of referral and road networks.

#### 4.1.6 Staff Knowledge and Skills

The knowledge and skills level of the staff of the primary level facilities in referring clients to referral facilities. Issues discussed were the knowledge of the staff on GHS referral policy, emergency drills and training on pregnancy related complications. The result is presented in Table 4.13 and Table 4.14.

**Table 4.13: Knowledge on the GHS Referral Policy**

| Questions/Items                                   | YES     | NO       | Mean    | SD  |
|---|---------|----------|---------|-----|
| Do you have knowledge of the GHS referral policy? | 6(27.3) | 16(72.7) |         |     |
| Have you had training on the policy?              | 1(4.5)  | 21(95.5) |         |     |
| Have you had any emergency drills?                | 8(36.4) | 13(59.1) |         |     |
| If yes, how often in a year                       |         |          | 3 times | 0.0 |

Note: Percentages are in the Parentheses

Source: Field Survey (2018)

Table 4.13 shows that the majority (72.7%) of the respondents from the initiating health facilities at the Bosomtwe District believe that they do not have knowledge of the GHS referral policy whereas 27.3% of the respondents believe otherwise. The majority (95.5%) of the respondents have no training on the GHS policy. The majority (59.1%) of the respondents also have had no emergency drills. Nonetheless, 36.4% of the

respondents from the initiating health facilities have had emergency drills. This minority of the staff on the average received emergency drills 3 times annually.

**Table 4.14: Trained on Pregnancy Related Complications**

| Questions/Items   | YES      | NO       |
|---|----------|----------|
| <b>Have you been trained in the past 12 months on the mgmt. of:</b> |          |          |
| Eclampsia   | 7(33.3)  | 14(66.7) |
| Ante partum hemorrhage  | 7(33.3)  | 14(66.7) |
| Postpartum hemorrhage   | 9(42.9)  | 12(57.1) |
| Pelvic inflammatory disease   | 2(9.5)   | 19(86.4) |
| Diabetic in pregnancy   | 1(4.8)   | 20(95.2) |
| Heart disease   | 1(4.8)   | 20(95.2) |
| Severe anemia   | 3(14.3)  | 18(85.7) |
| Complicated malaria in pregnancy                                    | 10(47.6) | 11(52.4) |

Note: Percentages are in the Parentheses ( Multiple responses) Source:

Field Survey (2018)

Table 4.14 shows that the majority of the respondents have not been trained in the past 12 months on the management of pregnancy related complications like Eclampsia, Ante partum hemorrhage, Postpartum hemorrhage, Pelvic inflammatory disease, Diabetic in pregnancy, Heart disease, Severe anemia and complicated malaria in pregnancy.

#### **4.2 Basic Information of Receiving Care Providers**

This section of the study assesses the referral processes and difficulties of the referral facilities. The considered referral facility in this study was the St Michael's Hospital at Pramso. The various types of staff considered were Midwife, Midwifery Officer, Senior Midwifery Officer, Senior staff midwife and staff midwife. The result and analyses of the referral process is subsequently shown in Tabular methods.

#### 4.2.1 Means of Receiving Referral of Women with Pregnancy-Related Complication

This part of the study discusses the mode of receiving referred women by the referral facility.

The result is presented in Table 4.15.

**Table 4.15: Means of Receiving Referral of Women with Pregnancy-Related Complication from Primary Level Facility**

| Category                  | Frequency | Percent      |
|---------------------------|-----------|--------------|
| Telecommunication (Phone) | 2         | 13.3         |
| Letter                    | 13        | 86.7         |
| <b>Total</b>              | <b>15</b> | <b>100.0</b> |

Source: Field Survey (2018)

Table 4.15 shows that the majority (86.7%) of the respondents agreed that the referral or receiving point health facilities received letters from the initiating facilities in cases of referred women with pregnancy-related complication whereas 13.3% of the respondents perceived to have received referral of women from primary level facilities through telecommunication or phone.

**Table 4.16: Referral Register and Follow-up on Referred Clients**

| Questions/Items  | YES      | NO      |
|--|----------|---------|
| Do you have referral register                                | 14(93.3) | 1(6.7)  |
| Do you give feedback on referred cases received              | 10(66.7) | 5(33.3) |
| Do staff at primary facilities follow-up on referred clients | 7(46.7)  | 8(53.3) |

Note: Percentages are in the Parentheses

Source: Field Survey (2018)

Table 4.16 shows that the majority (93.3%) of the respondents agreed that the receiving health facilities have referral registers whereas 6.7% believe otherwise. The majority

(66.7%) of the respondents agreed that the receiving health facilities give feedback on referred cases received. Nonetheless, the majority (53.3%) of the respondents disagreed that the staff at the primary facilities follow-up on referred clients.

#### 4.2.2 Service/Resource Availability

This part of the study discusses the human resource availability or capacity of the referral facilities. The result is presented in Table 4.17.

**Table 4.17: Human Resource Capacity of the Receiving Facility**

|  | YES       | NO      |
|--|-----------|---------|
| <b>The categories of staffs that offer obstetric care in the Provider facilities</b> |           |         |
| Obstetrician Gynaecologist   | 15(100.0) | 0(0.0)  |
| Medical officers   | 15(100.0) | 0(0.0)  |
| Midwives   | 15(100.0) | 0(0.0)  |
| Nurses   | 11(73.3)  | 4(26.7) |
| Anaesthetics   | 14(93.3)  | 1(6.7)  |
| <b>The number of doctors at the facility</b>   |           |         |
| Do doctors respond to emergency calls promptly                                       | 12(92.3)  | 1(7.7)  |

Note: Percentages are in the Parentheses

Source: Field Survey (2018)

Table 4.17 shows that the respondents agreed that Obstetrician Gynecologist, Medical Officers and Midwives at the receiving referral facility offer obstetric care to patients. The majority of the respondents from the receiving referral health facilities also agreed that Nurses and Anesthetics assisted in the provision of obstetric care. On the average, the referral health facility have 10 medical doctors at their facilities to provide services

to patients. The majority (92.3%) of the respondents agreed that the doctors of the receiving referral facility responded promptly to emergency situations.

#### 4.2.3 Reproductive health services provided by facility

The reproductive health service provided by the receiving health facilities is discussed in this part of the study. This part further discusses the GHS Referral policy ownership of the referral facility. The result is presented in Table 4.18 and Table 4.19.

**Table 4.18: Reproductive health services provided by the Receiving referral facilities**

|                                   | YES       | NO     |
|-----------------------------------|-----------|--------|
| Maternity                         | 15(100.0) | 0(0.0) |
| Child health                      | 15(100.0) | 0(0.0) |
| Emergency obstetric care services | 15(100.0) | 0(0.0) |
| Family Planning Service           | 15(100.0) | 0(0.0) |

Note: Percentages are in the Parentheses

Source: Field Survey (2018)

Table 4.18 shows that the respondents concurred that the receiving health facility provides reproductive health services like maternity, child health, emergency obstetric care services and family planning services.

