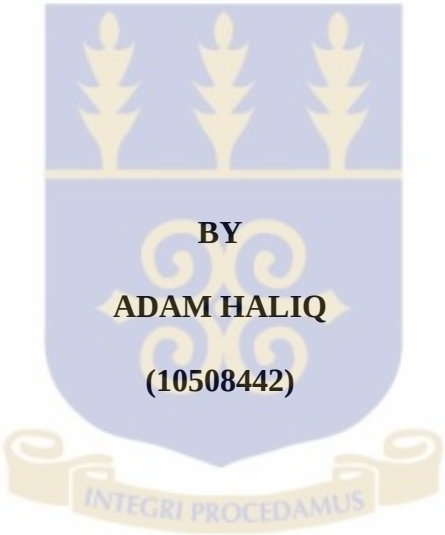
SCHOOL OF PUBLIC HEALTH

COLLEGE OF HEALTH SCIENCE

UNIVERSITY OF GHNANA

REFERRAL PROCESSES AND SERVICES FOR EXPECTANT MOTHERS AND NEWBORNS AT THE SHAI-OSUDOKU DISTRICT HOSPITAL



BY

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JULY, 2015

DECLARATION

This is to declare that this proposal is the result of my own work. Other people's works that have been cited have been duly acknowledged by means of referencing.

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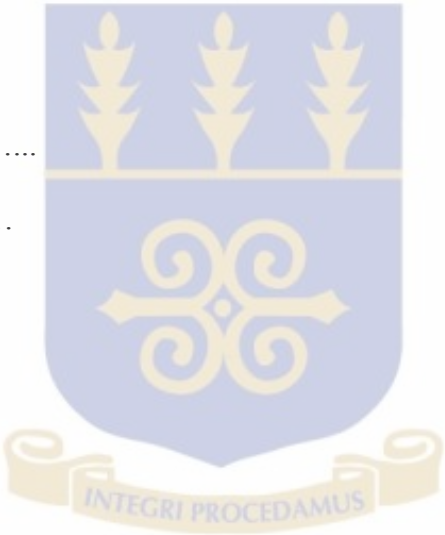

DEDICATION

This work is dedicated to the almighty Allah who makes all things possible

To my beloved wife, Rashida Haliq Mohammed who has been very supportive over the years in both good and difficult times. To my lovely kid Okala Abdul Hayy Suglo for being a source of inspiration to complete this programme.

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ABTRACT

Effective and improved maternal and new born health is a critical concern to all governments the world over and much particularly to those in low to middle income countries like Ghana. This led the global community to adopt the United Nations Millennium Development Goals 4 and 5 in order to improve the wellbeing and health of mothers and newborns. By 2015, the Millennium Development Goals (MDG) 4 calls for a reduction by 2/3 of the 1990 under-five mortality rate; and MDG 5 calls for a reduction by 3/4 of the maternal mortality ratio. Crucial to improved maternal and newborn care is the referral services for these groups of people. This is because access to care is determined to a greater extent on an effective referral system. This call for strengthening the referral process and services for expectant mothers and new borns.Thus the study intends to describe the referral processes and services for expectant mothers and newborns at the Shai-Osudoku district hospital.

The study is a descriptive cross-sectional study involving health service providers and health administrators. It was conducted at the Shai-Osudoku district hospital and Ridge hospital in Accra where most referrals for expectant mothers and newborns are sent to from the Shai-Osuduku district hospital. It used interviews and questionnaires. Referral records for expectant mothers and newborns were reviewed.SPSS was used to analyse quantitative data. Interviews were recorded, transcribed and subsequently analysed using NVIVO software.

The results of the study shows that service providers do not use referral protocols and guidelines in referring expectant mothers and newborns. For instance although 125(81.7%) of the records reviewed were regarded as Emergencies and therefore required

adequate preparations at receiving facilities, contacts were not made to facilities prior to referrals of 101(66.1%) of referred expectant mothers and newborns. It also showed that private and public transport 79(61.5%) are the major means of transporting referred expectant mothers and newborns to facilities. It concludes by indicating that the major consideration for choice of hospital is the availability of beds and distance to referral facilities. There is also the absence of handy protocols and guidelines at both the referring and receiving facilities for providers to refer to .

The study recommends the use of existing referral documents and protocol, the need for service providers to accompany referred expectant mothers and newborns. It further advocate for the need for referring facilities to call referral centres prior to referring.

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LIST OF ABREVIATIONS

DHMTs	District Health Management Teams
EmOC	Emergency Obstetric Care
GAR	Greater Accra Region
MMR	Maternal Mortality Ratio
NMR	Neonatal Mortality Rate
MNH	Maternal and Neonatal Health
MDG	Millennium Development Goal
OPD	Out Patient Department
PHC	Primary Health Care
PHCCs	Primary Health Care Centres
RHC	Rural Health Centres

CHAPTER ONE

INTRODUCTION

1.1 Background

The timely and appropriate use of health services is crucial to reduce maternal and child mortality. Many lifesaving interventions, such as caesarean section, blood transfusion, oxygen, and intravenous antibiotics, can only be made available through health facilities. Evidence suggests that bringing women and children to facilities to receive these services is associated with reductions in mortality (Bari et al., 2006). Where childbirth continues to take place at home, an emergency referral system is critical when life-threatening complications arise or safety is in question for the mother or newborn. Studies on referral systems in low-income settings from around the world show that access to emergency medical care is a function of the location and distribution of health facilities, geographical terrain, the availability of transport and communication, the costs of transport and care and many other socioeconomic and cultural factors (Gabrysch & Campbell, 2009; Gething et al., 2012; Thaddeus & Maine, 1994). Readiness to send and receive patients and good clinical decision making on the part of health workers are equally critical. Thus, a functioning referral system requires multi-sectorial engagement and multiple levels of the health system to work together to link communities with emergency medical services (J.K. Awoonor-Williams et al, 2015).

By 2015, the Millennium Development Goal (MDG) 4 calls for a reduction by 2/3 of the 1990 under-five mortality rate; and MDG 5 for a reduction by 3/4 of the maternal mortality ratio .Progress towards achievement of these goals has been slow in Ghana and several other countries in sub-Saharan Africa and it is unlikely that some of the goals will

be achieved without major efforts to accelerate progress. Ghana has made progress towards achieving Millennium Development Goal 5, but may fall short of reaching the 2015 goal of lowering the maternal mortality ratio (MMR) to 145 maternal deaths per 100,000 live births. Nationally, the MMR has declined from 580/100,000 in 1990 to 350 in 2010 (WHO, UNICEF, UNFPA, & The World Bank, 2012).

The maternal mortality rate in GAR remains unacceptably high at 448/100,000 live births as compared with a national MMR of 350/100,000 live births. Under-five mortality in Greater Accra remains among the lowest in the country. However the rates of decline have slowed in recent years and it is unlikely that GAR will meet the MDG targets at the current rate of decline. Neonatal mortality rates (NMR) appear to be a major driver of the slow under-five mortality rate decline in GAR. NMR rates showed an upward trend before beginning to show a gradual decline over the last decade.

Studies have shown that over 75% of these deaths could be prevented or avoided through actions that are proven to be effective and affordable. According to national confidential enquires into maternal deaths and smaller-scale studies assessing the quality of healthcare provision, poor-quality care contributes to the high levels of maternal and neonatal deaths. Lack of appropriately trained staff, provision of incorrect treatments, lack of facilities, poor staff attitudes, delay in referral, poor cooperation between health providers, and inadequacy of supplies and equipment are evident in many resource-poor settings (J. Raven et al, 2011).A study in GAR by Oduro-Mensah et al has identified service access and quality of care as the predominant reasons for the decline in progress towards attaining the MDG 4and 5 targets.

Recognizing that a good referral system improves maternal and newborn access to services and quality of care, this study has the objective of describing the referral processes and services for expectant mothers and newborns at the Shai-Osudoku district hospital and to describe factors affecting both referring and receiving services at the Shai-Osudoku and Ridge Hospitals in the Greater Accra Region.

1.2 Study Area

The Shai-Osudoku District is situated in the South-Eastern part of Ghana in the Greater Accra Region. In all, the district occupies a total land area of about 968.361 square km. The district has Dodowa as its capital. It shares boundaries with the North Tongu District to the North-East, Yilo and Lower Manya Districts to the North-West, Akwapim North District to the West, Kpone Kantamanso District to the SouthWest, Ningo Prampram District to the South and the Ada West District to the East. The Volta River washes the North-Eastern portions of the district. The population of Shai-Osudoku District according to the 2010 Population and Housing Census is 51,913 and of this 48.7 percent are males and 51.3 percent are females. The people of the Dangme-West District are predominantly Ga-Dangmes. There are two principal linguistic groups, the Gas and the Dangmes. The indigenous people of the District are organized in four traditional areas. These are; Shai Traditional Area headquartered at Kordiabe and the Osudoku Traditional Area with the seat at Osuwem.

The Shai-Osudoku District is largely rural. The predominance of rural population reflects in the occupational distribution with agriculture as the dominant occupation. A significantly large proportion of the active labour is in agriculture and its related employment. Agriculture (crop/ livestock farming, and fisheries) is the major activity in

the district. The Shai-Osudoku District is noted for the production of fruits such as mangoes, pineapple, and banana. Additionally, rice production and aqua culture are practiced in the Asutsuare area. As the district lies within the Accra Plains it is also noted for animal production with cattle, goats and poultry rearing being the leading activities.

Increased access to health care services is crucial in improving the health status of the people for increased productivity and output. To improve the health delivery system in the District, ten health facilities have been strategically established in the District to increase accessibility to health care facilities and services. These comprise one District Hospital located at Dodowa, five CHPS Zones located at Agomeda, Ayikuma, Agortor, Osuwem and Tokpo respectively. There are also 2 Health Centres located at Osuwem and Asutsuare. In addition, the District also has 1 Private Maternity Home at Dodowa as well as a Quasi-Government Institutions located at Kordiabe. Currently, there is a new ultra-modern hospital under construction.

