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**AN ASSESSMENT OF THE AVAILABILITY OF
ESSENTIAL OBSTETRIC CARE SERVICES IN
THE BIRIM SOUTH DISTRICT.**

BY

DR. (MRS) CYNTHIA A. SOTTIE.



**A dissertation submitted to the School of Public Health, Legon, in
partial fulfilment for the award of Masters Degree in Public Health.**

SEPTEMBER 2000.

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Thesis Room

Dedication

This work is dedicated to my dear husband Christian and my children Lorraine, Joan and Chris (Jnr.) who through their prayers, encouragement and understanding made this work possible.



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LIST OF ABBREVIATIONS.

EsOc.	Essential Obstetric Care.
DHMT.	District Health Management Team.
DDHS	District Director of Health Services.
WHO	World Health Organization.
SDHT	Sub-District Health Team.
WIFA	Women In Fertility Age.
GDHS	Ghana Demographic Health Survey
TBA	Traditional Birth Attendant.
SMI	Safe Motherhood Initiative.
KM	Kilometers.
OPD	Out-Patient Department.
IV	Intra Venous
MOH	Ministry of Health
UNICEF	United Nations Children's Fund
UNFPA	United Nations Population Fund
MCH	Maternal and Child Health

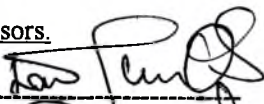
DECLARATION.

I hereby declare that this dissertation was prepared by me under supervision and submitted as part of the requirements for the Masters of Public Health Degree of the School of Public Health, University of Ghana, Legon.

Resident.

Cynthia Sottie.-----

Academic Supervisors.

Prof. L. Osei. -----

Dr. Phyllis Antwi. -----

Field Supervisor.

Dr. Koku Senaya. -----

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EXECUTIVE SUMMARY.

The availability and access to health services is very important in the management of obstetric complications and reduction of maternal mortality.

A descriptive study was conducted in the Birim South District to describe the basic and comprehensive essential obstetric care services, and identify factors that affected availability. All facilities in the district both private and public that provided obstetric services were studied. A supervision checklist for hospitals and clinics was used to assess availability. The following signal functions: ability to administer parenteral antibiotics, parenteral oxytocic drugs, parenteral anticonvulsants for pre-eclampsia and eclampsia, perform manual removal of placenta, retained products of conception and assisted vaginal delivery were used to identify a facility as providing basic essential obstetric care services.

A comprehensive essential obstetric care facility was identified as one able to perform all the signal functions for a basic essential obstetric care facility and in addition be able to perform caesarian section surgery and blood transfusion.

An interview guide was designed and used to conduct key informant interviews with heads of the various facilities where obstetric services were provided. The key informant interviews were conducted to determine factors associated with availability of services.

Out of the 30 health facilities in the district, only 12 provided obstetric services. One provided comprehensive essential obstetric care services while the rest, provided basic

essential obstetric care services. None of the 11 facilities providing basic essential obstetric care services however, could perform all the signal functions needed to be identified as a facility providing basic essential obstetric care services. The function performed by all these facilities was parenteral administration of oxytocic drugs. None of them performed assisted vaginal deliveries.

The factors found to be associated with availability of essential obstetric care services were lack of trained personnel due to inappropriate distribution of staff and inadequate number of trained personnel, and malfunctioning or unavailability of the required equipment at the facility. Geographical accessibility and financial affordability also contributed to making EsOc services available.

To improve availability of essential obstetric services in the district these recommendations are being proposed to the District Director of Health Services. There is the need to upgrade services to meet the required signal functions. There should be continuing in-service training for all staff to upgrade their skills. Some midwives need to be deployed to areas where their services are most needed. Malfunctioning equipment should immediately be repaired or replaced and those unavailable should be provided.

Chapter One

1.1 INTRODUCTION

Every year more than 150 million women become pregnant in developing countries. Evidence shows that at least 15% of these women develop sudden serious complications that require life saving access to quality obstetric services. (1). Since complications are sudden and cannot be predicted during deliveries but can be treated, adequate preparations should be in place to provide essential obstetric care services.

The availability and access to health services is very important in the management of obstetric complications and reduction of maternal mortality.

Maternal mortality worldwide is high, this is more pronounced in the developing countries. The disparity between developed and developing countries is greater for maternal mortality than for any other commonly used index of health. Whereas levels of infant mortality are on average 10 times higher in developing than in developed countries, maternal mortality in developing countries is almost 100 times higher than industrialized countries. (2,3). While small reduction in the death rates have been achieved through community based programs of family planning and training of births attendants, substantial and sustained reduction in death rates requires access to adequate facilities to treat obstetric complications. Health and survival in pregnancy and childbirth depend to a great extent on the early detection of complications and referral to facilities where appropriate care can be obtained.

Most maternal deaths are due to five obstetric complications: haemorrhage, sepsis, complications of unsafe abortions, hypertensive disorders and prolonged obstructed labour. While the vast majority of maternal deaths occur in developing countries, this does not mean that only women in developing countries develop medical complications during or after delivery. (4). Women in every country develop complications but women in developing countries are much less likely to get prompt adequate treatment and are therefore more likely to die. For an individual woman, the risk of maternal death is influenced both by the risk associated with pregnancy and by the number of times she becomes pregnant. In the developing countries where both mortality and fertility rates tend to be high, the lifetime risk of maternal death can be very high. A lot of studies have shown that addressing the problem of maternal mortality through the safe motherhood initiative, which includes supervised deliveries reduces maternal mortality.

Pregnancy related complications is one of the major causes of death and disability among women of reproductive age worldwide. There is no single cause of mortality and morbidity in men that comes close to maternal mortality and morbidity. (5)

The maternal and infant mortality survey by the Ghana Statistical Service (GSS, 1993\4) gives the average maternal mortality rate of Ghana as 214 per 100,000 live births. (6).

The maternal mortality figure in the rural areas is much higher than in urban areas due partly to the non-availability of facilities and non-use. It is estimated that 63-80% of direct maternal deaths could probably have been avoided if deliveries are properly handled. (7). Several studies have shown that maternal deaths among supervised

deliveries are much lower than unsupervised deliveries. Maternal mortality in Ghana is higher among unsupervised deliveries (255\100,000) compared to women whose deliveries were supervised (175\100,000) (GDHS, 1994).

Supervised deliveries defined by WHO are deliveries conducted by trained skilled birth attendants, as midwives, nurses and doctors, who have completed a set course of study and are registered or licensed to practice (WHO\UNFPA\UNICEF Statement 1999). In Ghana however, deliveries by trained TBA's are also classified as supervised (MOHMCH Annual Report 1998, Ghana). In this study the Ministry Of Health's definition of supervised delivery is used.

1.2 BACKGROUND INFORMATION.

The Birim South District is in the west of the Eastern Region. It is bounded on the west by Ashanti Region, North by Birim North District, South by Central Region and East by West Akim District. The district covers an area of about 400,240 sq km. It is of low land and tropical vegetation. The District derives its name from the River Birim, which is synonymous to diamonds. The provisional population of the district is 179,026 from the 2000 population census (Source - Provisional 2000 Population and Housing Census, Ghana Statistical Service.) The annual growth rate is 3%. About 70% of the population live in the rural areas while the rest reside in urban areas. The main cash crop is cocoa, with cassava, plantain and vegetables being the main foodstuffs cultivated. Diamond winning is an important economic activity in the district. This is done along the Birim River. The district health system is made up of the District Health Management Team

(DHMT) at the district level and six Sub-District Health Teams (SDHT's). Various types of health facilities and service providers are found in the district. There is one government hospital, two health centres, eleven MCHFP units, four private maternity homes, nine private clinics, one mission clinic and two community clinics. Even though most women received antenatal care, only about half had supervised deliveries. Antenatal coverage for 1999 was 88%, while supervised deliveries was 45%. (The average national figure of supervised deliveries is 43%. GDHS, 1998). The large percentage of unsupervised deliveries shows that most pregnant women were delivering in facilities that lack the capacity to handle obstetric complications. The total number of women in the fertility age (WIFA) is 35,825 (WIFA =20% of total population) and the expected pregnancy is 7,161 (4% of total population).