**Table 4.19: Receiving Facilities owing GHS Referral Policy**

|  | YES      | NO       |
|--|----------|----------|
| Do you have a copy of GHS referral policy                                    | 14(93.3) | 1(6.7)   |
| <b>Places at the facility where the copy of the referral policy is found</b> |          |          |
| Maternity Outpatient Department  | 13(92.9) | 2(7.1)   |
| Labour Ward  | 10(66.7) | 5(33.3)  |
| Others   | 3(21.4)  | 11(78.6) |

Note: Percentages are in the Parentheses

Multiple responses Source:

Field Survey (2018)

Table 4.19 shows that the majority (93.3%) of the respondents concurred that the receiving referral health facility have copies of the GHS referral policy to guide them in the receiving of referral cases. The receiving health facility was perceived by the respondents to keep copies of the GHS referral policies at the Maternity Outpatient Department and the Labour Ward.

#### 4.2.4 Monitoring of Labour Progress and Medicine/Non-Medicinal Items on the Tray

This section of the study discusses the usage of partograph in the monitoring of labour progress and the medicinal or non-medicinal items on the trays of receiving health facilities. The result is presented on Table 4.20 and Table 4.21.

**Table 4.20: Monitoring of Labour Progress using Partograph & Emergency Management of Protocols**

| Questions/Items/Statement   | YES       | NO      |
|---|-----------|---------|
| Do you use partograph to monitor the progress of labour?            | 15(100.0) | 0(0.0)  |
| <b>Do you have emergency management protocols for the following</b> |           |         |
| Eclampsia   | 15(100.0) | 0(0.0)  |
| Ante partum hemorrhage  | 15(100.0) | 0(0.0)  |
| Postpartum hemorrhage   | 15(100.0) | 0(0.0)  |
| Pelvic inflammatory disease   | 10(66.7)  | 5(33.3) |
| Diabetic in pregnancy   | 15(100.0) | 0(0.0)  |
| Heart disease   | 6(40.0)   | 9(60.0) |
| Severe anemia   | 15(100.0) | 0(0.0)  |
| Complicated malaria in pregnancy                                    | 15(100.0) | 0(0.0)  |

Note: Percentages are in the Parentheses

Source: Field Survey (2018)

Table 4.20 show that the respondents of the receiving health facilities agreed that the receiving health facility use partograph to monitor the progress of women in labour. The respondents also agreed that the receiving health facility have emergency management protocol for Eclampsia, Ante partum hemorrhage, Post-partum

hemorrhage, and pelvic inflammatory disease, diabetic in pregnancy, severe anemia and complicated malaria in pregnancy. Nonetheless, the majority (60.0%) of the respondents disagreed that the receiving health facility do not have emergency management protocols for heart diseases.

**Table 4.21: Medicine/Non-Medicinal Items on the Trays of Receiving Facilities**

| Questions/Items/Statement   | YES         | NO                |
|---|-------------|-------------------|
| <b>Do you have emergency drugs set for the following?</b>                             |             |                   |
| Eclampsia   | 15(100.0)   | 0(0.0)            |
| Ante partum hemorrhage  | 15(100.0)   | 0(0.0)            |
| Postpartum hemorrhage   | 15(100.0)   | 0(0.0)            |
| <b>Is your emergency tray set all the time?</b>                                       | 13(92.9)    | 1(7.1)            |
|   | <b>Have</b> | <b>Don't Have</b> |
| <b>What medicine/non-medicine items do you always have on your tray?</b>              |             |                   |
| IV fluids (5% Dextrose, Normal Saline, 5% Dextrose in Normal Saline, Ringers lactate) | 15(100.0)   | 0(0.0)            |
| Oxytocics (Ergometrine, Oxytocin, Syntometrine)                                       | 15(100.0)   | 0(0.0)            |
| Diuretics (Mannitol 20%, IV Lasix 100mg)  | 15(100.0)   | 0(0.0)            |
| Magnesium Sulphate (MgSO <sub>4</sub> )   | 14(93.3)    | 1(6.7)            |
| Cannular (G14, G18, G20, G22)   | 15(100.0)   | 0(0.0)            |
| Foley's urethra catheter  | 14(93.3)    | 1(6.7)            |
| <b>In this facility, do you have refrigerators for storing blood?</b>                 | 15(100.0)   | 0(0.0)            |
| Has it ever broken down   | 3(20.0)     | 12(80.0)          |
| Do you always have blood for emergencies?   | 13(86.7)    | 2(13.3)           |
| Do you have oxygen available at all times?  | 15(100.0)   | 0(0.0)            |
| How many labour beds do you have? <b>Mean = 4.71, SD = 1.82</b>                       |             |                   |
| <b>Does your facility have a theatre?</b>   | 15(100.0)   | 0(0.0)            |
| If your answer is yes, is it well functioning?  | 15(100.0)   | 0(0.0)            |

Note: Percentages are in the Parentheses

Source: Field Survey (2018)

Table 4.21 shows that the respondents agreed that the receiving health facility have emergency drugs set for Eclampsia, Ante-partum hemorrhage and Post-partum hemorrhage. The emergency tray of the receiving health facility is set all the time as indicated by the majority (92.9%) of the respondents. The respondents agreed that the

receiving health facility always have on their trays medicine and non-medicinal items like IV fluids (5% Dextrose, Normal Saline, 5% Dextrose in Normal Saline, Ringers lactate), Oxytocics (Ergometrine, Oxytocin, Syntometrine), Diuretics (Mannitol 20%, IV Lasix 100mg), Magnesium Sulphate (MgSO<sub>4</sub>), Cannular (G14, G18, G20, G22) and Foley's urethra catheter.

Table 4.21 further shows that the majority of the respondents agreed that the receiving health facility have refrigerators for storing blood. The refrigerators are perceived to be in good conditions and have never broken down before. The receiving health facility is therefore perceived by the majority (86.7%) of the respondents to always have blood for emergencies. The receiving health facilities also always have oxygen available for patients. The respondents also agreed that the receiving health facilities have a wellfunctioning theatre. On the average, the receiving health facilities also have five beds in their labour wards.

### 2.2.5 Transportation

The transportation capacity of the receiving health facilities is discussed in this part of the study. The result is presented in the Table 4.22.