1.3 Problem Statement

Between 350 000 and 500 000 women die each year of pregnancy related causes worldwide, and 99% of these deaths occur in low-income countries. In addition, an estimated 4 million neonatal deaths occur each year, accounting for 36% of deaths in children aged less than 5 years .The Millennium Development Goal (MDG) 4 calls for a reduction by 2/3 of the 1990 under-five mortality rate; and MDG 5 for a reduction by 3/4 of the maternal mortality ratio by 2015. Ghana is currently not on track to achieve MDG 4 and 5.The persistently high maternal and newborn mortality has been attributed to the poor referral system in the country which denies expectant mothers and newborns timely access to services and quality care when needed. As observed by Oduro-Mensah et al, well-

functioning referral systems are essential to two of the key interventions for reducing maternal mortality: skilled attendance at delivery and emergency Obstetrical services for pregnancy complications.

Major limitations of the referral systems for expectant mothers and newborns include the unavailability of handy protocols which midwives could easily refer to when managing emergencies, the absence or paucity of expert advice when needed, perceived negative attitudes of referral centers' staff, and severe constraints with the referral system. Such constraints included the "no-bed" syndrome pertaining in several major hospitals in Accra and poor communication between hospitals when patients are being referred, resulting in patients having to move through three to five hospitals looking for a bed, with some unfortunate ones losing their lives before they finally get a bed. (Oduro-Mensah et al., 2013)

This study is motivated by the need to better understand the problems with referral processes and services in the Greater Accra region and their potential effects on attaining MDG 4 and 5 targets as well as how these problems might be addressed. The study focuses on the problem of referral between first (health centers, district hospitals) and second-level care in Ghana.

1.4 Justification of study

Access to timely and quality health care by expectant mothers and newborns is an important health policy of which issues of referrals is key. Studies have established that poor referral systems is a major barrier to reducing maternal mortality and newborn morbidity. This study will generate useful information about the referral process for

expectant mothers and newborns in Ghana. This will be immensely beneficial to stakeholders and policy makers in the health sector, including Ghana Health Service, Civil society groups into health and the nation as a whole. The findings of this study will help provide useful information that will strengthen referral processes for expectant mothers and new borns and to reduce child and maternal mortality. The academia will benefit from it because it may become a basis for further research into referral processes and services for expectant mothers and new borns.

1.5 Objectives

1.5.1 General Objective

To describe referral services and processes (referring and the receiving) for expectant mothers and new borns using the Shai-Osudoku district hospital.

1.5.2 Specific Objective

1. To describe referral processes and services for expectant mothers and newborns at the Shai-Osudoku district hospital

2. To identify facilities to which mothers and new borns referred from the Shai-Osudoku district hospital are sent to; why and describe receiving services and processes in these facilities

3. To describe factors affecting referral processes and services for expectant mothers and new borns at the Shai-Osudoku district hospital.

4. To describe factors affecting receiving services for expectant mothers and newborns referred from the Shai-Osudoku district hospital

1.6 Research Questions

1. What are the referral processes and services for expectant mothers and new borns at the Shai-Osudoku district hospital?

2. What factors affect the referral process and services for expectant mothers and new borns?

CHAPTER TWO

LITERATURE REVIEW

2.1 Definition of Referral

A non-exhaustive review of literature has revealed varied definitions of referral in health care as well as practical means of identifying an effective referral system from a non-effective one .Shortell and Anderson,1971 defined referral as a permanent or temporary transfer (including sharing) of responsibility for a patient's care from one physician to another .The referral process facilitates access to care (including brief treatment) for those individuals who have more serious signs of substance dependence and require a level of care outside the scope of brief services (Babor, Grimaldi, & Ahmed, 2014.).A study in Saudi Arabia defined referral as a process in which the treating physician at a lower level of the health service, who has inadequate skills his qualification and /or facilities to manage a clinical condition, seeks the assistance of a better equipped and/or specially trained, with better resources at higher level to help guide him in managing or to take over the management of a particular episode of clinical condition in a beneficiary (Tewfik A.M et al, 1997).

A **referral** can also be defined as a process in which a health worker at a one level of the health system, having insufficient resources (drugs, equipment, skills) to manage a clinical condition, seeks the assistance of a better or differently resourced facility at the same or higher level to assist in, or take over the management of, the client's case. Key reasons for deciding to refer either an emergency or routine case include:

- to seek expert opinion regarding the client

- to seek additional or different services for the client
- to seek admission and management of the client
- to seek use of diagnostic and therapeutic tools

2.2 Structure of the Referral System

The referral of patients between basic to more sophisticated levels of care is an integral part of any health system. The Declaration of Alma Ata (WHO/UNICEF, 1978) stated that 'primary health care (PHC) activities are supported by successive levels of referral facilities . . . and [well-functioning referral systems are] essential to create confidence in the whole system'. National referral systems are designed such that rural patients move 'up' through a pyramid-shaped structure (Mwabu, 1989). Starting with the 'typical' entry point at the base of the pyramid—for instance, the primary care clinic, dispensary, or health post in a community—the patient then moves to a larger health centre in the nearest town, such as the district hospital or a private facility, such as a mission hospital. Referral is warranted when the type or severity of illness presented supersedes the training or experience of the staff, or when appropriate drugs or equipment are not available at the basic health care level. The ideal—and most efficient arrangement for both the patient and the health system—is when patients receive the most appropriate care at the lowest level possible in the system (WHO, 1987).

There are 3 levels to all health care delivery systems: primary or community health care; secondary or general hospitals; and tertiary, specialist or teaching hospitals. At the first level, the PHC team functions as a filter and refers a variety of difficult and severely ill cases to the secondary level. The dynamic process of referring a patient begins for a number of reasons including: a lack of resources in PHCCs; deficiencies in the skills of the

PHC team; the characteristics of the patient; and the availability of skilled specialists or consultants to deal with complex cases. A referral system essentially incorporates 3 major interrelated and integrated components: the referring physician; the patient; and the consultant referred to (al, 2006).

The decentralization of the health system involves the transfer of authority and responsibility to more peripheral level of health service .The expectation is that service will thus become more responsive and accountable to local needs and consequently more effective (WHO, 2000). The assumption is that the lower level care is cheaper in terms of human and technical resources, and that patients pay increasing amounts at the higher up the pyramid they seek care. However, as WHO (1998b) emphasizes, while many illnesses can be treated at the primary level by nurses, the effectiveness of the system (i.e. how many lives are saved) frequently rests on the nurses' ability/willingness to refer the severely ill to another level. All nursing training includes the skills to recognize when a patient must be referred. Yet, despite its obvious importance to the wellbeing of both patients and as a sign of a well-functioning health system, emergency referral from the first level has barely been studied (Nordberg et al., 1996; Omaha et al., 1998). Nigeria's health policy which has identified primary health care as its fulcrum, defined a three tiered referral system for the management of patients. A network of primary health care centres in proximity to where people live, offering care of relatively low technology is the first level care from which patients gain entry into the health care system. Seriously ill patients beyond the management competence of primary health care workers are referred to secondary level general hospitals from where referrals are made to tertiary health facilities. The division of labour between the three complementary and easily recognisable levels

seemed a rational, equitable and cost-effective way of dealing with the health care problems of the rural poor. (Musa & Ejembi, 2004.).

The hierarchical referral health care system is a key component of national health care systems of virtually all developing countries. A pervasive characteristic of national health care systems of these countries, is a pyramid-like structure of health institutions, through which basic and tertiary health services are provided (in principle) to everyone. Typically, the apex of this structure consists of a national hospital and medical research institutions, while its base comprises small scale health facilities- the dispensaries and health centres. In-between the apex and the base are the district and regional hospitals. The most striking aspect of the organizational structure of the health system just described, is its referral system. This system, the hierarchical referral structure, permits movement of patients or their problems, from the base of the national health care system to its apex and the vice-versa. The movement of patients (or their problems), in the

referral system is intended to be initiated by the health professionals who manage the national health care system. But in actual practice, patients or their relatives do move themselves up or down this system.

The hierarchical referral system minimizes the cost of treating or preventing common illnesss of a population. This is because under a vertical referral system, illnesses are first seen at dispensaries and health centres, which, due to their simple technology of medical care, are very cheap facilities for treating illnesses. Only when illnesses cannot be treated at dispensaries or health centres, are they referred to hospitals for more expensive treatment. Since most of the illnesses that afflict the majority of the population in the developing countries are preventable

(and can be treated by .paramedics), the vertical referral system is a cost-effective way of providing basic health services in those countries. It should be emphasized that the system assumes that patients will first visit health units before they progressively move up to the more sophisticated and expensive units for follow-up care (Germano M. Mwabu, 1987).

In health center practice, a referral was requested in two main situations: a) emergency and b) routine .Emergency referral was made in emergency cases which could not be totally managed at the health Centre. Emergencies were defined and classified according to principles and practice of primary health care, which is used as a manual at the health centers. Routine referral was usually made to: seek opinion regarding a patient, seek admission and management of a patient and seek facilities for investigation (Tewfik A.M et al, 1997).

2.3 The Referral Process

The health system in Ghana has guidelines and procedures for referral system. The various levels of care with specific functions are spelt out in its policy guideline. Adherence to these policy guidelines varies from one health facility to another. Quality of care differs between health facilities. Management of medical emergencies is poorly organized and the required essential resources including drugs are not available. Adverse factors in case management include inadequate assessment, inappropriate treatment and inadequate monitoring and evaluation (Meehan et al.1997). According to the 2006 Referral Policies and Guidelines, the referral system embodies a two-way system, i.e. from the community to the appropriate level of care and back down to the community (Institutional Care Division Ghana Health Service, 2007). Critics of the system point to an absence of standard procedures for referral, non-use or non-enforcement of the existing

forms and standards for referral, delays in referral, poor reception of patients, and lack of feedback (Institutional Care Division Ghana Health Service, 2007).