1.3 ESSENTIAL OBSTETRIC CARE (EsOc).

EsOc is that care that is very necessary for the management of pregnancy and delivery related complications. EsOc refers to the short list of services that can save the lives of the majority of women with obstetric complications.

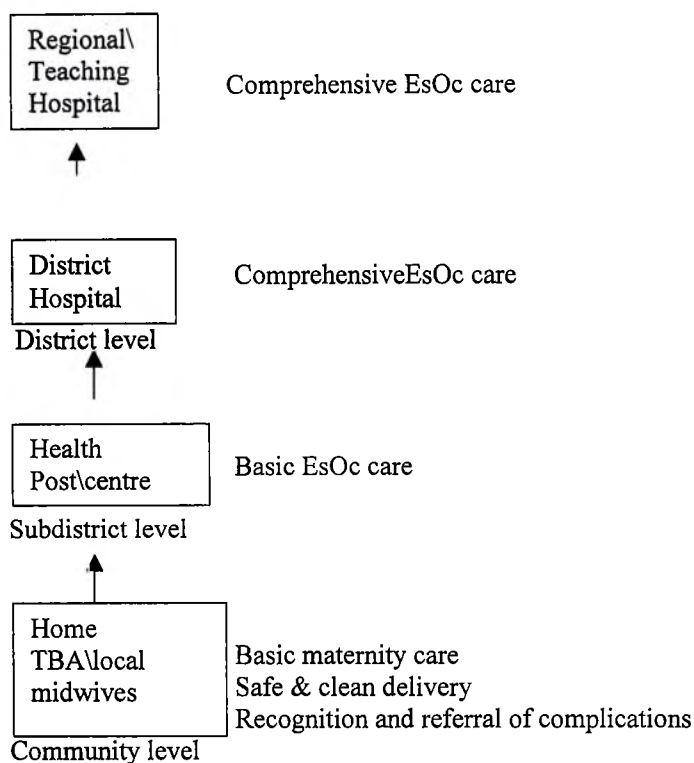
Two levels of care are defined: Basic and Comprehensive EsOc.

In order to assess the level of health care an EsOc facility is actually providing, it is helpful to select few important EsOc functions to identify both basic and comprehensive EsOc. These selected few signal functions are used for classification and monitoring purposes. (1).

BOX 1: Signal functions used to identify Basic and Comprehensive EsOc

<u>Basic EsOc services</u>	<u>Comprehensive EsOc services.</u>
(1)Administer parenteral antibiotics.	(1-6)All of those included in Basic EsOc
(2)Administer parenteral oxytocic drugs.	(7)Perform surgery (Caesarean section.
(3)Administer parenteral anti convulsant	(8) Perform blood transfusion.
4)Perform manual removal of placenta	
(5)Perform removal of retained products (e.g., manual vacuum aspiration)	
(6)Perform assisted vaginal delivery.	
A Basic EsOc facility is one that is performing all of functions 1-6	
A comprehensive EsOc facility is one that is performing all of functions1-8.	
Parenteral administration of drugs means by injection or intravenous infusion [drip].	

For an essential obstetric care service to be effective in dealing with obstetric complications, it has to be graded to suit the different levels of health service delivery. The package for each level must be available, accessible, adequate, of high quality and be used.

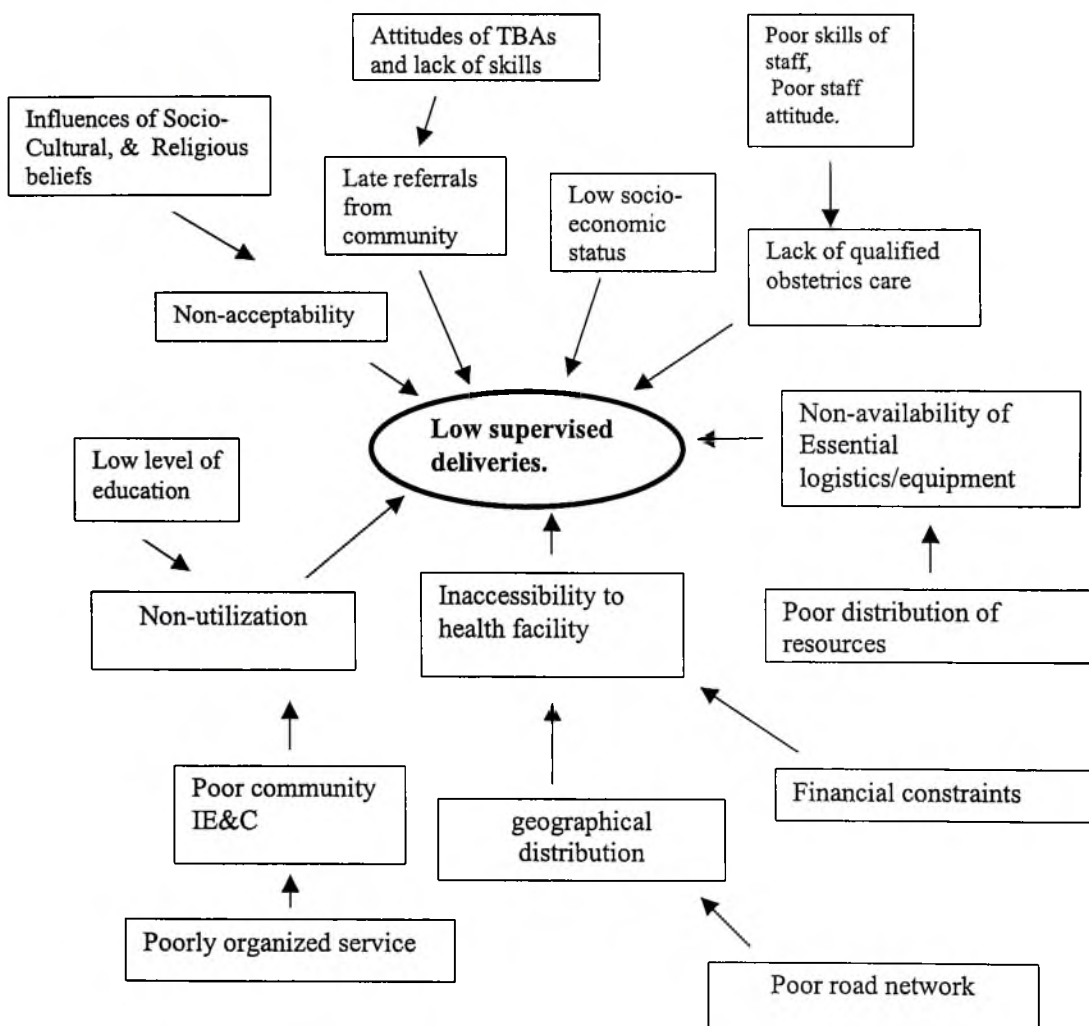
Fig. 1: THE SCHEME FOR EFFECTIVE OBSTETRIC CARE SERVICE.

1.4 CONCEPTUAL FRAMEWORK

In the Birim South District one of the health problems identified was low supervised deliveries. The 1999 annual report of the district shows that supervised deliveries were low, that is 45%. Unsupervised delivery is associated with high risk to babies and mothers. The large proportion of unsupervised deliveries suggest that women are delivering in facilities that lack the capacity to handle obstetric complications. Evidence shows that at least 15% of all pregnant women develop sudden serious complications that

require life saving access to essential obstetric care. Since complications are sudden and cannot be predicted during pregnancies and deliveries, but can be treated, adequate preparations should be in place to handle such complications. Obstetric complications are one of the causes of maternal mortality in Ghana, and the Birim South District for that matter has high maternal mortality. The national maternal mortality is 214\100,000 live births while that in the Birim South District is 300\100,000 live births.(source Institutional data 1999). These unacceptable figures could be due to the unavailability of essential obstetric care services. The District Director of Health Services and his team want all pregnant women to have access to essential obstetric care services in case of obstetric complications, but are the facilities, equipment, personnel and drugs available to cater for them? This study therefore seeks to assess the availability of obstetric care services in the Birim South District.