**Table 4.22: Transportation Capabilities of the Referral Facilities**

|   | YES     | NO        |
|---|---------|-----------|
| Do you have a stand by ambulance?                                 | 1(6.7)  | 14(93.3)  |
| If no, what other means of transport do you have in the facility? |         |           |
| Pickup  | 1(7.7)  | 12(92.3)  |
| Motor bike  | 0(0.0)  | 13(100.0) |
| Public transport  | 9(69.2) | 4(30.8)   |
| Is there a roster for drivers?                                    | 7(70.0) | 3(30.0)   |
| Do drivers respond to emergency calls promptly?                   | 8(88.9) | 1(11.1)   |

|   |         |          |
|---|---------|----------|
| Ever receive call requesting for ambulance service from referral facility | 4(26.7) | 11(73.3) |
|---|---------|----------|

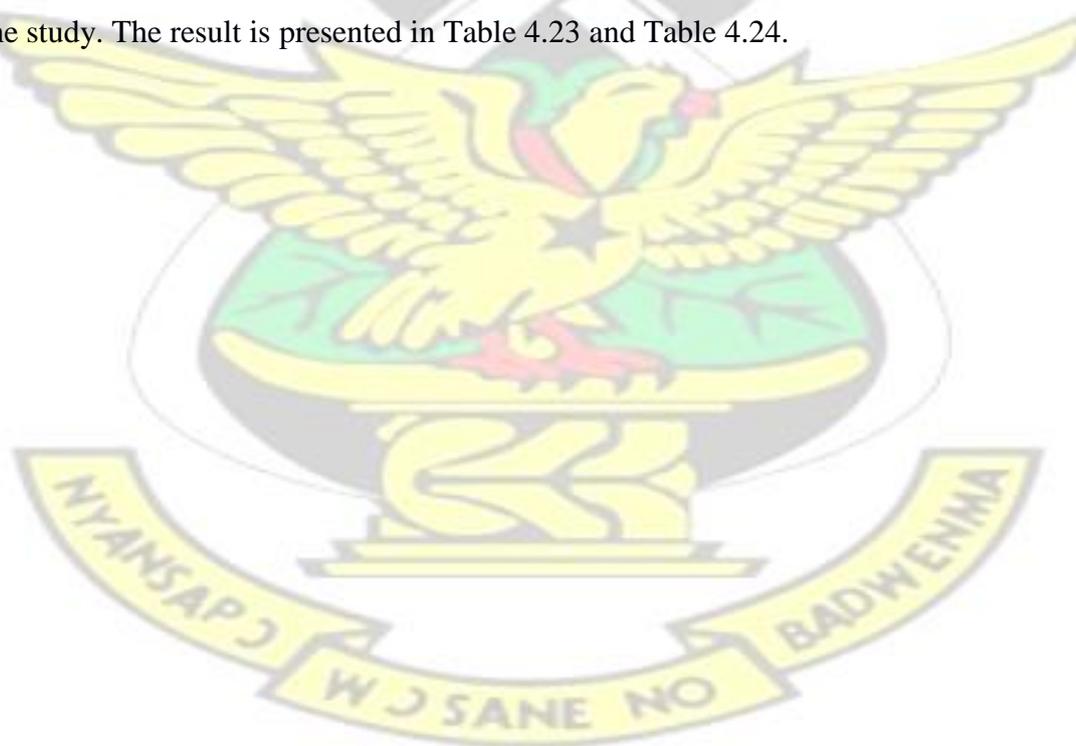
Note: Percentages are in the Parentheses

Source: Field Survey (2018)

Table 4.22 shows that the majority (93.3%) of the respondents concurred that the receiving health facilities do not have standby ambulance. The referral health facilities like the primary level facilities relied on public transport for receiving referral cases to their facilities. The receiving health facility therefore barely receive call requesting for ambulance service as shown by the majority (73.3%) of the respondents.

### 2.2.6 Staff Knowledge and Skills

The knowledge and skills level of the staff of the receiving facilities is discussed in this part of the study. The result is presented in Table 4.23 and Table 4.24.



**Table 4.23: Knowledge and Skills of the Staff of the Receiving Facilities**

| Variables   | Category                 | Frequency | Percent | Mean  | SD   |
|---|--------------------------|-----------|---------|-------|------|
| Age   |                          |           |         | 31.07 | 3.83 |
| Educational Background                            |                          |           |         |       |      |
|   | Diploma                  | 7         | 46.7    |       |      |
|   | Tertiary                 | 8         | 53.3    |       |      |
| Rank  |                          |           |         |       |      |
|   | Midwifery Officer        | 2         | 13.3    |       |      |
|   | Midwifery Staff          | 6         | 40.0    |       |      |
|   | Senior Midwifery Officer | 1         | 6.7     |       |      |
|   | Senior Midwifery Staff   | 6         | 40.0    |       |      |
| Years in the profession                           |                          |           |         | 5.33  | 2.66 |
| Do you have knowledge of the GHS referral policy? |                          |           |         |       |      |
|   | Yes                      | 4         | 26.7    |       |      |
|   | No                       | 11        | 73.3    |       |      |
| Have you had training on the policy?              |                          |           |         |       |      |
|   | Yes                      | 2         | 13.3    |       |      |
|   | No                       | 13        | 86.7    |       |      |
| If yes, how many times?                           |                          |           |         |       |      |
|   | 1 time                   | 2         | 100.0   |       |      |
| Have you had any emergency drills?                |                          |           |         |       |      |
|   | Yes                      | 10        | 66.7    |       |      |
|   | No                       | 5         | 33.3    |       |      |
| If yes, how often in a year                       |                          |           |         | 8.10  | 4.68 |

Source: Field Survey (2018)

Table 4.23 shows that the mean age of the staff of the referral facilities was 31 years. The educational background of the staff of the referral facilities shows that 46.7% have diploma and the majority (52.4%) have tertiary education. The rank distribution of the staff shows that 13.3% were Midwifery Officers, 40.0% were Staff Midwives, 6.7% were Senior Midwifery Officer and 40.0% were Senior Midwifery Staff. The staff of the receiving facility have had their current profession for an average of 5.33 years.

Table 4.23 further shows that the majority (73.3%) of the staffs do not have knowledge of the GHS referral policy. The majority (86.7%) of the respondents of the receiving health facilities also have no training on the GHS policy. The two respondents with training on GHS policy have been in training only one time. However, the majority (66.7%) of the respondents of the receiving health facilities have had emergency drills. The staffs of the receiving health facilities receive an average of 8 times of emergency drills per annum.

**Table 4.24: Trained in the last 12 months on the following**

| Items                            | YES      | NO       |
|----------------------------------|----------|----------|
| Eclampsia                        | 13(86.7) | 2(13.3)  |
| Ante partum hemorrhage           | 13(86.7) | 2(13.3)  |
| Postpartum hemorrhage            | 13(86.7) | 2(13.3)  |
| Pelvic inflammatory disease      | 3(20.0)  | 12(80.0) |
| Diabetes in pregnancy            | 7(46.7)  | 8(53.3)  |
| Heart disease                    | 2(13.3)  | 13(86.7) |
| Severe anemia                    | 10(66.7) | 5(33.3)  |
| Complicated malaria in pregnancy | 12(80.0) | 3(20.0)  |

Note: Percentages are in the Parentheses

Source: Field Survey (2018)

Table 4.24 shows that the majority (86.7%) of the respondent of the receiving health facility concurred to have received training in the last 12 months on Eclampsia, Ante partum hemorrhage and Post-partum hemorrhage. The majority of the respondents of the receiving health facility also agreed to have received training on severe anemia and complicated malaria in pregnancy in the last 12 months. However, 66.7% and 80.0% of the respondents of the receiving health facility have not received any form of training on pelvic inflammatory disease and diabetic in pregnancy respectively.