A referral system requires the following: the referring physician should clearly specify the objectives of referral in the referral letter; the patient should have good compliance and follow the instructions of the PHC physician; and the consultant should interview the patient comprehensively and provide clear feedback to the referring physician. This whole exercise often ends in a successful referral and also provides an important opportunity for mutual understanding, upgrading knowledge and effective learning of all those involved (*N.A. Qureshi et al,La Revue de Santé de la Méditerranéeorientale, Vol. 15, N° 6, 2009).*

For a smooth and effective referral process, the health service provider plays the important facilitation role in accordance with the referral guidelines and procedures. Facilitation encompasses referral agents who actively manage referral by promoting compliance with referral, monitoring referral and its outcomes, and addressing barriers to referral. In concrete terms, this translates into many of the standard procedures that the Ghana Health Service advocates: the use of referral slips, recording the number and type of referrals in registers, providing feedback to the sending facility, escorting the patient by a trained health-care provider, and helping patient's access emergency transport, among other mechanisms. Government or facility specific guidelines often stress such underpinnings of a referral system, but little is known about the extent to which they are used. (J.K. Awoonor-Williams et al., 2015).

A systematic approach to referral and its corresponding polices, guidelines, and networks, ensures a continuum of care for patients. In this way, referral is the essential glue holding together the movement of people, information, and skills across the health system.

2.4 Importance of Referrals to Maternal and Newborn Care

The referral system plays a critical role in effective maternal and newborn health programs, but creating an effective referral system is complex. While policymakers and practitioners increasingly recognize the value of a well-developed referral system, implementing an effective one can be challenging. The evidence on how to design, implement, and sustain emergency referral systems in developing countries is sparse, and there are few good evaluations that detail the impact of interventions to improve referral systems. With the increasing focus on the continuum of home-to-hospital maternal and newborn care, the importance of referral systems—i.e. the transfer of patients from one care provider to another provider or level of care—has become more widely recognized in the past decade. The presence or absence of referral systems and the degree to which they are effective are among the indicators of access to care by expectant mothers and newborns

Where childbirth continues to take place at home, an emergency referral system is critical when life-threatening complications arise or safety is in question for the mother or newborn (J.K. Awoonor-Williams et al.2015). The outcome of pregnancy, to both mother and baby, depends to a large extent on the quality of antenatal and intrapartum care. Several reports from developed countries affirm the fact that women with uncomplicated pregnancies may be cared for by midwives, and taken through labour and delivery at home

or in birth centres with no increased risk of adverse maternal or perinatal outcome compared to similarly low-risk pregnant women who deliver in hospital (Rooks *et al.* 1989; Ackermann-Liebrich *et al.* 1996; David *et al.* 1999).There have been significantly fewer interventions in the former group (Rooks *et al.* 1989; David *et al.* 1999). The achievement of these comparable outcomes, however, has been predicated on early recognition of complications and prompt referral and transfer to hospitals, for further management, in the home and birth centre groups. Indeed, in one country in which the perinatal mortality rate in home births was higher than the national average, this was attributed to underestimation of the risks associated with such complications as post-term pregnancy, twin pregnancy, and breech presentation, and a lack of response to fetal distress (Bastian *et al.* 1998).

A woman who has just given birth and is beginning to hemorrhage may die within two hours if she is not treated for this obstetric complication. This timeframe should be sufficient for her to reach the emergency obstetric and neonatal care (EmONC) she needs. An effective referral system is needed to ensure that such a person gets to a facility which is well resourced to offer her quality care, But if she lives in a resource-limited setting—where 99 percent of maternal deaths occur—simply getting to a health facility could be a considerable struggle. And if she makes it to the facility, how many other patients will be waiting before her? Will the facility be equipped to treat serious complications like hers?

It is estimated that 15% of all pregnant women will develop pregnancy and childbirth related complications which require access to first referral level care. Studies have found that full implementation of the antenatal care referral guideline would result in more than

50% of all pregnant women being referred either antenatal or for delivery. However, previous studies in Tanzania show that acceptance of referral advice is reported as low and maternal and perinatal mortality is high. A study in Rufiji district reported that among women given emergency referral only half of them arrived at the hospitals8. There is no doubt that many patients who would benefit from referral are either not referred or arrive after considerable delay. The three phases of delays model in accessing obstetric care as described by Thaddeus and Maine contribute to high maternal mortality observed. The first delay is delay in deciding to seek care, the second is delay in identifying and reaching at a health facility and the third is delay in receiving appropriate care after arriving at the facility (Andrea B Pembe et al, 2008).

2.5 Factors Which Affect Referral Processes and Services for Expectant Mothers and Newborns

The factors that affect referral system can be complex and nearly always depend on local context. For example, a district hospital in one country may be equipped to effectively treat pre-eclampsia, but a district hospital in another might refer patients with the same condition to a more sophisticated regional hospital. The chain of referral can also be dynamic over time. For example, during the rainy season, a standard referral protocol might require adjustment if roads are flooded. Notwithstanding this, there are a myriad of factors which affect the referral process for expectant mothers and newborns in low-income settings such as Ghana.

Emergency transport is an obvious yet understudied factor that affects the efficiency of referral, as well as a determinant of the extent to which a community places trust in its health care providers in times of crisis. From the logistical aspects of availability and cost, willingness and ability of the patient to travel, to the problems of measuring and

evaluating outcomes of referral, this area is fraught with difficulties (K. Macintyre, D.R. Hotchkiss / Social Science & Medicine 49 (1999) 1473±1487). Evidence suggests that many healthcare referral systems in developing countries are failing to optimize women's rapid access to emergency obstetric care. As major direct obstetric complications are time-critical, any delay in accessing high quality appropriate care can prove fatal. Many hospital studies of maternal mortality show that 10% or more of deaths occur within the first hour of arrival and another 30–50% within 24 hours indicating the role that late or lack of referral to essential obstetric care can play (Ezechi, 2001).

As providers interact with clients, they continually make decisions about client needs and the appropriate service to provide. Potentially important supports for this process are availability and use of evidence based / informed decision making guidelines and tools that improve and make performance more consistent, by reducing guesswork and promoting compliance with standards. In evaluating the effectiveness of alternative training models and other performance improvement factors on the quality of maternal care and client outcomes through the safe motherhood program in Ghana, it was found that about 21% of intervention and comparison facilities still did not have clinical management protocols and guidelines at the front line(Oduro-Mensah et al., 2013).

A functioning referral system and back-up hospital care are vital components of successful maternity care programmes. However, referral to an urban hospital may not be possible or might be subject to delays because of distance, costs and the family's apprehensions about the woman being referred. Within India, promoting institutional delivery through demand-side financing has become a key strategy to reduce maternal mortality women receive a substantial cash payment if they deliver in a government health facility. Concerns have been raised about under-equipped facilities consequently become overstretched and

quality of care declining, but in fact the majority of institutional deliveries have taken place in doctor-led facilities with nurse-midwives working largely as assistants.(K Iyengar, SD Iyengar,2009). Deviations from the ‘‘textbook’’ referral system pyramids are common. Existing studies suggest that there is widespread ‘‘non-compliance’’ with referral ‘‘advice’’ on the one hand (Gupta & Gupta, 2000; Koenig, Saha, Streatfield, & Haque, 2004; Swain & Prakash, 1992) and ‘‘bypassing’’ of lower-level care on the other. Such bypassing is often initiated by the user, but sometimes by a lower-level healthcare provider (Omaha, Melendez, Uehara, & Ohi, 1998).

African studies have found that the majority (61–82%) of users of hospital childbirth facilities are not referred by a healthcare provider but are ‘‘selfreferrals’’ (Akalin & Maine, 1995; Dujardin, Clarysse, Criel, De Brouwere, & Wangata, 1995; Jahn,Kowalewski, & Kimatta, 1998; Nkyekyer, 2000).

The urgency of many obstetric emergencies suggests that communication and transport arrangements need to be prioritised. Referral communications have the potential to embrace increasingly sophisticated technologies. The use of radio–telephones in health centres in the Mother- Care project in Malawi reduced average transport delays from 6 to 3hours (Africa Initiatives, 1998), and the RESCUER project in Uganda used a solar powered VHF radio communications system with a fixed base station at health centres and walkie-talkies for TBAs (Musoke, 2002). There are as yet few examples of the use of telemedicine (telephone, video, email, or website-based consultations) to reduce barriers of distance and time in obstetric referral, but an example in rural India shows some success in making neonatal referrals more appropriate (Deodhar, 2002). In poorly resourced systems, the emphasis may have to be upon coordinating use of locally available

commercial transport. Nkyekyer's (2000) review of peri-partum referrals to a Ghanaian teaching hospital found the majority of these (59%) came by taxi. Importantly, 90% of the referred women arriving at the receiving hospital in ''good condition'' and only 1% in ''poor condition''. The Prevention of Maternal Mortality Network in West Africa has several examples of successful small local-level interventions to improve transportation and communication (Samai & Sengeh, 1997). (S.F. Murray, S.C. Pearson, 2005).

Factors predicting health care utilization also vary, although similar barriers are often found—particularly the cost and lack of transportation, the cost and perceived quality of medical services, unrecognized disease severity, and seasonality. The timeliness of referral is key to preventing mortality in severely ill children. A recent study in Tanzania found that although most of the patients who were referred do arrive at the hospital, almost half delayed by two or more days.

2.5 Conceptual Framework

Referral system model is based on the conceptual framework below. The factors which affect the referral process and services for expectant mothers are grouped into three (3) namely institutional factors, provider factors and process factors. Many studies have mentioned these same factors as contributing to the ineffectiveness of the referral system. Institutional factors include logistics eg scanners, drugs, incubators, cost of care, size, bed capacity and staffing level. Provider factors include sociodemographic Characteristics, time in current job, past experiences in referral processes, knowledge of referral site, perceived quality of care, past experiences with particular health problem, attitude towards work, perception about patients ability to follow up with referral,

Perception of the referral process. The process factors include referral guidelines/protocols, mode of communication, inter-facility communication, registration, means of transportation to referral facility and waiting time. The extent to which these factors influence the effectiveness of the referral process for expectant mothers and new borns would be examined. Figure 1 below shows the conceptual framework.