Fig 2 CONCEPTUAL FRAMEWORK OF THE PROBLEM OF LOW SUPERVISED DELIVERIES.



1.5 JUSTIFICATION

The justification of this project is based on the problem identified. The problem identified is that, for the year 1999 the proportion of expected pregnant women who received care was 88%. (antenatal registrants) and supervised deliveries were 45% of the total expected deliveries in the Birim South District. The large percentage of unsupervised deliveries demonstrates that most pregnant were not accessing facilities where they can obtain essential obstetric care in case of complications. Maternal mortality and fertility rates are high (TFR- 4.6, GDHS 1998. Maternal mortality ratio is 300\100,000 live births for Birim South District). If it is accepted that most pregnancy related complications are unpredictable then it is just humane to ensure availability, access and use of essential obstetric care services to reduce maternal mortality if women really must live.

1.6 OBJECTIVES

General objective.

To evaluate the availability of essential obstetric care services in the Birim South District.

Specific objectives

1. To describe the basic and comprehensive essential obstetric services in the district.
2. To identify factors that affect the availability of essential obstetric care services.
3. To make recommendations on improving the ability of the health system to respond to women's need for care in case of complications.

Chapter Two

LITERATURE REVIEW

The Safe Motherhood Initiative (SMI) launched in 1987, in Nairobi, Kenya calls for concerted action at the international, national, and local levels to reduce the high rates of maternal mortality and improve women's health in the developing world. (8). The SMI main focus is on the well being of women as an end in itself. The prevention of deaths of pregnant women is considered to be the important objective, because women are intrinsically valuable.

2.1 THE MAGNITUDE OF MATERNAL MORTALITY AND MORBIDITY.

Obstetric complications are the immediate cause of maternal death. An estimated 75-80% of maternal death result from direct obstetric causes. It is estimated that 585,000 maternal deaths occur globally every year, approximately one death every minute. It is believed that 99% of these deaths occur in the developing world.(9).

Rochat, (1987) estimates that the lifetime risk of maternal death for an average woman in Africa is 1 in 21 while that for an average woman in Northern Europe is 1 in 9,850. (10).

In Ghana, maternal mortality has been reducing modestly over the past 10 years. In 1983, it was between 500 and 1,500 per 100,000 live births across different regions of the

country. It reduced to 250-499/100,000 live births by 1993. The Ghana Statistical Service Survey on Maternal and Infant Mortality (1993-1994) put the average maternal mortality rate figure at 214/100,000 live births. No new survey has been carried out since then. This figure is very high compared to the 8/100,000 live births in the USA, 0-9/100,000 live births in Europe and 9/100,000 live births in Japan (11).

Obstetric complications besides deaths may also cause considerable chronic ill health or disability. It is estimated that there are as many as 240-330 maternal morbidity per each maternal mortality. (12).

2.2 WHY THE MOTHERS DIE.

2.2.1 The 3 phases of Delay Model

This model specifies the three types of delay that contribute to the likelihood of maternal deaths.

1. Delay in deciding to seek care.
2. Delay in reaching a health facility.
3. Delay in receiving adequate treatment at the facility.

Phase 1 Delay

Delay in deciding to seek care on the part of the individual, the family or both.

The factors that affect the decision to seek care were often described as barriers to the utilization of health services. Such factors include the status of women, illness

characteristics, distance from the health facility, financial and opportunity cost, previous experience with the health care system and the perceived quality of care.

Illness factors.

The characteristics of the illness as perceived by individuals strongly influence the decision to seek care. Prospective health care users must recognize that an abnormal condition exists that is severe and so requires specialist attention.

A study conducted in 6 of Senegal's 10 regions indicated that women lacked the basic information on signs and symptoms of obstetric complications. One-quarter of the women interviewed could not name a single complication. Only 13% recognized fever, and 10% antepartum haemorrhage as important danger signals. Some women even said fever; dizziness and pallor were signs of a normal pregnancy. (13)

Pregnancy and childbirth were acknowledged as potentially risky. Pregnancy, labour and delivery were commonly considered natural normal work for women and often not seen as illness for which medical expenses were justified. (14). Death during labour and delivery may sometimes be considered 'normal' or inevitable. Peterson (1982), reports that among the Brongs of Ghana, it is believed that mothers die during labour and delivery because that was their destiny. (14).

The recognition of a health condition is also influenced by sociocultural interpretations. Labour that lasts up to a day is considered normal among the Bariba of Benin, so not recognized as dangerous (15). In parts of Africa,

including parts of Ghana, prolonged obstructed labour is attributed to the woman's infidelity, for which she must confess for labour to progress normally (16).

Women's Status.

Women's status is an indicator of the educational, cultural, economic, legal and political positions given to women in a given society. In many developing countries women do not decide on their own to seek care. The decision belongs to the husband, or senior members of the family.

Distance.

The distance, which separates potential patients from the nearest health facility, is an important barrier to seeking health care particularly in rural areas. (17). Long distances can be an obstacle to reaching a health facility and even trying to seek care. The effect of distance becomes stronger when combined with lack of transportation and poor roads. In a survey of 859 hospital patients in Oyo State, Nigeria, Egunjobi ranked distance as the first among factors that affect choice of hospital, with 32% of respondents saying it was the most important consideration in their decision. Other factors included the quality of services, the facility's proximity to relatives, financial cost and the availability of transportation. (18).

Cost

The financial cost of receiving care, which includes transportation cost, physician and facility fees and the cost of medications and other supplies all influence the

decision to seek care. Cost and distance often go hand in hand, as considerations in the decision making process, as longer distances entail higher cost. In Mexico, for instance, lack of money was the critical consideration behind the non-use of physicians in 58% of illness episodes. Respondents however, felt that medical care was an appropriate treatment choice for these illnesses, but the cost of obtaining such care actually deterred them from seeking it. (19). In Ethiopia, Kloos et al, reported that cost of services was however, often a less important consideration in the utilization of services than were the quality of services and the perceived efficacy of treatment. (20). The other important component of cost is the opportunity cost of time used to seek health services. The value of what could have been produced in that time had it been used differently is considered. Time spent on getting to, waiting for, and receiving health services is time lost from other more productive activities such as farming, fetching water, and wood for fuel, trading, cooking etc. Since women carry out a large majority of these tasks, the value of their time and competing demands made on it assumes critical importance in the decision to seek care. In many parts of the developing world prospective patients were accompanied by children who cannot be left at home alone because caretakers were not available. All these people swell up the cost of transport.

Quality of care.

Quality of care is often more important than cost considerations in influencing utilization of services. Studies have indicated that where potential patients have

access to more than one facility their judgement of quality of care takes precedence over concerns about distance. Iyun, (1983) in his study on hospital catchment areas in Ibadan, Nigeria, found that people did not use hospital closest to them if they thought it provided poor quality care. (21). The role that quality of care plays in the decision to seek care is related to people's own assessment of service delivery. This depends largely on their own experiences with the health system and those of people they knew, their satisfaction or dissatisfaction with the outcome and services received. Satisfaction or dissatisfaction with the outcome includes effectiveness of the treatment and remedies prescribed; those with the service received were staff attitudes, hospital procedures, and availability of supplies and long waiting time. Problems with staff rudeness and indifference were reported in a study of attendance at a maternal and child health clinic in Lagos, Nigeria. (22). Hospital procedures that inhibit utilization by women are the fear of surgical operations as caesarean sections, episiotomies and general hospital policy of specific procedures to childbirth that women dislike or fear.