## CHAPTER FIVE

### DISCUSSION

#### 5.0 Introduction

This chapter discusses the key findings of the study. The discussion is sub-sectioned based on the defined specific objectives of the study. The sub-sections touched areas like the referral process of pregnancy-related cases between the initiating facilities within Bosomtwe District and St Michael's Hospital, Pramso readiness of the initiating health facilities to identify and refer pregnancy-related cases, preparedness of the receiving health facilities to effectively manage pregnancy cases and the barriers impeding effective handling of pregnancy-related referrals in the Bosomtwe District.

#### 5.1 Referral Process of Pregnancy-related Cases between the Initiating Facilities within Bosomtwe District and St Michael's Hospital

In the referral process of the initiating health facilities within the Bosomtwe district and St Michael's Hospital, Pramso referral decisions were based on pregnancy related complications like bleeding in pregnancy, complicated abortion, hypertension in pregnancy, premature rupture of the membranes, breech presentation, multiple pregnancies, prolonged pregnancy (post term pregnancy, postdatism) and fetal death in-utero. Labour cases are monitored with partograph for any form of complications. At the initiating facilities, labour cases exceeding an average of 18 hours or pregnancy with complications are referred to the St. Michael Hospital, Pramso. Early detection and referral from initiating facility to a higher level health facility is perceived by previous studies to substantially reduce neonatal deaths (Broek, 2013).

The initiating facilities are required to follow-up on clients referred to the St. Michael Hospital, Pramso. However, the initiating facilities staffs statement of following up on clients after referral to the next level was not collaborated by staff of the St. Michael

Hospital, Pramso who indicated that the initiating facilities do not follow up on referred clients. The initiating facilities have often failed to furnish staff with a copy of GHS referral forms but have referral register available for referring of cases. Like the primary level facilities, the St. Michael's hospital facility furnished staff with referral register and perceived to give feedback on referred cases received. Pregnancy related complications are communicated to St. Michael Hospital, Pramso through phone and letter. A staff of the facility and a relative of the client accompany the referred clients of the initiating facilities to the receiving health facility. The referral facilities also receives referred clients from primary level facilities through letters. Although the staff of the initiating facilities do not always receive feedback on referred cases, they described the reception of the staffs of the referral facility as satisfactory.

These practices are contrary to the standard that requires an effective referral process to constitute reasonable follow-up to facilitate contact between service providers, training on referral protocols and feedback from the receiving facilities. This form of communication not only assures proper patient care and follow up, but also provides continuous education to the initiating facilities and their staffs. The supervisor should check that back referral is received and, in its absence, pursue the relevant staff at the higher-level facility to provide proper back referral information (Gabrysch & Campbell, 2009). The receiving facility also give feedback to the initiating facility on the appropriateness of referral. Break of information flow in the referral process often serve as a barrier and increases delays that increases the rate of maternal mortality and morbidity (Murray et al., 2001). The poor practices in the referral system is not surprising as previous studies reiterate that in many developing countries referral systems perform well below expectations (Bossyns & Lerberghe, 2004). There is evidently limited teamwork between the various referral levels, a factor perceived by

the study of Bossyns and Van Lerberghe (2004) as essential in an effective referral process. As in many other parts of rural Africa, the referral system in Ghana exists on paper but hardly in practice.

## **5.2 Readiness of the Initiating Health Facilities to Identify and Refer Pregnancy Related Cases**

On the average, the initiating facilities have eight staff. The staffing distribution is a medical doctor or a medical assistant, two midwives and four general nurses. These staff are equipped to provide maternity, child health, emergency obstetric care services and family planning services. The obstetric minor surgical services provided by the initiating facilities are manual removal of placenta and episiotomy tear repair. The initiating facilities have emergency drugs set for Eclampsia, ante partum hemorrhage and postpartum hemorrhage. The emergency trays of the initiating facilities are set at all times with medicinal or non-medicinal items like intravenous fluids (5% Dextrose, Normal Saline, 5% Dextrose in Normal Saline, Ringers lactate), Oxytocics (Ergometrine, Oxytocin, Syntometrine), Diuretics (Mannitol 20%, IV Lasix 100mg), Magnesium Sulphate (MgSO<sub>4</sub>), Cannular (G14, G18, G20, G22) and Foley's urethra catheter. The initiating facilities of the Bosomtwe district also have emergency management protocols for labour, Eclampsia, post-partum hemorrhage, uncomplicated malaria and Infection prevention; except for severe anemia and ante partum hemorrhage.

On the other hand, the initiating facilities at the Bosomtwe district are not equipped with ambulance to transport referred patients to the next level facilities. The initiating facilities therefore relied on public transportation to transport referred clients to the next level facility. The staffs of the initiating facilities have inadequate knowledge and training on the GHS referral policy book. The transportation difficulties affect the

referral process as literature stipulates that an effective maternal referral system must have a functional and improved tele-communications between community health facilities and district health services, as well as ambulance transport between them (Bossyns & Van Lerberghe, 2004).

The majority of the staff of the initiating facilities also have no drills on emergencies. Nonetheless, a number of the staffs of the initiating facilities have emergency drills of about three times in a year. The staffs of the initiating facilities have received no training in the past 12 months on the management of Eclampsia, Ante partum hemorrhage, postpartum hemorrhage, and pelvic inflammatory disease, diabetic in pregnancy, heart disease, severe anaemia and complicated malaria in pregnancy. The initiating facilities have lapses in terms of resource capacity as with many health facilities in Ghana and this affects the delivery of emergency obstetric services. It is evident from the findings that the referral facilities of the Bosomtwe district is not adequately resourced as required by the World Health Organisation (2010), have inadequacies in the communication system and contrary to the requirements of Gabrysch and Campbell (2009) who indicate the need for effective communication and feedback systems in the referral facility. The study of Pembe et al, (2010) request for designated transport and agreed setting-specific protocols for the identification of complications that are absent in the referral facilities of the Bosomtwe district. The staffs also rarely receive periodic training on emergency drills contrary to the study of Murray and Pearson (2006) that stipulate the need for well-trained personnel to strengthen the referral process.

### **5.3 Preparedness of the Receiving Health Facilities to Effectively Manage Pregnancy Cases**

On the average, the receiving health facility has ten medical doctors. The receiving facility can also boast of obstetrician gynaecologist, midwives, nurses and anesthetics

offering obstetric care to clients. The staffs of the receiving facility have been in the health profession for an average of 5.33 years. These staffs of the receiving facility are equipped to provide reproductive health services like maternity, child health, emergency obstetric and family planning services. The majority of the staffs often receive an average of eight times of training on emergency drills per year. Nonetheless, the staffs of the receiving facility have limited knowledge on the GHS referral policy as they rarely receive training on the policy. The staff of the receiving facility have been trained in the last 12 months on Eclampsia, Ante partum hemorrhage, postpartum hemorrhage, severe anaemia and complicated malaria in pregnancy but not on pelvic inflammatory disease, diabetic in pregnancy and heart disease.