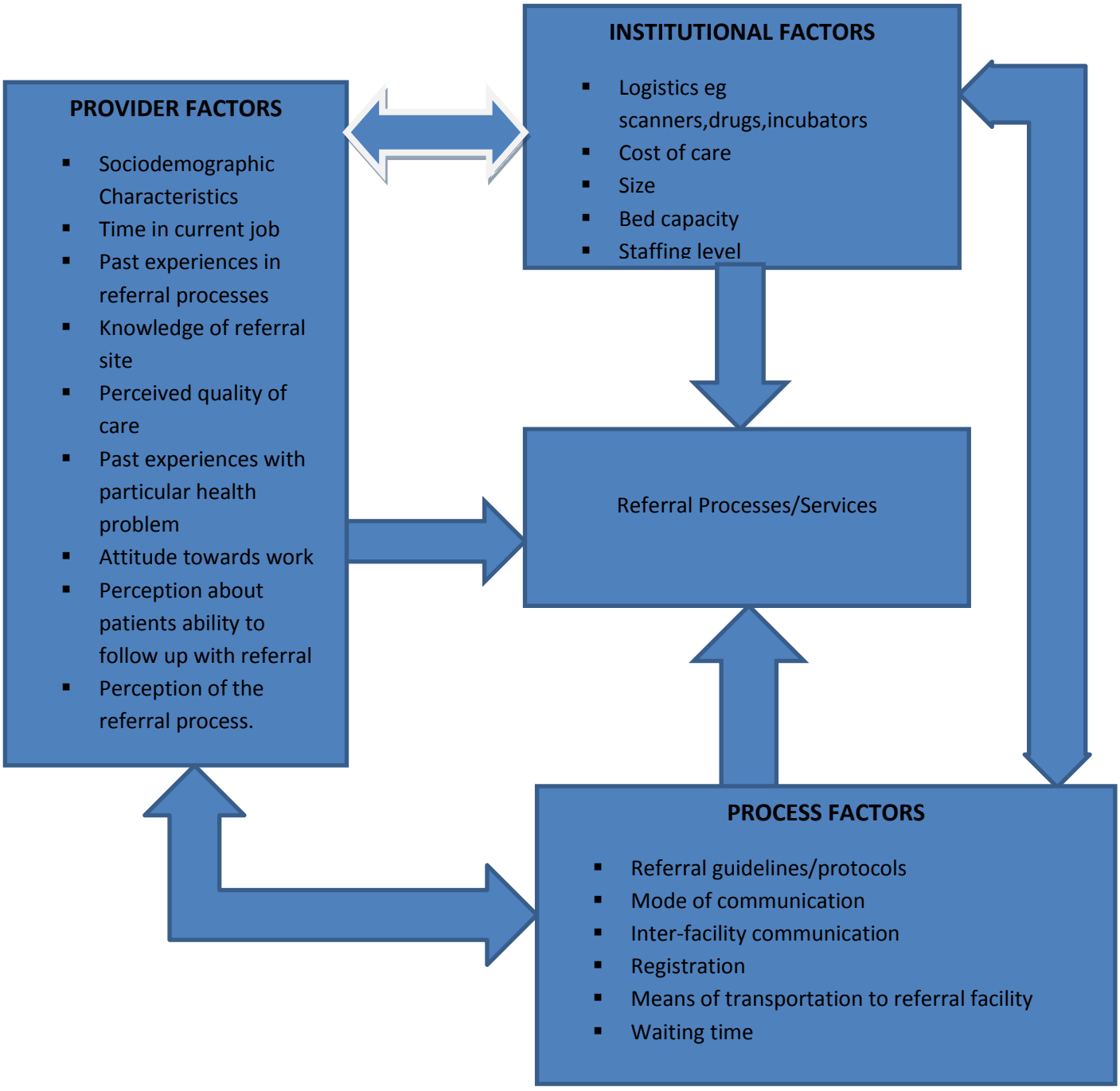

Figure 1: Conceptual Framework

CHAPTER THREE

METHODS

3.1 Type of Study

This study is a descriptive cross- sectional study involving frontline health workers and a review of records of referred expectant mothers and newborns. The study was done in the Shai-Osudoku district hospital and in Ridge hospital in Greater Accra Region .It encompassed the use of structured interviews,semi-structured interviews and questionnaires and review of available referral records for expectant mothers and newborns. Frontline health workers in the maternity and newborn referral unit of the hospitals as well as administrative staff were interviewed. The study was carried out from 29th May to 8th July 2015.

3.2 Variables

Explanatory Variables

Institutional Variables

- Logistics eg. scanners,drugs,incubators
- Cost of care
- Size
- Bed capacity
- Staffing level
- Ambulance Service

Provider Variables

- Sociodemographic Characteristics
- Time in current job

- Past experiences in referral processes
- Knowledge of referral site
- Perceived quality of care
- Past experiences with particular health problem
- Attitude towards work
- Perception about patients ability to follow up with referral
- Perception of the referral process.

Process Factors

- Referral guidelines/protocols
- Mode of communication
- Inter-facility communication
- Registration
- Means of transportation to referral facility
- Waiting time

Outcome Variables

- Effective Care for Referred Expectant Mothers and Newborns

3.3 Study Population

Referred Expectant Mothers and Newborns (referred within the period January 2014 – December 2014)

Health Service providers (In the Referring Health Facility and Referral Hospital)

3.4 Determination of Sample Size

With a precision of 0.05, confidence interval of 1.96, it was determined that a sample size of 154 was needed. Therefore 154 records of referred expectant mothers and new borns will be reviewed. Details of formula used in calculating sample size is attached as Appendix VI

3.5 Sampling Procedure

The study will employ mixed research strategy collecting both quantitative and qualitative data. Quantitative data will be obtained from referral records of expectant mothers and newborns whiles qualitative data will be gotten from frontline health workers and staff involved in the referral process for expectant mothers and newborns

3.5.1 Quantitative Sampling Procedure

The study will adopt the compilation of data on referred expectant mothers and newborns in the Shai-Osudoku District Hospital. In all 154 records of expectant mothers and newborns will be randomly selected and analysed using quantitative methods.

3.5.2 Qualitative Sampling Procedure

A purposive sampling of health providers who provide referral services for expectant mothers and newborns will be recruited to participate in the study. All frontline health workers and administrators involved in the referral processes for expectant mothers and new borns would be interviewed until a saturation point is reached.

3.6 Quality Control

To ensure good quality of data collected data was pre-tested at the Adabraka Polyclinic. This exercise was done for the needed revisions and validations of the survey tools. The data was double entered and data cleaning was done. Two research assistants trained in the use of the standardized tool were recruited.

3.7 Data Processing and Analysis

Collected data was first assessed for quality by the researcher through checking the filling of questionnaires to assess their completeness and consistency. Data was then coded, sorted out and edited manually by principal investigator and assistance.

SPSS was used to analyse quantitative data and the results presented in tables, frequencies, means percentages and graphs. Interviews were digitally recorded transcribed and subsequently analyzed using NVIVO software.

3.8 Ethical Consideration

Ethical clearance was sought from the Ghana Health Service Ethical Review Board. Permission was also sought from hospital authorities and verbal consent obtained from the respondents. Respondent's privacy and confidentiality was ensured.

3.9 Pilot Study

A pilot study to pretest the questionnaires was carried out at the Adabraka Polyclinic which has similar characteristics to the study site. Required modifications to the tools were then made before the actual study is carried out.

CHAPTER FOUR

RESULTS

4.1 Demographic Distribution of Referred Expectant Mothers and Newborns

4.1.1 Sex and Age Distribution for Newborns

11(61.1%) of referred Newborns were males and 7(38.9%) were females. All the newborns were below 28 days old and therefore were very much vulnerable to infections that could lead to infant mortality.10 (55.6%) of newborns were between the ages of 3-5 days,4(22.2%) were between 6-8 days,1 was between 9-11 days and 3 between 12-14days.

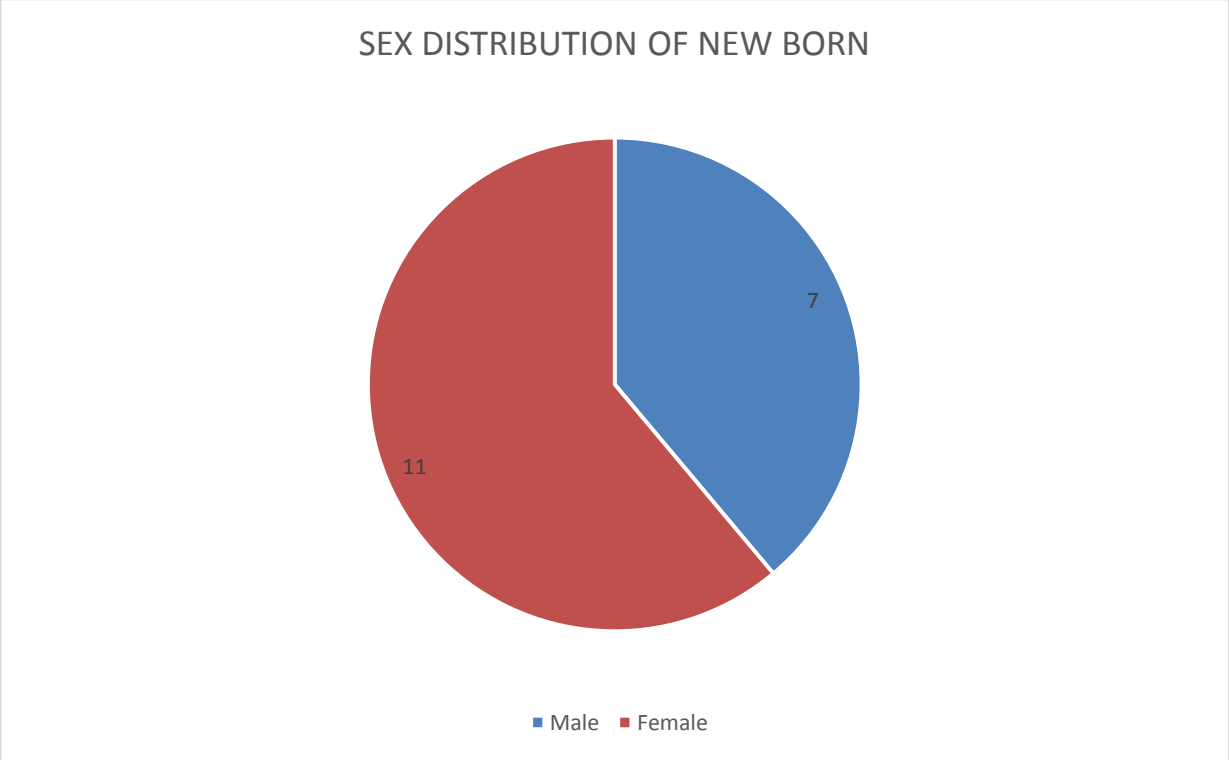

Figure 2: Sex Distribution of Newborns

Table 1: Age and Sex Distribution of New Born

	Days	SEX		Total	Percentage
		Males	Females		
AGE DISTRIBUTION	3-5	7	3	10	55.6
	6-8	2	2	4	22.2
	9-11	1	0	1	5.6
	12-14	1	2	3	16.6

4.2 Referral Type and Process

4.2.1 Referral Type and Process for Newborns

All referred Newborns had not been registered under any Health Insurance Scheme. Additionally all referrals to and from the Shai-Osudoku district hospital for newborns were classified as emergency referrals. 6(33.3%) of referrals for newborns were made after calls were made to the referral centre. 7(38.9%) had no call made before referral and 5(27.8%) had calls made to emergency referral centre but without response.