Phase 2 Delay

Delay in reaching a health care facility.

Relevant factors that influence this phase include the distribution of facilities, travel time to facility, availability and cost of transportation, and the condition of roads.

Distribution of facilities

There is general shortage of medical care institutions in the developing countries. In addition, those that existed were more often concentrated in and around urban areas. Most studies reviewed indicated that inhabitants of urban areas have better access to health care facilities than do rural inhabitants.

The physician to population ratio is 1:4,000 in the capital city of Ivory Coast compared to 1:66,000 in some rural areas. (23). Apparently the uneven distribution of health resources is the result of explicit policy which calls for the allocation of these resources according to economic and political priorities. In Ghana the physician to population ratio is 1:12,000. Over one-third of professional nurses in Ghana, work in the country's two teaching hospitals, Korle-Bu and Komfo Anokye. The number of nurses in the two teaching hospitals and Greater Accra region alone made up over 50% of the country's 5,728 professional nurses. Similarly the two teaching hospitals (49%) and the Greater Accra Region (11%), take up 60% of the country's 1057 doctors. (24).

Travel Distance

The uneven distribution of facilities has implications for travel distances between women and even the closest facility, let alone a specialist referral hospital. Access is an acute problem for rural dwellers in most developing countries. They had to walk long distances or improvise means of transportation to reach a health facility. In Ethiopia, rural dwellers had to walk between 15 and 18Km to the

nearest town where landrover service was available to transport them to the nearest medical facility. (20).

Transportation

The scarcity of transportation in developing countries is a harsh reality. A patient with eclampsia in Zambia had to wait for 13 hours before a transport to the hospital could be found. (25). The patient's condition can deteriorate with increasing delays reaching a health facility making the condition more difficult to treat once the facility is reached, that is if the patient is alive on arrival.

On the other hand, where the nearest facility was a peripheral health center not equipped to treat the condition, or even administer essential first aid, seriously ill patients had to go on to another better equipped facility. This situation thus, further increased the delay to care and the risk of dying on the way.

Phase 3 delay.

This phase looks at the factors that contributed to delay in receiving adequate care at the facility, which included the adequacy of the referral system, shortage of supplies, equipment and trained competent personnel.

Inadequately staffed facilities.

Inadequate staff and competence of medical and nursing personnel at a facility led to delays in, patients receiving the care they needed. In a study of maternal mortality in Lusaka, the most worrying finding was that an avoidable hospital factor was present in 52% of cases. (25). Hospital factors identified include poor

intra-partum assessment, failure to correct anaemia, missed diagnosis of ruptured ectopic pregnancy and non-availability of anaesthetist. In addition, the seriousness of the patient's condition was not fully appreciated by staff who delayed in taking the patient to the operating room.

Even when facilities were staffed with competent providers, shortage of drugs and supplies hampered the timely provision of care.

Ill equipped facilities.

Lack of equipment and supplies hampered the timely provision of care. Difficulty in obtaining blood for transfusion assumed paramount importance in the management of several obstetric complications and was often identified as an avoidable factor which delayed adequate care. The difficulty of obtaining blood was responsible for 35 percent of hospital maternal deaths in rural Tanzania (26). In Jamaica, Walker (1986) also found that avoidable factors were present in 11 of the 15 deaths due to puerperal sepsis (27).

Inadequate supplies of essential drugs such as ergometrine and antibiotics were other avoidable factors that contributed to delays in receiving care at the facility. Such shortages occurred at all levels of the health system.

In Ilorin University Teaching Hospital in Nigeria, some patients were without any antibiotics until the third day after a caesarean section, because relatives were not able to buy the drugs immediately and the drugs were not in stock at the hospital pharmacy. Sepsis caused 82% of the deaths in this hospital study. (28).

A study conducted by Kwast et al, (1984) showed that hospitals in Addis Ababa suffered from shortages of instruments, oxygen, steam for sterilization, linen and gloves, all of which hampered the provision of efficient care. (29).

Chapter Three

METHODOLOGY

3.1 STUDY TYPE

The study was descriptive, and provided information on the availability of basic and comprehensive essential obstetric care services in the Birim South District and some of the factors that contributed to non-availability of such services. Both qualitative and quantitative methods were used since this approach offers a good way of ascertaining the views of the heads of the different health facilities where obstetric services were provided, and gives the opportunity to explore further emerging issues.

The study also reviewed records over a 12-month period from January-December 1999.

3.2 THE STUDY UNITS.

The study covered all facilities both private and public that provided obstetric services in the district. Since such facilities in the Birim South District were few, all facilities that provided obstetric services were studied.

3.3 PROCEDURES.

The Guidelines for Monitoring the Availability and Use of Obstetric Services were used. (UNICEF, WHO, UNFPA 1997). A supervision checklist for hospitals and clinics was used to assess availability of services. Signal functions were used to identify Basic and

Comprehensive facilities in the district. Modification to question 9 of form 2 (Appendix B) was made to include the question: "Do you have the logistics or personnel for that particular procedure" instead of asking whether the procedure has been performed or not. This was done to find out whether the required personnel or logistics for the said procedure were available but might not have been performed within the one-year period. The identified obstetric care facilities were located on the district map to assess whether the distributions of facilities were fair (refer to map fig. 3). Health records were reviewed to determine the types of obstetric complications seen and managed in the facilities (Appendix C). A key informant interview was then conducted with all heads of the various facilities where obstetric services were provided to find out some of the problems they encountered with availability of equipment and personnel needed to provide essential obstetric care services.

3.4 DATA COLLECTION TECHNIQUES AND TOOLS.

The study made use of the following tools and techniques. The materials used included available information from the district profile, health facility records and annual reports. Interviews using supervision checklist for hospitals and clinics and an interview guide were used.

Supervision checklist (Appendix A): some of the variables on the list are:

- i. Number of trained personnel. .
- ii. Key drugs such as Oxytocics, Anticonvulsants, local anaesthetic and oxygen.
- iii. Equipment in the labour room such as vacuum extractor, IV infusion sets and fluids, vaginal speculum, curettes, and sphygmomanometers.

A list of signal functions (Appendix B) was then used to identify a facility as basic or comprehensive EsOc facility. The variables on the list included ability to:

- i. Administer parenteral antibiotics
- ii. Administer parenteral oxytocic drugs
- iii. Administer parenteral anticonvulsant for pre-eclampsia and eclampsia
- iv. Perform manual removal of placenta
- v. Perform removal of retained products (eg., manual vacuum aspiration)
- vi. Perform assisted vaginal delivery
- vii. Perform surgery (Caesarean section)
- viii. Perform blood transfusion

An interview guide was designed and used to conduct a key informant interview with heads of the facilities where obstetric services were provided. (Appendix D). Some of the variables included:

- i. Ability to perform manual removal of placenta and manual vacuum aspiration.
- ii. The frequency training sessions were organized for staffs.
- iii. The distance referrals came from and the mode of referrals.
- iv. The source logistics were received from and the frequency of receipt of logistics.
- v. Some of the reasons for the unavailability of essential obstetric care services in the facility.
- vi. Recommendations for improving the availability of obstetric services.

3.5 PRE-TESTING DATA COLLECTION TOOLS.

The checklist was pre-tested in the Ayawaso district of the Greater Accra Region in five health facilities where obstetric services were provided. The facilities included a private hospital, 2 private maternity homes, 1 private clinic and a government polyclinic. A few corrections and additions were made to the tools to clarify some of the questions on the interview guide.

3.6 DATA STORAGE AND ANALYSIS

Answered questionnaires and checklist were kept in files. Analysis was done using EPI-INFO- 6 statistical software. Facilities were grouped into maternity homes, health centres, clinics, and hospitals to facilitate analysis. Frequency distribution of all the variables was run and description, explanation and interpretation of findings were made.