The receiving facility has partograph for the purposes of monitoring the progress of labour. The facility also has emergency management protocols for Eclampsia, Ante partum hemorrhage, postpartum hemorrhage, pelvic inflammatory disease, diabetic in pregnancy, severe anemia, and complicated malaria in pregnancy; except for heart diseases. It is therefore evident that the receiving facility is more equipped to handle severe anemia and ante partum hemorrhage relative to the initiating facilities. Furthermore, the receiving facility has emergency drugs set for Eclampsia, Ante partum hemorrhage and postpartum hemorrhage. The emergency tray of the receiving facility is set at all times for medicinal and non-medicinal items like intravenous fluids (5% Dextrose, Normal Saline, 5% Dextrose in Normal Saline, Ringers lactate), Oxytocics (Ergometrine, Oxytocin, Syntometrine), Diuretics (Mannitol 20%, IV Lasix 100mg), Magnesium Sulphate (MgSO<sub>4</sub>), Cannular (G14, G18, G20, G22) and Foley's urethra catheter. In the receiving facility, refrigerators had also installed for storing blood. The facility therefore always has blood for emergency cases. Oxygen is also all the time available for clients. The receiving facility has an average of five labour beds and a well-

functioning theatre. In terms of transportation for the purpose of referrals, the receiving facility like the initiating facilities has no standby ambulance for receiving referred clients. The facility therefore relies on public transport for receiving referred clients. The preparedness of the receiving health facility evidently is below the requirement of the World Health Organisation (2009) that stipulate the need for surgery, paediatrics, internal Medicine and obstetrics and gynaecology departments as well as basic ancillary services such as x-ray and laboratory services. The receiving facility is ill prepared for pregnancy related complications as there are communication lapses and limited teamwork with the receiving facilities. This situation is contrary to the findings of the studies of Gabrysch and Campbell (2009) that requests for effective communication and feedback system, designated transport, agreed setting-specific protocols for the identification of complications (Pembe et al, 2010) and personnel trained in their use (Murray & Pearson, 2006) to ensure effective referral process or system.

#### **5.4 Barriers Impeding Effective Handling of Pregnancy-Related Referrals in the District**

The initiating facilities and the receiving facilities both encounter several challenges that impede smooth and effective referral process and management. The common challenges identified in the referral process of the Bosomtwe district relates to transportation, reluctance of clients to be referred and limited knowledge of staffs on some pregnancy related cases. Transportations relates to unavailability of ambulance and the cost of public transport. This finding is consistent with the studies of Fournier et al. (2008) and Pembe et al. (2010) reported the need for designated transport to carry referred patients.

The staff of the initiating health facilities have limited knowledge on the GHS referral policy and inadequate training in the past 12 months on the management of pregnancy

related complications like Eclampsia, Ante partum hemorrhage, Postpartum hemorrhage, Pelvic inflammatory disease, Diabetic in pregnancy, Heart disease, severe anemia and complicated malaria in pregnancy. The lapses in the skills of the personnel affect the quality of the referral process as indicated by the study of Murray and Pearson (2006). Furthermore, there are also issues related to follow-up and feedback absence. There is limited follow-up by the initiating facilities, and likewise limited feedback from the receiving facility to the primary facilities. The issues related to the communication lapses between the initiating facilities and receiving facilities affects the effectiveness of the referral process as indicated by the study of Bossyns and Van Lerberghe (2004) that stipulate teamwork between referral levels as essential in the profess or system.

## **CHAPTER SIX**

### **CONCLUSION AND RECOMMENDATIONS**

This section of the study concludes, discusses the contribution of the study to practice and theory and the feasible policy and managerial recommendations. The chapter further elaborates on the others areas that need further research or studies.

#### **6.1 Conclusion**

In the investigation of the institutional referring process of pregnancy-related cases in the Bosomtwe district in the Ashanti Region of Ghana, 22 midwifery and nursing staffs of 16 initiating health facilities and 15 midwifery and nursing staffs of the receiving facility were surveyed. Patients with pregnancy-related cases are referred from the initiating facilities in the district in cases of complications like bleeding in pregnancy, complicated abortion, hypertension in pregnancy, premature rupture of the membranes, breech presentation, multiple pregnancies, prolonged pregnancy (post term pregnancy,

postdatism) and fetal death in-utero. Labour cases exceeding an average of 18 hours or pregnancy with complications are referred to the St. Michael Hospital, Pramso. Patients due for referrals are listed in the referral register. A staff of the initiating facility and a relative of the client accompany the client who is been referred to the receiving health facility. The initiating facility presents a letter to the receiving facility to confirm the referral and wait for feedback on the case.

In the district, notwithstanding the challenges related to transportation and infrastructure, the health facilities are prepared to initiate and refer cases to the next level health facilities. The health personnel of each initiating facility is eight on the average with a medical assistant, midwives and general nurses part of the staff. These staffs are equipped to provide maternity, child health, emergency obstetric care services and family planning services. The initiating facilities have emergency drugs set for Eclampsia, Ante partum hemorrhage and postpartum hemorrhage. The emergency trays of the initiating facilities are set at all times with medicinal or non-medicinal items. The initiating facilities also have emergency management protocols for labour, Eclampsia, post-partum hemorrhage, uncomplicated malaria and Infection prevention.

The receiving facility was also prepared to receive and effectively manage pregnancy complicated cases. The facility has ten qualified and well-trained health personnel like obstetrician gynaecologist, midwives, nurses and anaesthetists. The health staffs have worth of experience as they have an average of 5.33 years in the health profession. The training experience of the staff covers maternity, child health, and emergency obstetric and family planning services. Annually, the staffs receive eight times of training on emergency drills. Nonetheless, like the staffs of the initiating facilities, the staffs have limited knowledge on the GHS referral policy as they rarely receive training on the policy. The facility also has emergency management protocols

for Eclampsia, Ante partum hemorrhage, postpartum hemorrhage, pelvic inflammatory disease, diabetic in pregnancy, severe anaemia, and complicated malaria in pregnancy. The facility always has blood and oxygen for emergency cases. It has an average of five labour beds and a well-functioning theatre. The challenges of the receiving facility were more related to transportation as there was no ambulance for referral purposes. The facilities also encountered challenges related to reluctance of clients to be referred and limited knowledge of staff on some pregnancy related cases that impeded smooth and effective referral process and management.