There were three major means of transportation for referred newborns to and from the Shai-Osudoku district hospital namely ambulance, private transport and public transport. 3(16.7%) of referred newborns used the ambulance.6 (33.3%) used private means to transport referred newborns and 9(50.0%) used public means to transport referred newborns.

Table 2: Insurance, type of referral, transport and ambulance use for newborns

		NUMBER	PERCENT (%)	CUMMULATIVE PERCENT (%)
INSURANCE	Yes	0	0.0	0.0
	No	18	100.0	100.0
TYPE OF REFERAL	Emergency	18	100.0	100.0
	Not-Emergency	0	0.0	0.0
CALL REFERAL CENTER	Yes	6	33.3	33.3
	No	7	38.9	72.2
	Yes, No-response	5	27.8	100.0
		3	16.7	16.7
TRANSPORT	Ambulance	6	33.3	50.0
	Private	9	50.0	100.0
	Public			

4.2.2 Age Distribution, Referral Type and Process for Expectant Mothers

Most referred expectant mothers 73 (54.1%) were between the ages of 20-29 .49(36.3%) of referred expectant mothers were between ages 30-39. 7(5.2%) and 6(4.4%) of referred expectant mothers were less than 20 years of age and above 40 years of age respectively.

121 (89.6%) of referred expectant mothers were registered with an insurance scheme whiles 14(10.4%) did not register with any insurance scheme. 107 (79.3%) of referral for expectant mothers were considered to be an emergency and 28(20.7%) non-emergency.

A total of 53(39.3%) of referred expectant mothers were referred after calls were made to the referral centre and response received.45 (33.3%) were referred without any call made to the referral centre.37(27.4%) were referred without a response from the referral centre after calls were made to them.

The means of transporting referred expectant mothers ranged from ambulance, private and public vehicles. In all 56(41.5%) of referred expectant mothers used an ambulance as a

means of transport, 12(8.9%) used private transport and 67(49.6%) used public transport as means to referral facilities.

Table 3: Insurance, type of referral, transport and ambulance use for expectant mothers

		NUMBER	PERCENT (%)	CUMMULATIVE PERCENT (%)
AGE DISTRIBUTION	<20	7	5.2	5.2
	20-29	73	54.1	59.2
	30-39	49	36.3	95.6
	40 +	6	4.4	100.0
INSURANCE	Yes	121	89.6	89.6
	No	14	10.4	100.0
TYPE OF REFERAL	Emergency	107	79.3	79.3
	Not-Emergency	28	20.7	100.0
CALL REFERAL CENTER	Yes, responded	53	39.3	39.3
	No	45	33.3	72.6
	Yes, No-response	37	27.4	100.0
		56	41.5	41.5
TRANSPORT	Ambulance	12	8.9	50.4
	Private	67	49.6	100.0
	Public			

4.3 Conditions for Referrals for Expectant Mothers and Newborns

4.3.1 Conditions for Referrals in Newborns

Six (33.3%) of newborns were referred for congenital abnormalities.3 (16.7%) were referred for Neonatal Sepsis, 3(16.7%) and 2(11.1%) for neonatal jaundice and low birth weight respectively. Aspiration Pneumonia, birth asphyxia, central cyanosis and low birth weight were all 1(5.6%) respectively.

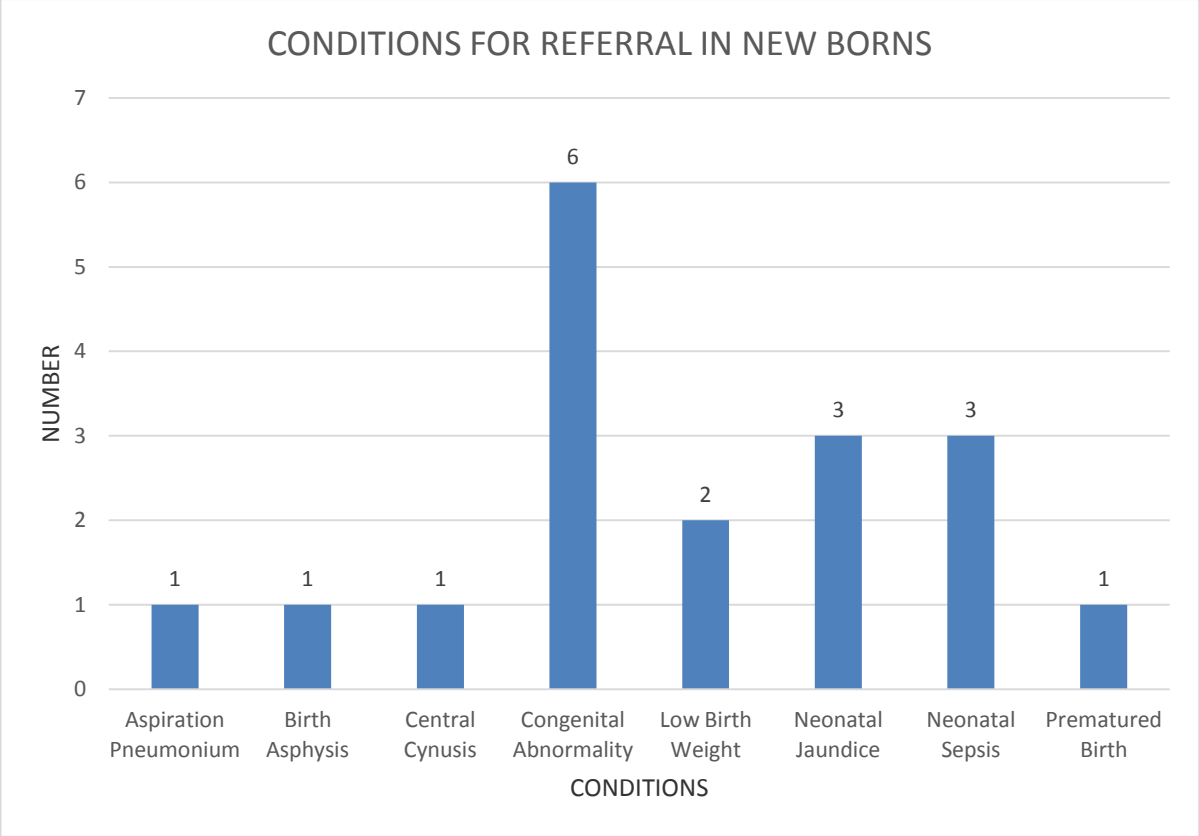

Figure 3: Conditions for Referrals in Newborns

4.3.2 Conditions for Referral of Expectant Mothers

Most expectant mothers 24(18.0%) were referred due to antepartum hemorrhage,20(15.0%) others were referred for Postdated pregnancy, those referred for eclampsia were 14(10.5%), 10(7.5%) each were referred for both Bleeding and hemorrhage,9(6.8%) expectant mothers were referred as a result of ruptured uteraus.Those referred for delayed first stage and abortion were 8(6.0) and 7(5.3%) respectively, referral for ectopic pregnancy and previous caesarean section were both 6(4.5%) each. Severe abdominal pain and severe LAP both had 4(3.0%) referral each. cysist jaundice, ectopic regiment, edematous vulva and twin gestation all resulted in 2(1.5%) referrals each. Those expectant mothers referred for aspiration pneumonia, diabetes and hypertension in pregnancy and fetal distress were 1(2.1%) each.