3.7 ETHICAL CONSIDERATIONS.

The import of the study was discussed and a verbal informed consent obtained from the Regional and District Health Administration and from the District Assembly.

The heads of the health facilities were reassured that the study was not meant to identify problems for criticism and blame.

3.8 STUDY LIMITATIONS.

Inadequate funds and time constraints limited the study. For example, the heads of the various facilities could not be brought together for a discussion on how to improve the availability of essential obstetric care services in the Birim South District due to lack of funds.

Chapter Four.

RESULTS.

4.1 INTRODUCTION .

The data on the findings presented in this section were obtained from the supervision checklist for hospitals and health centers and from key informant interviews conducted with heads of the various health facilities where obstetric services were provided.

4.2 NUMBER OF FACILITIES ABLE TO PROVIDE EsOc SERVICES.

Only twelve of the thirty public and private health facilities in the Birim South District, provided obstetric services. These included:

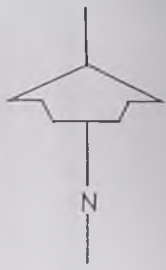
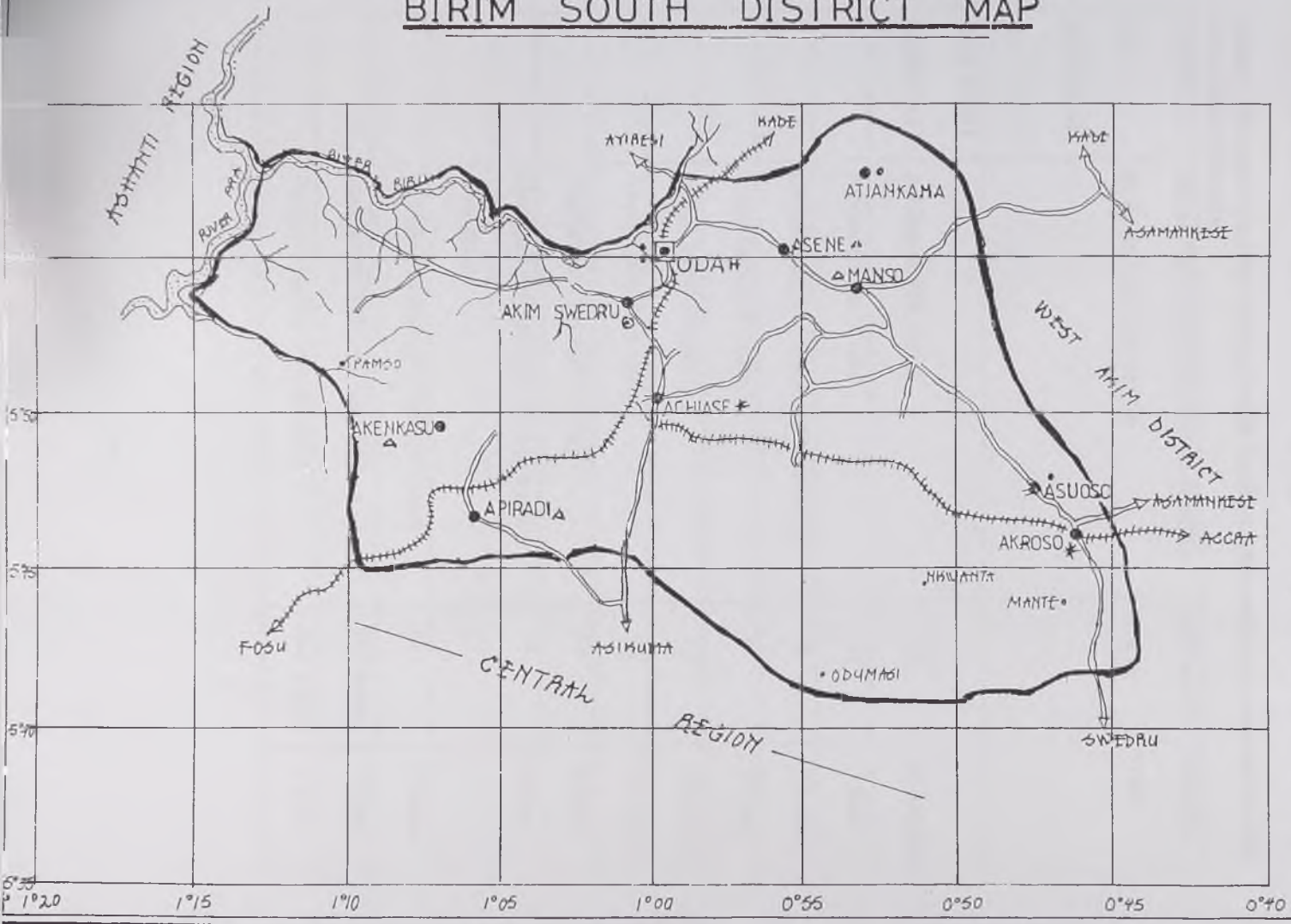
- 1 Government hospital that provides comprehensive EsOc.
- 4 private maternity homes.
- 2 Health Centres
- 1 Mission Clinic
- 4 MCH/FP Clinics.

4.3. GEOGRAPHICAL DISTRIBUTION.

Most of the facilities that provided obstetric services were located in the north and north-western part of the district. The southern sector between Aperade sub-district and Akroso had no such facility thus patients had to travel far distances to facilities for obstetric care.

(Fig.3)

BIRIM SOUTH DISTRICT MAP



LEGEND

- DISTRICT BOUNDARY
- MOTORABLE ROADS
- RAILWAY LINE
- RIVERS/STREAMS
- HEALTH CENTRE/
- GOV'T HOSPITAL H
- MISSION HOSP/CLINIC
- MCH/FP Clinic △
- Maternity Home •

The distance of the various health facilities from where referrals were made to Oda government hospital which provides comprehensive essential obstetric services are provided in Table 1.

Table 1. Distance from the various health facilities where referrals are made to Oda Government Hospital

HOSPITAL OF REFERRAL	HEALTH FACILITIES FROM WHERE REFERRALS ARE MADE	DISTANCE IN KM	TRAVEL TIME
ODA GOVT HOSPITAL	Achiase Health Centre	12	30 minutes
	Akroso Health Centre	37	1 hour
	Catholic Mission Clinic (Akim Swedru)	7	25 mins
	Asene MCHFP Clinic	5	20 mins
	Manso MCHFP clinic.	13	35 mins
	Aperade MCHFP clinic	23	1 hr 30 min
	Akenkausu Community Clinic	35	2 hours.
	Ntoboase Maternity Home (Atiakama Nkwanta)	25	2 hours
	Emmanuel Maternity Home (Asuosu)	32	45 mins
	Mawuli Maternity Home (Oda)	300 meters	10 mins
	Paulina Maternity Home (Oda)	100 meters	5 mins

Generally, the road network from the referral facilities to Oda government hospital where comprehensive EsOc were provided was in a reasonably good condition except for the road from Aperade and Ntoboase maternity home at Atiakama Nkwanta which was in poor state. Because of the poor road condition in these areas, travel time was longer. The travel time for the journey from Atiakama Nkwanta to Oda government hospital was longer than from Akroso to the same place even though Akroso was further away. Due to the poor road condition and lack of transportation on regular and frequent basis to Oda, patients from these facilities were referred to Assin Foso, which is about 25 km. away or to Akwatia for emergency care.

4.4 TRAINED HEALTH PERSONNEL.

All the facilities that provided obstetric care had at least one trained midwife. Achiase, Akroso, and Swedru Catholic Mission Clinic however, had 2 midwives each. The Oda hospital had 12 midwives, 1 obstetrician/gynaecologist and 8 medical officers. There were 17 other trained midwives however, at other departments in the hospital, example the female and children wards, dressing room and the out patient department (OPD).