## **6.2 Contribution to Practice and Theory**

This study provides evidence to support the practical and standard referral process in Ghana. The referral processes of the district of registration of client in a referral registers and subsequent transfer in public transport to the receiving facility in the company of a staff and a relative had shortfalls relative to the standard referral process in Ghana. The standard practice requires the availability of a referral form and a standby ambulance for transferring clients to the next level but these absent in the initiating facilities in the Bosomtwe district. More so, the standard practices require the initiating facility to follow-up on the referred case and the receiving facility to provide feedback on the case. Nonetheless, the referral process of the district is bereft of all these practices and hence the enormous impediment to the smooth and effectiveness of the process. These lapses in the referral process in the district therefore have the tendency to increase maternal mortality and severe morbidity. Studies have theorized that high maternal mortality in Sub-Saharan Africa is partly attributable to the lapses in the referral process of the countries in the region (Murray et al., 2001). The lapses in the referral process of the district confirms the Thaddeus and Maine (1994) four delays model that emphasizes delays emanating from both initiating and receiving facilities the subsequent negative

consequences on maternal mortality and morbidity due to the timely arrival to appropriate care in obstetric emergencies.

### **6.3 Recommendation**

This section of the study provides several suggestions feasible for implementation in order to ensure a successful and effective referral process that would aid in the reduction of maternal mortality and morbidity.

#### **6.3.1 Effective Monitoring Team**

The GHS should set up a more effective monitoring team to check and periodically review the referral process in order to reduce all forms of barriers that increases the delays in the referral channel. The team should be well equipped financially and logistically to perform.

#### **6.3.2 Provide Referral Forms**

The study revealed that both the initiating and receiving levels in the referral process of the Bosomtwe district have no referral form for the purpose. The GHS needs to provide referral forms to all health facilities in Ghana to facilitate the referral process. This is essential as the referral form could serve as a database to guide policy formulation on the referral process.

#### **6.3.3 Ministry of Health Should Equip the Health Facilities Logistically**

The GHS under the auspices of the Ministry of Health should provide the necessary logistics including ambulance and computers to facilitate and smoothing the referral process. Evidence from the study revealed the lack of ambulance at both the receiving and initiating levels and hence possible delays. Necessary telecommunication facilities should be provided to the health facilities to link up with the district hospitals to request

for ambulances when necessary. Reserves can be created at the health facilities to cater for ambulance cost in many deprived communities where the many poor in Ghana reside.

#### **6.3.4 Follow-up and Feedback are Necessary**

The study revealed that there is limited follow-up on the part of the initiating health facilities and limited feedback from the receiving facility. For more effective referral process, there is the need for the management of the various health facilities in Ghana to ensure effective follow-up on referred patients and provide feedback on referred patients to ensure more successful and efficient referral process.

#### **6.3.5 Periodic Training and Workshop on Pregnancy Related Complications**

There is the need for periodic training and workshops on emergency obstetrics and pregnancy relative complications. The health staffs also need periodic workshops and seminars on the GHS referral policy. The periodic training would enhance the knowledge of the health personnel on pregnancy related complications and GHS referral policies.

#### **6.4 Suggested Areas for Further Studies**

This study covered health facilities in only one district in the Ashanti region of Ghana and hence narrows the scope of the generalizability of the findings. It is therefore suggested that future studies with adequate resource widen the scope by including health facilities in many other districts in Ghana. The existing literature indicates that the design and functioning of a referral system in any individual country will be influenced by health system determinants and general determinants. Based on this,

future studies could extend this current study by examining the health system factors that influences the referral system of Ghana.

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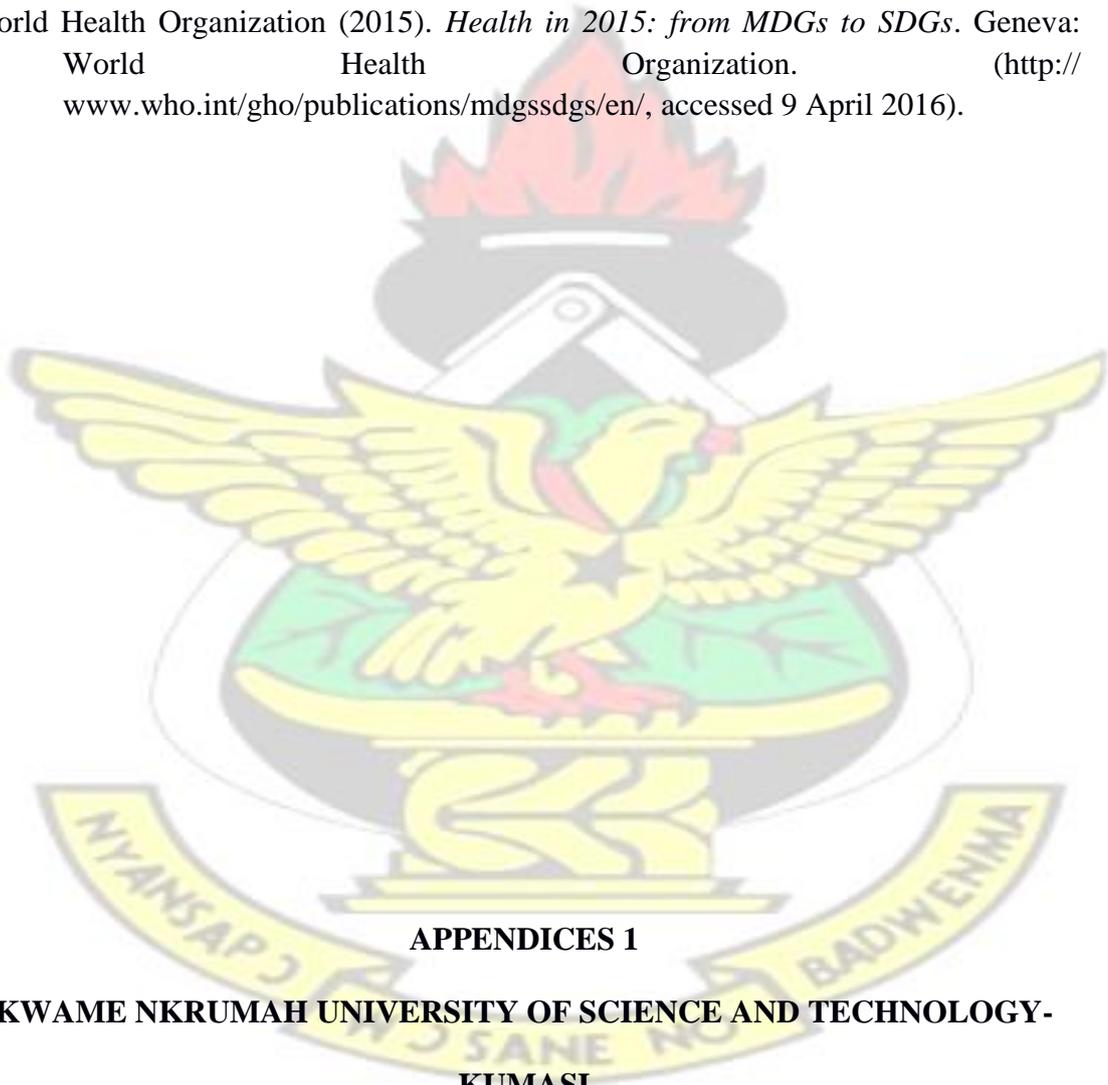
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## APPENDICES 1