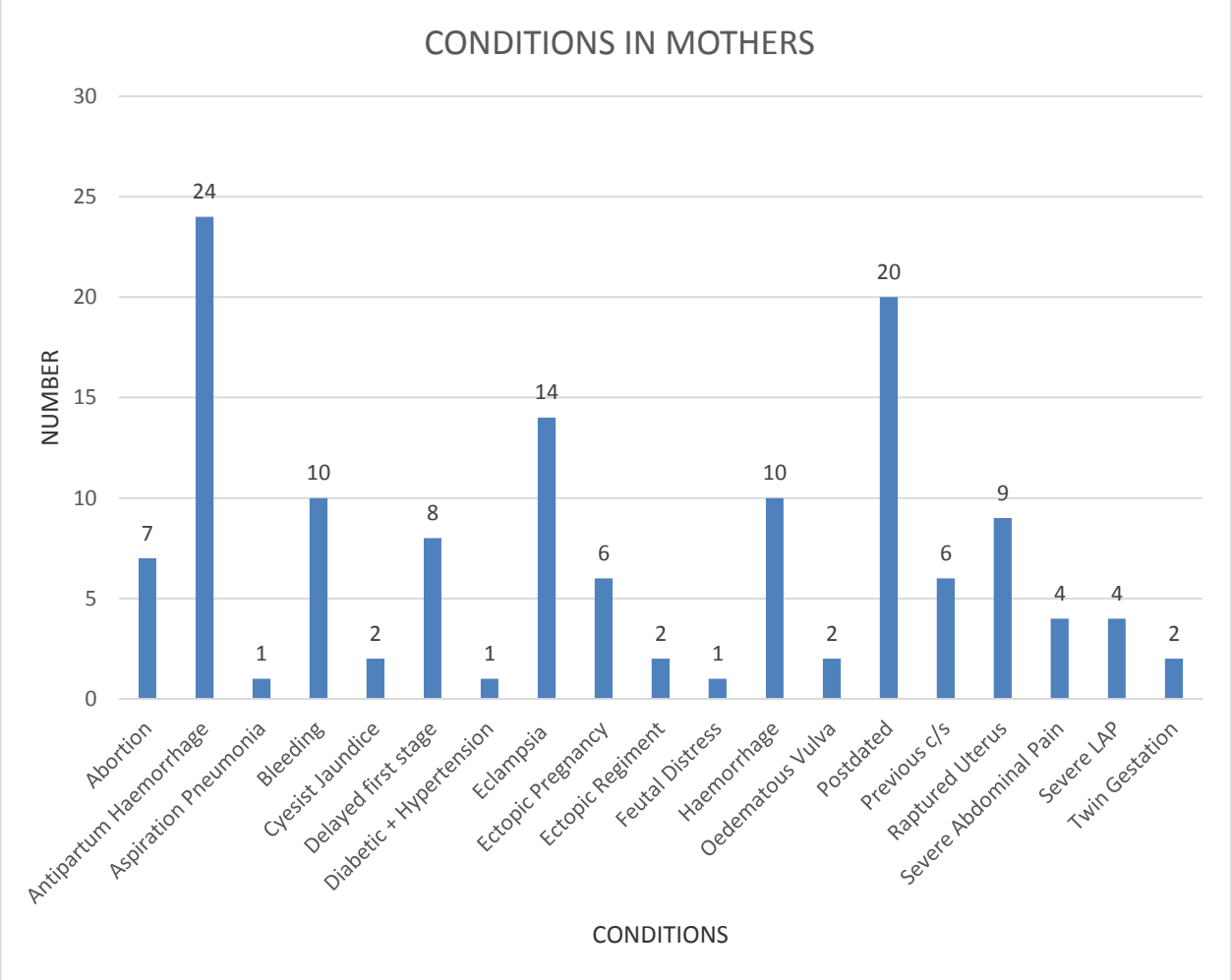

Figure 4: Conditions in Mothers

4.4 Health Facilities to which Expectant Mothers and Newborn Referrals are made to and from

4.4.1 Health Facilities to which Newborn Referrals are made to

Ridge hospital recorded the highest number of referrals of newborns from the Shai-Osudoku hospital, it recorded 13 of such referrals. Korle-bu had 3 referrals of newborns while 37 Military hospital and Tema General hospital recorded 1 referral each of newborns from the Shai-Osudoku district hospital.

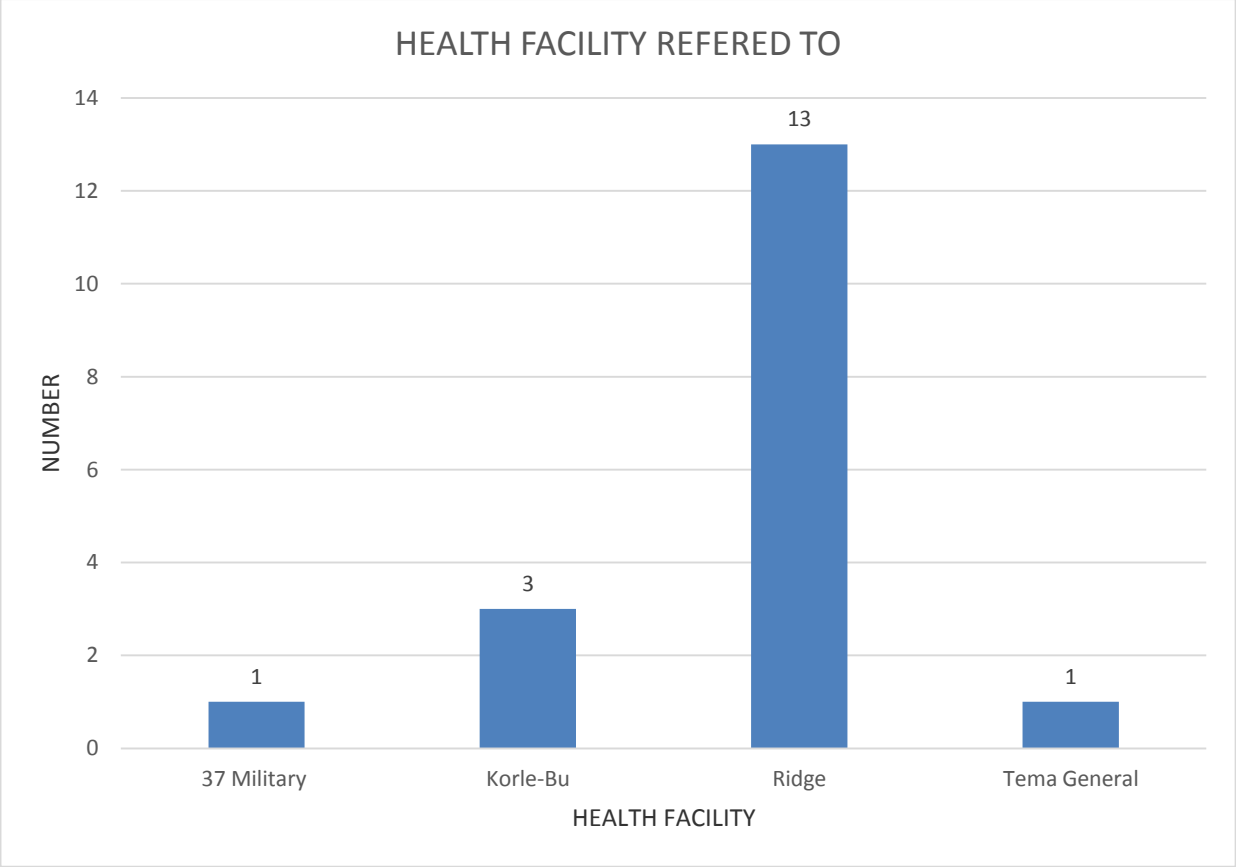

Figure 5: Health Facilities Newborns are referred to

4.4.2 Health Facilities to which Expectant Mother Referrals are made to

A total of 96 referrals were made from the Shai-Osudoku district hospital to the Ridge hospital, the Korle-Bu teaching hospital was next with regards to referrals of expectant mothers from the Shai-Osudoku district hospital with 14 referrals.13 expectant mothers were referred to the 37 Military hospital and 12 to Tema General hospital.

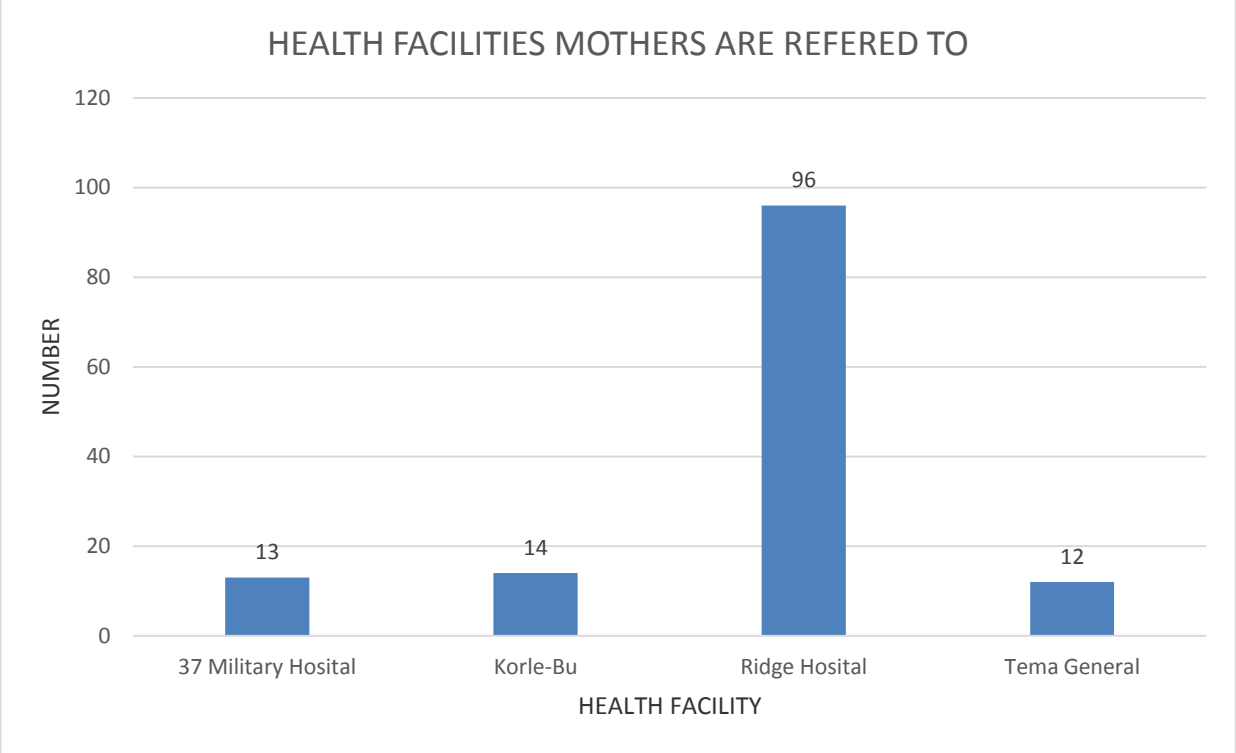

Figure 6: Health Facilities Expectant Mothers are referred to

4.4.3 Facilities from which Referrals for Expectant Mothers and Newborns are made

Most referrals for expectant mothers and newborns 7(43.8%) come from Agomenda health centre, 5(31.3%) came from Damfa health centre, and 2(12.5%) each came from Gloria and St. Andrew clinic respectively.

Table 4: Referrals to Shai-Osudoku hospital

FACILITY	REFERRED FROM				TOTAL
	Agomeda H/C	Damfa H/C	Gloria Clinic	St. Andrew Clinic	
Shai-Osudoku Hospital	7	5	2	2	16

4.5 Feedback on Referrals for Expectant mothers and Newborns

4.5.1 Feedback on Referrals for Newborns

From a total of 18 referrals of newborns from the Shai-Osudoku district hospital, 10(55.6%) had no feedback from referral facility and 8(44.4%) had verbal feedback on them.