The Oda hospital had all the categories of trained personnel needed to provide comprehensive EsOc. There were 2 nurse-anesthetists, 2 theatre-attendants and an obstetrician.

4.5 EQUIPMENT AND SUPPLIES.

In the labour room of the Oda hospital, there was one vacuum extractor, which had not been functioning at the time of the study for over a month, and 2 sphygmomanometers of which one was malfunctioning. The key drugs needed were available and adequate. There were 2 cylinders of oxygen. Oxytocic and anticonvulsant in the form of diazepam and magnesium sulphate were available and adequate. The rest of the items on the checklist needed in the labour room were all available, adequate and functioning. (see appendix A) On laboratory equipment there was adequate equipment. Reagents needed in the blood bank were available and adequate with 300 blood bags even though there was only 50 bags of blood available. On storage facilities, there were 3 fridges but 2 of them were not functioning. The bigger fridge with a capacity for storage of about 250 bags of blood had broken down for over 5 years. In the operating theatre there were 3 caesarian section sets and 2 laparotomy sets.

In the labour room of the maternity homes, all had IV infusion sets except one which claimed it had run out of stock the previous day. All had IV fluids and had at least one functioning sphygmomanometer except one, which had none. None of the maternity homes had curettes in their facilities. With the exception of one of the maternity homes, the rest had sutures and needles needed to repair episiotomies and perineal tears when they occurred.

The rest of the facilities; 6 government clinics and 1 mission clinic, all had in their labour rooms IV infusion sets and fluids. Five of them had vaginal speculum. Three of the

clinics had no sutures and needles for suturing purposes. In the labour rooms of two of the clinics, the sphygmomanometers available were not functioning so they had to borrow from the out -patient department.

4.6 SERVICES PROVIDED.

All the eight signal functions needed to identify the EsOc status of the Oda Government Hospital as a comprehensive facility were available and performed during the year under consideration. (Ref table 2)

None of the private maternity homes provided all the six signal functions needed to identify the EsOc status of a facility as providing basic EsOc. One of them performed four of the six signal functions. All the facilities provided parenteral oxytocic, two of them gave parenteral antibiotics and also sedatives in the form of diazepam.

None of the clinics available provided all the six selected signal functions needed to identify the facility as providing basic EsOc services. Only one provided three of the items. Four of them provided the service of manual removal of placenta while two of them provided the service of removal of retained products as manual vacuum aspiration.

None of the clinics performed assisted vaginal delivery such as vacuum extraction, since none of them had vacuum extractor or trained personnel.

Table 2 Signal functions provided by basic EsOc facilities

	Maternity Home A	Maternity Home B	Maternity Home C	Maternity Home D	Clinic 1	Clinic 2	Clinic 3	Clinic 4	Clinic 5	Clinic 6	Clinic 7
Parenteral Antibiotics*	NO	YES	YES	NO	NO	NO	YES	NO	NO	NO	NO
Parenteral Oxytocic	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Sedative Anticonvulsant	NO	NO	YES	YES	NO	YES	NO	NO	NO	NO	YES
Manual Removal of Placenta	NO	NO	NO	NO	YES	NO	YES	YES	NO	YES	NO
Removal of retained products	NO	NO	YES	NO	YES	YES	NO	NO	NO	NO	NO
Assisted vaginal Delivery.	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

KEY

Maternity	A	Paulina Maternity Home
	B	Mawuli Maternity Home
	C	Emmanuel Maternity Home
	D	Ntoboase Maternity Home
Clinic	1	Achiase Health Centre
	2	Akroso Health Centre
	3	Asene MCH/FP Clinic
	4	Catholic Mission Clinic
	5	Akenkausu Community Clinic
	6	Aperade MCH/FP Clinic
	7	Manso MCH/FP Clinic

4.7 HEALTH FACILITIES AND TRAINED PERSONNEL WITH LIFE SAVING SKILLS.

Table 3 Health facilities and Personnel with Life Saving Skills

Health Facility	Personnel with skills for manual removal of placenta	Performance of Manual Removal of Placenta (MRP)	Personnel with skills for manual vacuum aspiration	Performance of manual vacuum aspiration (MVA)
ODA HOSPITAL	15	YES	12	YES
MATERNITY HOME A	1	YES	NIL	NO
MATERNITY HOME B	1	NO	1	NO
MATERNITY HOME C	1	NO	1	YES
MATERNITY HOME D	NIL	NO	NIL	NO
CLINIC 1	1	YES	1	YES
CLINIC 2	NIL	NO	2	YES
CLINIC 3	1	YES	NIL	NO
CLINIC 4	1	YES	NIL	NO
CLINIC 5	1	YES	NIL	NO
CLINIC 6	1	YES	NIL	NO
CLINIC 7	NIL	NO	NIL	NO

In some of the facilities shown in table 3 there were no trained personnel with life saving skills such as manual removal of placenta or manual vacuum aspirations. Seven out of the 12 (58%) facilities had no personnel with manual vacuum aspiration skills, an important life saving skill for the management of complications of abortions such as incomplete abortion. Some facilities however, had trained personnel but the procedure was not being performed because they claimed nobody reports with conditions requiring

such procedures, while others reported they did not have the necessary kits for the procedure.

4.8 IN-SERVICE TRAINING

The government facilities had at least 2 refresher training sessions for the staff on reproductive health in 1999. The private maternity homes generally had no refresher training sessions except for one staff who joined the government staff on a course in family planning and use of manual vacuum aspirator in 1997.

4.9 RECORD KEEPING.

The government hospital kept records of obstetric complications attended to. In the other health facilities records were incomplete as some complicated cases referred to them could not be taken care of due to the unavailability of equipment or trained personnel. Such complicated cases were immediately also referred to the next level, and not entered in the registers thus making it difficult to evaluate the performance of such facilities and the type of complications seen there.

Table 4 Total Number of Deliveries For 1999

Facilities	Total Deliveries	Normal Vaginal Deliveries	Caesarean Section
ODA HOSPITAL	1094	942	152
MATERNITY HOME A	62	62	
MATERNITY HOME B	27	27	
MATERNITY HOME C	65	65	
MATERNITY HOME D	79	79	
CLINIC 1	269	269	
CLINIC 2	174	174	
CLINIC 3	29	29	
CLINIC 4	285	285	-
CLINIC 5	67	67	-
CLINIC 6	89	89	
CLINIC 7	13	13	-
TOTAL	2253	2101	152

Caesarean Sections.

Caesarean sections were performed only in Oda Government Hospital for the year under consideration. There were 152 caesarian sections performed out of the 1094 deliveries in the hospital.

Caesarian sections performed in the hospital constituted 14% of total deliveries:

$$\frac{\text{Total No. of C/S performed}}{\text{Total No. of deliveries in hospital}} \times 100 = \frac{152 \times 100}{1094} = 14\%$$

Chapter Five

DISCUSSION

5.1 INTRODUCTION

Information on the study of the availability of essential obstetric services in the Birim South District and factors which affect the availability of services will be of use to health managers and planners not only to assess the availability but also how to improve on the availability of EsOc.

5.2. NUMBER OF FACILITIES ABLE TO PROVIDE EsOc SERVICES

The number of facilities in the district, 1 comprehensive and 11 basic EsOc meets the minimum acceptable level. With the exception of Oda Government Hospital which could provide full comprehensive EsOc, none of the 11 basic EsOc facilities could provide all the services required to identify a facility as providing basic EsOc. It can thus be said that apart from the district hospital no facility in the district provided full basic EsOc services. There is the need therefore to upgrade the existing services to meet the signal functions. This will ensure prompt management of complicated cases and reduction in the number of referrals and delays in attending to complications thus, help reduce maternal mortality.