**KWAME NKURUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY-**

**KUMASI**

**SCHOOL OF PUBLIC HEALTH**

**MPH. POPULATION AND REPRODUCTIVE HEALTH**  
**RESEARCH TITLE: ASSESSMENT OF INSTITUTIONAL REFERRING**  
**PROCESS OF PREGNANCY-RELATED CASES IN BOSOMTWE**  
**DISTRICT, GHANA.**

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**Introduction**

Good morning/afternoon. I am a student at School of Public Health, KNUST. I will be conducting several meetings with people like you in Bosomtwe District to find out your views and ideas about institutional referral processes of pregnancy-related cases in the district. Your opinions are highly essential, as they will help us to improve the kind of service we provide. Whatever you say would be treated confidential, so feel at ease to express your candid opinion. Be assured that your responses would not in any way be linked to your identity. You are kindly requested to answer the questions below by indicating a tick or writing the appropriate answer when needed.

**THANK YOU**

**FORM A: DATA COMPILATION FORM FOR INSTITUTIONAL**  
**REFERRALS**  
**INITIATING FACILITY**

**A. Basic information**

1. Unique ID..... 2.

Date of visit .....

3. Sub district.....

4. Facility ... ..

5. Level of facility .....

**B. Referral Process**

1a. When do you decide to refer your patients? Select all that applies

- i. Bleeding in pregnancy
- ii. Complicated Abortion
- iii. Hypertension in Pregnancy
- iv. Premature rupture of the membranes
- v. Breech presentation
- vi. Multiple pregnancies
- vii. Prolonged pregnancy (Post term pregnancy, Postdatism)
- viii. Fetal death in-utero
- ix. Others specify.....

1b. Do you use partograph to monitor the progress of labour in this facility? Yes [ ] No [ ]

If no. why? Select all that applies

- i. Partograph not available.....
- ii. Staff do not know how to use.....
- iii. Do not find the need to use it.....
- iv. No reason.....

1c. Normally. Where do labour cases exceeding an average of 18 hours or pregnancy cases with complications within the district referred to?

i. St. Michael Hospital (district referral point).....  ii.

Outside the district .....

1d. if outside the district why  Select all that applies

i. Poor obstetric care

quality..... ii. Long distance to

district referral point ..... iii. Transportation

difficulties .....  iv. Others

.....

2a. Do you have a copy of the GHS referral policy at your facility? Yes [ ]

No [ ]

b. if yes, can I see it observed [ ]

Where are they found? Select that applies

Maternity outpatient department.....

Labour

ward..... Others

.....

c. if no, give reasons .....

.....

3. Do you have referral forms Yes [ ] No [ ]

4. Do you have referral register Yes [ ] No [ ]

5. In this facility, how do you communicate referral of women with pregnancy-related complication to the next level?

**Select that applies**

a. Tele-communication (phone).....

b. Letter .....

c. Email.....

d. Vehicle  
.....

6. Who accompanies the client to the referred hospital?

a. Staff.....

b. Client relative.....

c. Both.....

d. Other.....

7. Do you follow up your clients after referral to the next level? Yes [ ] No [ ] 8.

How will you describe the reception by the staff of the hospital when referred cases are sent?

a. Very satisfactory.....

b. Satisfactory.....

c. Poor.....

9. Do you receive feedback on referred cases? Yes [ ] No [ ]

**Availability of Resources and Service Provision**

10. How many staffs do you have in this facility? [ ]

11. What category of staffs offer obstetric care in this facility

**Total Numbers**

|                            |         |                          |                          |
|----------------------------|---------|--------------------------|--------------------------|
| i. officer.....            | Medical | <input type="checkbox"/> | <input type="checkbox"/> |
| i. Medical Assistant.....  |         | <input type="checkbox"/> | <input type="checkbox"/> |
| ii. Midwives .....         |         | <input type="checkbox"/> | <input type="checkbox"/> |
| iii. General Nurses.....   |         | <input type="checkbox"/> | <input type="checkbox"/> |
| iv. Health Assistants..... |         | <input type="checkbox"/> | <input type="checkbox"/> |

12a. What type of Reproductive health services do you provide

|   |                          |                          |
|---|--------------------------|--------------------------|
| i. Maternity.....                           | Yes                      | No                       |
| ii. Child health.....                       | <input type="checkbox"/> | <input type="checkbox"/> |
| iii. Emergency obstetric care services..... | <input type="checkbox"/> | <input type="checkbox"/> |

12 b. Do this facility offer Family Planning.....

Select all that applies

13a. In this facility, are obstetric minor surgical procedures provided? Yes No

|                                    |                          |                          |
|------------------------------------|--------------------------|--------------------------|
| i. Manual removal of placenta..... | <input type="checkbox"/> | <input type="checkbox"/> |
| ii. Episiotomy tear repair.....    | <input type="checkbox"/> | <input type="checkbox"/> |

b. if not, what are the reasons Yes No

- i. Lacks equipment.....
- ii. Lacks infrastructure (building).....
- iii. Lacks skilled staff.....
- iv. Others.....

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14. Do you have an emergency drug tray set for the following? Yes No
- i.
- Eclampsia.....
- ii. Ante partum hemorrhage.....
- iii. Post-partum hemorrhage.....

15. Is your emergency tray set all the time? Yes [ ] No [ ]

16. What medicines and non-medicine items do you always have on your tray?

(Select all that applies)

- i. IV fluids (5% Dextrose, Normal Saline, 5% Dextrose in Normal Saline, Ringers lactate)
- ii. Oxytocics (Ergometrine, Oxytocin)
- iii. Canular (G14, G18, G20, G22).....
- iv. Foley's urethra catheter .....

17. Do you have emergency management protocols for the following? (Select all that applies)

Yes No

- i. Labour.....
- ii. Eclampsia .....
- iii. Ante partum hemorrhage .....
- iv. Post-partum hemorrhage .....
- v. Uncomplicated malaria .....
- vi. Infection prevention .....
- vii. Severe Anemia.....

**Transportation**

18a. Do this facility have a stand by Ambulance Yes [ ] No [ ]

(Skip question number 18b if the answer is No)

18 b. If Yes how much do you charge per referral of Ambulance.....

18c. If no, what other means of transport do the facility or community uses to transfer clients that need referral?

- i. Pick up    ii. Public Transport    iii. Motor Bike    iv. Bicycle
- v.
- 
- 

Others.....

19. What challenges do you encounter when referring clients? Select all that applies

- i. Availability of transportation.....
- ii. Cost of Transportation .....
- iii. Reluctance of clients to be referred
-

..... iv. Distance to the point of referral

.....

v. Road network

.....