Table 5: Newborn Feedback

		NUMBER	PERCENT (%)	CUMMULATIVE %
FEEDBACK	No	10	55.6	56.6
	Yes verbal	8	44.4	100.0
	Total	18	100.0	

4.5.2 Feedback on Referrals for Expectant Mothers

Out of 135 expectant mothers referred, facilities did not receive feedback for 88(65.2%) ,but received verbal feedback for 47(34.8%) referred expectant mothers.

Table 6: Expectant Mothers Feedback

		NUMBER	PERCENT	CUMMULATIVE %
FEEDBACK	No	88	65.2	65.2
	Yes, verbal	47	34.8	100.0
	Total	135	100.0	

4.6 Referring Process

There was no evidence of handy standard procedures and protocols for referral at the referring facility. Most of the frontline health workers spoken to indicate that after provider judgements on the need for referral, providers facilitate the process by calling the appropriate facilities to ask for a bed and to enable them prepare to receive the patient. An ambulance is called upon securing a facility and the necessary paper works done for the referral. A service provider and a relative then accompany the patient to the referral facility. The process is not complete until a feedback is received on the condition of the patient. A nurse at the referring facility said "We have stopped calling before referrals because you waste your precious time to call before referring yet your colleagues will not pick your calls".

4.7 Receiving Process

At the receiving secondary and tertiary facilities, there were no handy standard procedures and protocols for receiving referred expectant mothers and newborns which providers could easily refer to for guidance. However frontline health workers did indicate that, it is appropriate that referring facilities call them on time to book for a bed and to enable them prepare adequately in terms of personnel and logistics to receive referred patients. Referring facilities are also required to ensure that a professional accompanies the patient

and that details of patient including condition and diagnosis are documented. One health professional at the tertiary facility said "referring facilities are supposed to call Us and get a response before bringing pregnant women and newborns but they don't do that, you will be here all of a sudden someone comes unaccompanied with a patient saying they have been referred from this or that facility".

4.8 Reasons for Choice of Hospital

From the service provider's perspective, the reasons for choice of hospitals are many and include, 5(38.5%) availability of beds, 4(30.7%) distance to referral facilities, 2(15.4%) cost of service and 2(15.4%) attitude of service providers at receiving facilities.

4.9 Non Compliance with Referrals

It was realized at the tertiary referral facility of Ridge hospital that patients and some peripheral facilities do not comply with the referral system. Records at the secondary referring facility of Shai –Osudoku district hospital indicated that in 2014 over 109 expectant mothers and newborns were referred to the Ridge hospital in Accra. However upon reviewing records at Ridge hospital, only 87 referrals for expectant mothers and newborns came from Shai-Osudoku district hospital. For peripheral facilities in the district such as Damfa,Gloria and Agomenda clinics whose primary source of referral is the district hospital, it was realized that such facilities sometimes refer directly to the regional hospitals such as Ridge Hospital

4.10 Referral Delays

All 13 frontline health workers spoken to at both the secondary and tertiary facilities contend that there are delays in the referral for expectant mothers and newborns.6 (46. 2%) of service providers cited the processes involved as the reasons for referral delays, 4(30.8%) attributed referral delays to attitudes of patients and their relatives, 2(15.4%) attributed referral delays to transportation and distance to facilities. Only 1(7.8%) said delays were due to attitude and skills of service providers.

Records at the Shai-Osudoku district hospital indicates that most referred expectant mothers spend between 30 minutes to 1hour at the referring facility between time of call to referral centres and time of referrals.

4.11. Referral Communication and Documentation

Telephones were the only means of communication between primary, secondary and tertiary facilitities, however this was seen to be ineffective as service providers do not use it 52(33.9%) for referring expectant mothers and newborns or claim to use it without response 42(27.5%).

Referrals for expectant Mothers and newborns were documented at the district hospital with the use of notebooks with lines ruled for each variable. They did not have a separate register for inpatients and out patients. Although there were referral note book and feedback forms they were not been used. This made referral audit difficult at the facility.

At Ridge hospital there was a register for inpatient, referral notebook and feedback forms. These materials were used occasionally alongside a notebook which served as the main register.

4.12 Availability of Resources and Logistics

Most service providers(78.6%) spoken to are of the view that the needed skills, tools and medicines to work are available while (21.4%) say due to the high rates of referrals, more resources will be needed to cope with the increasing numbers.

CHAPTER FIVE

DISCUSSIONS

An effective and efficient maternal and newborn referral system functions to ensure quality care for both mother and baby; this is because the outcome of pregnancy depends to a large extent on the nature of antenatal and intrapartum care received. There are limited studies on referrals for expectant mothers and newborns in developing countries such as Ghana. Most studies on maternal and newborn referrals were done in developed countries which have different health care delivery system compared to developing countries. Thus their effective maternal and newborn referral system cannot be compared to that of Ghana and other developing countries.

A review of records at the Shai-Osudoku district hospital shows that most newborns referred to and from the facility were within the first seven days (77.8%) of birth. At this age newborns are most vulnerable to infections and child-killer diseases, they therefore require the much needed care to survive. Most Referred Expectant Mothers 122(79.7%) were between the ages of 20-39, this is significant because these women are within the fertile age group and have the potential of giving birth again. Their experiences during referral may impact on their attitude towards future referrals. It is therefore important that they get the best of the process to encourage them to go for a referral when the need arise. A study in Tanzania by Andrea B Pembe et, al shows that previous pregnancy experiences may influence actions taken during the current pregnancy. Pregnant women and their relatives may not accept a referral when they have seen other women with the same problem deliver safely after being referred. Being too short, having their first pregnancy, abnormal lie or presentation and twins were cited as examples. This made people lose trust

in the health workers when referred to the hospital, and even suspect that health workers may have other interests in the referral given.

The results from the Shai-Osudoku district hospital and Ridge hospital in Accra shows that referrals for expectant mothers and newborns do not follow the laid down procedure and guidelines for referrals. For instance although 125(81.7%) of the records reviewed were regarded as Emergencies and therefore required adequate preparations at receiving facilities, contacts were not made to facilities prior to referrals of 101(66.1%) of referred expectant mothers and newborns. This further leads to delays at the receiving facilities in giving care to these patients, some of whom may have permanent damages or lose their precious lives in the process of referral. Calling ahead to alert the receiving facility that a patient is being referred allows a triage
team to minimize delays on arrival(J.K. Awoonor-Williams et al ,2015) .

Information from reviewed hospital records show that private and public means of transport 79(61.5%) were the most used in transporting referred expectant mothers and newborns with ambulance transport been used for only 56(38.5%) for them. Means of transport for referred expectant mothers and newborns has influence on referrals. It determines the care received by referred patients on their way to referred facilities, ambulances have the necessary medical equipment's to provide patience care are most likely to be accompanied by a service provider. On the other hand public and private vehicles do not have equipment's and logistics to provide patients care on route to referred facilities. This is worsened due to high cost of public transport which scares patients away and the likelihood of expectant mothers and newborns going to referral centres unaccompanied by service providers. As observed by a similar study in Upper East

Region, Ghana the type of transport that a woman uses for referral and whether she is accompanied (and by whom) can affect how quickly the referral is executed, the cost of referral and how stable her condition is upon arrival(J.K. Awoonor-Williams et al.,2015).

Feedback on referrals were not received for 98(64.1%) of referred expectant mothers and newborns and a verbal feedback received either from relatives of patients or colleagues of service providers at referred facilities for only 55(35.9%) of referred expectant mothers and newborns. This contravenes the guidelines on referrals and does not provide room for referral audit at primary and secondary facilities by service providers. This findings is contrary to a similar study in upper east region where Overall documentation of referral and feedback improved or remained high in all study sites(J.K. Awoonor-Williams et al.,2015)..According to the 2006 Referral Policies and Guidelines, the referral system embodies a two-way system, i.e. from the community to the appropriate level of care and back down to the community (Institutional Care Division Ghana Health Service, 2007).

From the findings of the study it was realized that there is referral default and noncompliance to guidelines on referrals for expectant mothers and newborns. Referral records at the Shai-Osudoku district hospital indicate a referral of more than one hundred and nine expectant mothers and newborns to the Ridge hospital in Accra, however a visit to the facility shows that only eighty seven referrals were received from the Shai-Osudoku district hospital. This may be as a result of the inability of service providers to accompany patients to referral facilities leading to default. Peripheral facilities at the Shai-Osudoku district were observed to be referring directly to tertiary facilities without recourse to procedure and guidelines. There was also poor documentation and non-use of referral forms and register at both referring and receiving facilities. This lends credence to other

studies which cite absence of standard procedures for referral, non-use or non-enforcement of the existing forms and standards for referral, delays in referral, poor reception of patients, and lack of feedback as stumbling blocks in the referral process.

CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

The main conclusions of the study have been summarized according to the objectives set out for the study.

6.1 Referral Processes for Expectant Mothers and Newborns

It was established from the study that, there were no evidence of standard procedure for referral at the facility level, however Ghana Health Service advocates: making a call to referral centre, the use of referral slips, recording the number and type of referrals in registers, providing feedback to the sending facility, escorting the patient by a trained health-care provider, and helping patients access emergency transport, among other mechanisms.

6.1.2 Receiving Process for Expectant Mothers and Newborns

Similar to that of referring service, there was no evidence of standard receiving procedure. But the Ghana Health Service advocate that receiving facilities prepare to receive patients, provide care upon arrival of patients, maintain documentation, give feedback to referring facility and complete its own register.

6.1.3 Facilities to which referred Expectant Mothers and Newborns are sent to

Most expectant mothers and newborns are referred to Ridge Hospital, Accra 109(71.2%),Kolebu Teaching Hospital is second with 17(11.1%).37 military Hospital had 14(9.2%) referrals and Tema General Hospital had 13(8.5%) referrals from Shai-Osudoku district hospital.

6.1.4 Reasons for Hospital Choice

From provider's point of view, the reasons for choice of hospitals are many and include, 5(38.5%) availability of beds, 4(30.7%) distance to referral facilities, 2(15.4%) cost of service and 2(15.4%) attitude of service providers at receiving facilities

6.1.5 Factors Affecting Referral Processes and Services

The factors which affect the referral process and service for expectant mothers and newborns are; unavailability of standard referral procedure and guidelines at facilities, non-use or non-enforcement of the existing forms and standards for referral, delays in referral, lack of feedback, lack of ambulances, negative attitudes of patients and service providers towards referrals.