In a study by Djan et al, (1994) an inventory checklist used to evaluate Juaben Teaching Health Center (JTHC), revealed shortages of basic drugs, equipment and supplies such as

lack of surgical facilities and blood transfusion equipment. Material improvement in the form of upgrading the existing facility was made by converting 3 existing rooms into a surgical suite: one room was converted into a changing room, one into a sterilization and scrubbing area and one into an operating room. The study showed that there is no need to wait for long periods to establish sophisticated health institutions at unaffordable cost before tackling obstetric problems. (30)

5.3 GEOGRAPHICAL AND FINANCIAL ACCESSIBILITY.

Meeting the maximum acceptable level of EsOc does not mean that all women necessarily have access to EsOc. In very difficult terrain, where the population is sparsely populated over vast areas with few roads, more than the minimum number of EsOc facilities might be needed to make them reasonably accessible to women in need (1).

Poor roads, scarcity and irregularity of means of transportation and relatively high fares and poverty had made some of the facilities inaccessible and unaffordable. Referrals from Atiakama Nkwanta, Aperade and Akenkausu most often had to wait for as long as two hours or more before obtaining means of transportation to the referral centre. The poor road condition further delays reaching the referral centre, thus the journey from Atiakama Nkwanta, which is supposed to take less than an hour took two hours or more. Time is crucial in the survival of women with obstetric complications. It is estimated that the average interval from onset to death in major obstetric complications such as post-partum haemorrhage in the absence of medical intervention is 2 hours. (1) Since the journey

alone from these places to the referral centre is two hours, most of the referred cases either arrived there in worse condition or died before reaching the hospital.

A study conducted by Senah. et al, (1995) in Pakro near Nsawam, revealed that four factors constrained women from seeking emergency obstetric care. Geographical inaccessibility and financial affordability, perception of transport owners concerning women in labour, incapability of local healthcare providers to manage obstetric complications and attitude of staff at the hospital and maternity homes. (31)

The cost of transportation to the facilities during emergencies can be a barrier to access since during these periods charges are inflated because it's an emergency, as women are in labour. Prices are inflated 8 times or more. The high cost of transportation often deterred people from taking prompt decision to go to the hospital, even when a vehicle was readily available since patients were unwilling to pay such high fares or had to raise funds to pay. This contributed to delay in seeking care. Table 5 compares normal transportation cost to that of emergency transportation from the various health facilities where referrals are made to Oda Government Hospital.

Table 5 Cost of transportation from the various health facilities where referrals are made to Oda Government Hospital.

Health Facilities	Normal Charge (cedis)	Emergency charge.(cedis)
Achiase Health Center	1,000	7,000
Akroso Health Center	1,200	10,000
Catholic Mission Clinic (Akim Swedru).	500	4,000
Asene MCH/FP Clinic	400	3,000
Manso MCH/FP Clinic	500	4,000
Ntoboase Maternity Home. (Atiakama Nkwanta)	1,500	12,000
Aperade MCH/FP Clinic	1,500	12,000
Akenkausu Community Clinic	2,000	15,000
Emmanuel Maternity Home. (Asuosu)	1,200	10,000
Paulina Maternity Home (Oda).	500	1,500
Mawuli Maternity Home (Oda)	500	1,500

Focus group discussions for transport owners at Pakro, showed that transporting patients with obstetric complications involves three major risks:

- (1) the vehicle is likely to return empty after taking the sick person to hospital;
- (2) the woman in labour may deliver in the vehicle, in which case some cost is involved in the clean up; and
- (3) the woman in labour may die in the vehicle, in which case elaborate and expensive purification rites must be performed.

From the perspective of drivers these costs must be worked into any charge for transporting obstetric emergencies. (31).

A study conducted by Shehu et al, (1995) in Kebbi State North-western Nigeria, demonstrated that it is possible to mobilize community drivers to provide timely and affordable transport of women with obstetric complications to emergency care. It was possible to mobilize transport owners and institute a transport system, that conveyed women to health facilities more quickly and at lower cost than before the intervention. (32).

The cost of supervised deliveries also makes EsOc inaccessible. The cost of a normal delivery in a hospital or clinic is ₵28,000 while that at the TBA is much less and could be deferred till the patient and relatives were able to settle the bill. Having a caesarian section cost ₵275,000 or more depending on the services provided. In addition to this, clients are expected to pay various fees (often unauthorized) for items such as mackintosh, bleach, toilet rolls and buy sanitary towels from the health facility.

5.4. TRAINED HEALTH PERSONNEL.

Only 3 (27.3%) out of the 11 facilities that provided basic EsOc had more than one midwife. This probably could account for low attendance in such places since there could be delays with one midwife attending to more than one woman in labour, or with complications. In Oda government hospital where comprehensive EsOc is provided there were 12 midwives in the maternity ward. There were 17 other staff members with midwifery skills who were not practicing midwifery, but performing other jobs like

working in the children's ward and out-patient department. This is really waste of human resources considering the inadequate number of staff at the various health facilities. To help improve this situation there will have to be redistribution and deployment of staff, so that there will be at least 2 midwives at each basic EsOc facility.

Inadequacy of staff, drugs and equipment and their limitations in providing services were some of the reasons for referral to the district hospital. Some of the reasons obtained during interviews with the heads of the health facilities were:

"because there is no doctor and we cannot do vacuum."

"I don't have the syringe for MVA even though I have been trained, what is more nobody comes here with such a condition".

"I cannot do manual removal of placenta since I have not been trained."

The inadequacies with availability could be reasons for the high maternal mortality in the district.

Some staff have not been trained in life saving skills, as manual removal of placenta and manual vacuum aspiration. This situation existed because, as one nursing officer at the Oda government hospital puts it,

"you know at first, manual removal of placenta was a doctor's job, it is now that we are being trained to do that, but we have not all been trained yet because the training is in batches and according to the availability of funds, so far we've had 2 batches trained since 1990 and 1994. There has not been any more training since then, it is a national

problem with money, what is more some of the trained personnel might have been transferred and new midwives have been posted there who have no such skills."

The importance of training staff to handle obstetric complications cannot be overemphasized. In a study by Djan et al, (1994) at the Juaben Teaching Health Center (JTHC), the training of 2 midwives in life saving skills, and the posting of a medical officer to the health center increased the number and type of procedures performed from 23 cases in 1993 to 63 in 1994, nearly triple the number in the previous year. (30)

In another study by Olukoya et al, (1995) at the state hospital Ota in Ogun State Nigeria, refresher training in reviewing obstetric life saving skills and other knowledge related to obstetric care for doctors and nurses increased the number of women with obstetric complications coming to the hospital from 55 in 1994 to 91 in 1995. (33)

Staff members should therefore receive regular in-service training to improve and upgrade their skills in providing EsOc.

5.5 EQUIPMENT AND SUPPLIES.

Reports from many parts of the developing world have shown that hospital factors contribute to high rates of maternal mortality. Lack of equipment and supplies or malfunctioning equipment necessary for management of obstetric emergencies plagues health facilities in most developing countries. There is little question that this situation is due in part to the very real issue of limited resources but this is often perpetuated by poor management and organization of available resources. The managers of the hospitals often have no resources at all to effect the simplest of repairs on the available equipment. Sensitive equipment often is left unused for a long time because of minor faults. Over

the years the managers, probably out of frustration, may become insensitive to the problems of their patients who in turn may decide to keep away from the hospital. (34).

From the study conducted, the vacuum extractor at the Oda hospital has not been functioning for over a year, and from discussions with staff at the hospital it did not seem that attempts were being made to repair it. The problem could be a minor one such as building up pressure in the equipment or a faulty gauge, which will require few hours of repair, but this has not been done. Vacuum extraction which can be life saving and thus reduce maternal mortality could thus, not be performed.

The refrigerator at the blood bank in Oda government hospital has not been functioning for over 5 years! This has a capacity for storage of 250 bags of blood compared to the one functioning, which can store only 50 bags of blood.