**Staff Knowledge and Skills**

20. Do you have knowledge of the GHS referral policy? Yes [ ] No [ ]

21. Have you had any training on the policy since you were posted here? Yes [ ] No [ ]

22. If your answer is yes, how many times? [ ]

23. Have you had any emergency drill since you joined this facility? Yes [ ] No [ ]

24. If your answer in 23 is yes, how often (in years) [ ]

25. Have you been trained in the past 12 months on the management of the following?

**Select all that applies**

|  | Yes                      | No                       |
|--|--------------------------|--------------------------|
| i. Eclampsia                           | <input type="checkbox"/> | <input type="checkbox"/> |
| ii. Ante partum hemorrhage             | <input type="checkbox"/> | <input type="checkbox"/> |
| iii. Post partum hemorrhage            | <input type="checkbox"/> | <input type="checkbox"/> |
| iv. Pelvic inflammatory disease        | <input type="checkbox"/> | <input type="checkbox"/> |
| v. Diabetic in pregnancy               | <input type="checkbox"/> | <input type="checkbox"/> |
| vi. Heart disease                      | <input type="checkbox"/> | <input type="checkbox"/> |
| vii. Severe anemia                     | <input type="checkbox"/> | <input type="checkbox"/> |
| viii. Complicated malaria in pregnancy | <input type="checkbox"/> | <input type="checkbox"/> |

**ASSESSMENT OF MATERNAL HEALTH CARE REFERRAL SYSTEM**

**FORM B: QUESTIONNAIRE/INTERVIEW FOR HOSPITALS (RECEIVING FACILITY CARE) PROVIDERS.**

**Basic information**

1. Unique ID.....
2. Facility.....
3. Sub district.....
4. Date of visit.....
5. Grade.....
6. How long have been in this facility.....
7. How many staff do you have? [ ]

**Referral Process**

1. In this facility, how do you receive referral of women with pregnancy-related complication from the primary level health facilities?
  - a. Tele-communication (phone).....
  - b. Letter.....
  - c. Email.....
2. Do you have referral registers? Yes [ ] No [ ]
3. Do you give feedback on referred cases received? Yes [ ] No [ ]
4. Do staff at primary facilities follow-up on referred clients in your facility? Yes [ ] No [ ]

**Service / Resource Availability**

5. What are the categories of staffs offer obstetric care in this facility?

- i. Obstetrician
- Gynaecologist..... ii. Medical
- officers..... iii.
- 
- 
- Midwives..... iv.
- Nurses.....
- v. Anesthetics.....

6. How many doctors do this facility have?

.....

7. Do doctors respond to emergency calls promptly? Yes [ ] No [ ]

8a. What type of Reproductive health services do you provide Yes No

i. Maternity.....

ii. Child health.....

iv. Emergency obstetric care services.....

8b. Do this facility offer Family Planning.....

9a. Do you have a copy of the GHS referral policy at your facility? Yes [ ]

No [ ]

Where are they found?

Select that applies

Maternity outpatient department.....

Labour ward.....

Others .....

..... 9b. if no, give reasons

.....  
.....

10. Do you use partograph to monitor the progress of labour in this facility? Yes [ ]

No [ ]

i. If no, why? Select all that applies

ii. Partograph not available.....

iii. Staff do not know how to use..... iv.

Does not find need to use.....

v. No   
reason.....

11. Do you have emergency management protocols for the following?

i. Eclampsia.....

ii Ante partum hemorrhage..... iii

.Post partum hemorrhage..... iv.

Pelvic inflammatory disease.....

v. Diabetic in

pregnancy..... vi. Heart

disease ..... vii.

Severe anemia.....

viii. Complicated malaria in pregnancy.....

12. Do you have emergency drugs set for the following?

- i. Eclampsia.....
- ii. Ante partum hemorrhage.....
- iii. Post partum hemorrhage.....

13. Is your emergency tray set all the time? Yes [ ] No [ ]

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14. What medicines/non medicine items to you always have on your tray?

- i. IV fluids (5% Dextrose, Normal Saline, 5% Dextrose in Normal Saline, Ringers lactate).....
- ii. Oxytocics (Ergometrine, Oxytocin, Syntometrine).....
- iii. Diuretics (Mannitol 20%, IV Lasix 100mg..... iv.
- Magnesium Sulphate (MgSO4).....
- v. Cannular (G14, G18, G20, G22)..... vi.
- Foley's urethra catheter.....

15 a. In this facility do you have refrigerators for storing blood? Yes [ ] No [ ]

b. Has it ever broken down Yes [ ] No [ ]

c. how long? Yes [ ] No [ ]

16. Do you always have blood for emergencies? Yes [ ] No [ ] 17.

Do you have oxygen available at all times? Yes [ ] No [ ]

18. How many labour beds do you have?

19 a. Does your facility have a theatre? Yes [ ] No [ ]

b. If your answer is yes, is it well functioning? Yes [ ] No [ ]

**Transportation**

20 1a. Do you have a stand by ambulance? Yes [ ] No [ ]

b. If yes how much do you charge per referral for ambulance?

c. Are client able to pay for the ambulance fares? Yes [ ] No [ ]

d. If no, what other means of transport do you have in the facility?

i. Pickup .....

ii. Motor bike.....

iii Public transport.....

2. Is there a roster for drivers? Yes [ ] No [ ]

3. Do drivers respond to emergency calls promptly? Yes [ ] No [ ]

**Staff Knowledge and Skills**

1. Age. [ ]

2. Educational background.....

3. Rank.....

4. How long have you been in this profession?

5. Do you have knowledge of the GHS referral policy?

6. Have you had any training on the policy since you were posted here? Yes [ ] No [ ]

7. If your answer is yes, how many times? [ ]

8. Have you had any emergency drill since you joined this facility? Yes [ ] No [ ]

9. If your answer is yes, how often (in years) [ ]

10. Have you been trained in the past 12months on the management of the following?

applies Select all that

Yes No

- |  |                         |                          |                          |
|--|-------------------------|--------------------------|--------------------------|
| i. Eclamsia                            | ii. Ante                | <input type="checkbox"/> | <input type="checkbox"/> |
| partum hemorrhage                      | iii. Post partum        | <input type="checkbox"/> | <input type="checkbox"/> |
| hemorrhage                             | iv. Pelvic inflammatory | <input type="checkbox"/> | <input type="checkbox"/> |
| disease                                |                         | <input type="checkbox"/> | <input type="checkbox"/> |
| v. Diabetic in pregnancy               | vi. Heart               | <input type="checkbox"/> | <input type="checkbox"/> |
| disease                                | vii. Severe anemia      | <input type="checkbox"/> | <input type="checkbox"/> |
| viii. Complicated malaria in pregnancy |                         | <input type="checkbox"/> | <input type="checkbox"/> |
11. Have you ever received call requesting for ambulance service referral facility?  from
- Yes  No