6.1.6 Factors Affecting Receiving Services

The factors which affect receiving services for expectant mothers and newborns are; poor interfacility communication, on –use or non-enforcement of existing referral procedure and guidelines at receiving facilities, poor reception by service providers and negative attitude of referred patients and relatives.

6.2 Recommendations

A well-functioning maternal and newborn referral system requires multi-sectorial engagement and multiple levels of the health system to work together to link communities with emergency medical services. It is therefore the collective duty of the DHMTs, facilities, providers as well as patients and their relatives to work together to make the system more efficient and effective.

Ghana Health Service, DHMTs00

Ghana Health Service and the DHMTs should provide handy and standard referral procedures and protocols to health facilities. The use of existing referral guidelines, forms and books should be enforced.

There is the need to liase with appropriate partners to provide more ambulances and logistics to health facilities.

Referring Facilities

There should be proper record keeping records on patient referrals in the health facilities. At the referring health facilities, most records on referred patients are improperly kept. In and Out patient's referral registers should be kept indicating the referral hospital, the time of, referral, date of referral and the health conditions of the referred patients. A proper referral notebook should be kept for all patient referrals from the referring facilities. Duplicate of referral notes or forms should be kept at the referring health facilities to help improve patient referral statistics in these health facilities. The use of prescription forms and plain sheets for referral should be discouraged. All patients referred up the system should be documented in a referral logbook/register. Sending facilities should receive feedback from facilities that provide definitive treatment. Referred patients should be sent with a referral slip filled out by sending facility

Receiving Facilities

Receiving facilities should keep outpatient registers on patient referral, it should capture all information on patients referred to these referral hospitals. Referral notes given to referral patients should also be properly documented. For those patients are admitted, their referral notes should be kept in the patients' folders. All staff who handle patients records

should be given in-service training on management of patients referral information. Periodic "referral audit" should be encouraged to assess patients' referral situation for proper feedback communication with referring health facilities.

Service Providers

Service providers should adhere to referral guideline, they should call ahead to alert the receiving facility of arrival of a patient. Referred patients should be accompanied by a trained health worker. Health workers should be friendly and open to referred patients.

Patients and Relatives

Referred patients should travel by ambulance or other emergency transport vehicle which is much saver. Relatives of patients must accompany patients to facilities to ensure timely referral arrangements when the need arise.Patients should follow guidelines on referrals.

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APPENDICES

Appendix I: Consent Form

Project Title:

Referral Processes and Services for Expectant Mothers and Newborns at the Shai-Osudoku District Hospital

Institutional Affiliation:

School of Public Health,

College of Health Sciences

University of Ghana

Legon

Background

Personal Introduction:

The Principal Investigator is Adam Haliq, currently a master‘s student of the School of Public Health, Legon and conducting a study on Referral Processes and Services for Expectant Mothers and Newborns at the Shai-Osudoku District Hospital. This study is for academic purposes and a requirement for the award of Master of Public Health Degree and supervised by Professor Irene Akua Agyepong of School of Public Health, University of Ghana, Legon.

Procedure

An interview will be conducted using a structured questionnaire and an interview guide with in depth interview.

Risks and Benefits

There are no reasonably foreseeable harm that may arise from participating in this research while benefits that may arise include a greater contribution to the development of referral policies for expectant Mothers and Newborns. It will also enhance your personal knowledge about the referral systems for expectant Mothers and Newborns.

Right to refuse:

Although there are no known risks associated with the research protocols, if you feel uncomfortable you have the liberty to opt out. You are also at will to withdraw from participating if you desire to do so.

Anonymity and confidentiality:

You are assured that the information collection will be handled with the strictest confidentiality, will not be shared with third parties not directly involved in the research and thus will be used purely for academic purposes.

Before taking consent:

Do you have any questions that you wish to ask? If yes, questions to be noted.

If you have question you wish to ask later, or anything you wish to seek clarification on regarding the research, please do not hesitate to contact the principal investigator (Adam Haliq) on;

Telephone number: 0242156196

Email:haliqadam@yahoo.com

Or

The Academic Supervisor on:0244862665

Or

The administrator of the Ghana Health Service Ethics Committee: 0243235225 or 0507041223.

PARTICIPANT

I …….having been adequately informed about the purpose, procedures, potential risks and benefits of this study. I have had the opportunity to ask questions and any question I have asked have been answered to my satisfaction. I know that I can refuse to participate in this study without any loss or benefit to which I would have otherwise been entitled. Having gone through the consent form thoroughly I agree to enroll in this study.

Name of participant: ……..

Signature or Right thumb print: ……..

Date: …….

I have explained the procedure to be followed in this study to the client in the language that he/she understands best and he/she has agreed to participate in the study.

Signature of interviewer…….

Date…….

DUMMY QUESTIONNAIRES

Referral processes and services for expectant mothers and new borns at the Shai-Osudoku district hospital.

Appendix II: In-depth Interview

Health Providers (DHMT, S.MO.MA Nurse in-charges)

Purpose: To find out factors affecting expectant mothers and newborn referrals

Interview Guide no:

Health Facility……

Respondent :(status)……

Name of Interviewer……

Date: ……

Started Time: ……

Time ended: ……

Explore

1. Types of health conditions of expectant mothers and newborns referred

2. What are the reasons for patient referrals

3. What are your views on:

-Attitudes of referred patients

-Attitude of staff

Referral Hospital Accessibility (distance and travel time)

-Means of transport and its availability to referral health facility

-Skills/Competence of staff.

-Availability of resources-drugs and non drugs

4. Are there Referral Delays and Inappropriate patient referrals (reasons)

5. Feedback and communication, records on patient referral in the district

6. What are the challenges of expectant mothers and newborn referral in the district?

7. What can be done to improve expectant mother and newborn referrals in the district

Appendix III: Referring Secondary Health Facility (Shai-Osudoku District Hospital)

Referring Secondary Health Facility(Shai-Osudoku District Hospital)

1. Health Facility…… District……

2. Community…… Type cases referred…….

3. List of Referred Expectant Mothers/Newborns… No. of Referred Expectant Mothers/Newborns……..

4. OPD attendance……. Referral rate……..

5. Referral Data… Out-Patient referral register Yes[ ] No[ ]

6. Referral book or form…. Yes[ ] No[ ]

7. Referral feedback form Yes [ ] No[ ]

8. Inter-facilities communication Yes [ ] No [ ]

9.Means of communication

-telephone [ ]

-meeting [ ]

-facility visit [ ]

-other specify……..

10. Keeping copies of referral note Yes [ ] No [ ]

11. Referral Audit

-carry out periodic referral audit Yes[ ] No[ ]

-periodicity…….. weekly [ ] monthly [ ] quarterly [ ] yearly [ ]

Appendix IV: Tertiary Referral Hospital (Ridge Hospital, Korle bu Teaching Hospital)

1.Referral Hospital……

Community……

2.No. of Referred Expectant Mothers/Newborns……..

3.Referring Health facility……..

4.Type of cases referred…….

5.Referral Data… Out-Patient referral register Yes[ ] No[ ]

In-patient referral register Yes[ ] No[ ]

-Keeping referral notes in patients folder Yes[ ] No[ ]

6. Referral feedback form Yes [ ] No[ ]

7. Inter-facilities communication Yes [ ] No [ ]

8. Means of communication

-telephone [ ]

-meeting [ ]

-facility visit [ ]

-other specify……..

9. Keeping copies of referral note Yes [ ] No [ ]

10. Referral Audit

-carry out periodic referral audit Yes[ ] No[ ]

-periodicity…….. weekly [ ] monthly [ ] quarterly [ ] yearly [ ]

Appendix V: Questionnaire for Frontline Health Service Providers (Referring Facility)

Referral processes and services for expectant mothers and new borns at the Shai-Osudoku district hospital.

Date:

Time Started:

Time Ended:

Interview Guide No.

Name of interviewer……..

Name of interviewee……..

Health Facility…….

District……

Community…….

1.Type of cases that are referred from your facility to referral hospitals

2.Are referral notes given to referred expectant mothers and new borns? Yes[ ] No [ ]

3.Do you receive referral feedback on referred expectant mothers and newborns? Yes[ ] No[ ]

4.How do you receive feedback on referred expectant mothers and new borns?

(a) through patients [ ]

(b) through relatives [ ]

(c) by home visit [ ]

5. Do you have records on referral for expectant mothers and new borns

6. In your opinion are these referrals for expectant mothers and newborns

(a) timely referred

(b) delayed

(c) other specify……..

7. If the answer is (b) in question (6) ,what are the reasons for the referral delays

(a) lack of skills of referring service providers

(b) lack of transport

(c) long distance

(d) lack of funds

(e) other specify……..

8.Do these referred expectant mothers and new borns come with referral notes? Yes[ ] No[ ]

9.Do you send referral feedback to the referring facility? Yes[ ] No[ ]

10.If yes to question 9, how do you send the referral feedback

(a) through patients [ ]

(b) through relatives of patients [ ]

(c) inter-facility communication(telephone) [ ]

(d) facility visits

(e) others specify [ ]

11. Does your facility have referral guidelines or protocols Yes[ ] No[ ]

12. If yes to question 11,are your staffs trained in their use Yes[ ] No[ ]

13.What are the challenges of expectant mothers and new born referrals in your district

14. What can be done to improve expectant mothers and new born referrals in your district.

Appendix VI: Sample Size Calculation

$n = pq/e^2$

n= Sample Size

p= Proportion of expectant mothers and newborns referred

e= Standard error of the mean

Total population of the district =61,200(2014 Estimate)

Total Expectant Mothers and Newborn Outpatient Attendance= 11324 (2014)

Total Expectant Mothers and Newborn Referrals = 184 (2014)

P= 184/11324 =0.016

q = 1- p = 1-0.016 = 0.984

$n= pq/e^2$

$= 0.016 \times 0.984/2.5^2$

$=0.015744(2.5 \times 2.5)$

0.00251904×61200

=154.1 =154