During the last maternal mortality audit meeting held on 21-July-2000 it was clear that 4 (44%) out of the 9 maternal deaths for the first half of the year (Jan-June) were all due to haemorrhage. Blood type was not available for 2 of them and 2 died even before they could be transfused. This is comparable to the 35% hospital maternal deaths in rural Tanzania due to difficulty of obtaining blood. (26). The blood donation organizer attributes the inadequate blood supply to lack of storage facilities. His problem is how to store the blood when he organizes blood campaigns.

Other equipment like sphygmomanometers were malfunctioning in some health facilities. Hospital equipment should be maintained and repaired promptly so as to improve the service of EsOc and increase the number of supervised deliveries.

5.6 RECORD-KEEPING.

Data on obstetric complications are the basis for monitoring maternal mortality interventions. A review of record keeping procedures from the health facilities in the study showed that, information on obstetric complications were unrecorded or missing.

Records provide visible evidence of what the facilities were accomplishing. Where the records were accurate and complete they furnished a basis for evaluating hospital activities. On the other hand, if they were inaccurate or incomplete proper evaluation was difficult. Good record keeping helped to identify the type of complications being seen and their needs. It helped in the sharing of resources in an equitable manner by taking peoples needs into consideration. Record keeping systems could improve considerably if the necessary mechanisms were put in place and supervised. Staff training is an invaluable component of this process.

There should be monthly and quarterly supervisory and monitoring activities by the District Health Management Team to put staff at the health facilities on the alert and increase their desire to improve their performance. Cooperation across staff levels and management's support for the Records Unit are also important.

5.7 SERVICES PROVIDED.

Limitations of the available trained staff in performing functions essential for obstetric complications created problems. The care provided in the basic EsOc facilities was judged to be far from adequate, for anything beyond normal delivery. Life saving skills as manual removal of placenta and manual vacuum aspiration could not be performed in most of the health centers and clinics. This led to lack of confidence in staff.

Hospital bureaucracy and the inpatient attitude of staff were also barriers to seeking obstetric care. The interviews with some heads of the health facilities revealed that poor interpersonal relationships between staff and patients deterred women from seeking care from the health facilities. Shortage of trained health personnel resulted in overworking the available staff, who ended up performing the duties for 3 staff members. This lowered their motivation to work and thus affected the quality of care given.

5.8. IN-SERVICE TRAINING.

Regular in-service training is very necessary to improve the skills of personnel and build their confidence. There is the need to involve the private health facilities in the prevention of maternal mortality since quite a number of pregnant women patronize their facilities; they need to have the opportunity for in-service training.

A study conducted by Ikeme et al., (1992) in 11 facilities providing obstetric services in Anambra State, Nigeria showed that involving private midwives and their aides in training programs on the recognition and management of obstetric complications was received with co-operation and warmly welcomed. The confidence and skills of staff improved as was shown from the scores of the trainees. The proportion of those obtaining a pass mark increased substantially from 33% before training to 61% after just the classroom theoretical training and to 77% after the practical training. (35)

5.9 PROPORTION OF CAESAREAN SECTION PERFORMED.

Caesarian sections performed by the Oda Government Hospital as a proportion of the total number of deliveries was 14% for the year under review. This could have been higher considering those who could not make it to the hospital and died on the way. The indication for some of the caesarian sections could have been avoided if the broken down vacuum extractor had been functioning.

Chapter Six

CONCLUSIONS AND RECOMMENDATIONS

6.1 CONCLUSIONS.

There is little doubt that upgrading health facilities in the quest to bring down maternal mortality is a step in the right direction. Women with obstetric complications will seek institutional care if the services are available and reasonably accessible.

In the Birim South District there were 12 health facilities that provided obstetric services. Eleven out of the twelve facilities provided basic EsOc but none of them could provide the full range of signal functions needed to identify a facility as providing basic EsOc. Most of them provided nothing beyond normal delivery. Complicated obstetric cases could not be handled at all these facilities and had to be referred to the hospital.

Life saving skills such as manual removal of placenta and manual vacuum aspiration could not be performed by most of the health facility staff providing basic EsOc. The factors found to be associated with availability of EsOc were lack of trained health personnel due to inappropriate distribution and inadequate number of trained staff, and unavailability of the required equipment or malfunctioning equipment at the facilities. Other contributing factors were financial affordability and geographical inaccessibility.

Improvement in services is expected to have direct impact on the survival of women with obstetric complications who go there. Once the population knows the availability of services have improved it is anticipated that the number of women going to the health

facilities will increase supervised deliveries, and thereby help reduce maternal mortality. Once services become available, community education and information activities will enhance utilization.

6.2 RECOMMENDATIONS.

In the light of the findings from the study, the following recommendations are being proposed to the District Director of Health Services, Birim South District to enable the district provide the needed essential obstetric care services.

1. There is the need to upgrade services in the district to meet the required signal functions. This will mean providing each institution with trained and skilled personnel in life saving skills, as manual removal of placenta and manual vacuum aspiration.
2. Staff should be redistributed and deployed to places where their services are most needed. This can be achieved by posting all midwives in the district to places where they will be practicing midwifery, and attempts should be made to remove them from places where they are performing other jobs than their speciality of midwifery.
3. The required hospital equipment should be provided and regularly maintained. In this regard there is an urgent need to repair or replace the broken down refridgerator at the blood bank to create more storage facilities for blood. Blood donor policy should be instituted where families of all pregnant women will have to donate a pint of blood on their behalf. This will augment the quantity of blood available at any given time since there were periodic shortages. All the

other malfunctioning equipment like the vacuum extractor and sphygmomanometers should also be repaired or replaced.

- 4 All midwives should be trained in life saving skills. I suggest that all current midwives in the district should have the opportunity for in-service training to upgrade their skills. The district should have need assessment done on all midwives to be posted to the district. This is to enable the district identify the skills required by the midwives and provide the appropriate training to make them proficient. Life saving skills should also be incorporated in the curriculum of training of all midwives.
- 5 Since the cost of supervised deliveries is more expensive than antenatal care the District Director of Health Services in collaboration with the District Assembly should consider formulating a policy on revenue collection in line with the Ministry of Health exemption policy with the view to :
 - make it free for those who can't pay
 - subsidize for those who can only afford part, and/or
 - make terms for payment more flexible .
- 6 There should be regular monitoring and supervision of staff, to improve performance and ensure also that record-keeping is maintained in all facilities so that advances made and problems encountered on the ground are properly documented and addressed.
- 7 There should be regular monthly maternal mortality audits as well as an in-depth study of the causes of death and find ways to prevent them.

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APPENDIX A**Supervision checklist for Hospital.**

	Quantity and units.	Comments (Eg. ,reasons for non-availability
Trained Personnel Doctors\obstetricians Nurse\midwives Anaesthetist Theatre attendant		
Key Drugs. Oxytocics Anticonvulsants Procaine penicillin Crystalline penicillin Gentamycin Metronidazole Ampicillin Local anaesthetics General anaesthetic Oxygen		
Labour Room Vacuum extractor IV infusion sets		

IV fluids		
Ovum forceps		
Vaginal speculum		
Artery forceps		
Needles		
Sutures		
Syringes		
Sterilizer		
Scissors		
Curette		
Sphygmomanometer		
Laboratory equipment		
Microscope		
Test tubes		
Slides		
Blood Bank		
Blood bags		
Anti-sera		
Storage capability		
Operating Theatre		
C-section set		
Laparotomy set		
Neonatal intubation set.		

Supervision Checklist for Health Center and Clinics.

	Quantity and units	Comments (Eg., reasons for non-availability)
Trained Personnel Trained health worker Nurse/midwives		
Key Drugs Oxytocics Anticonvulsants Penicillin Gentamycin Metronidazole Ampicillin		
Labour Room IV infusion sets IV fluids Ovum forceps Vaginal speculum Artery forceps Needles Sutures Syringes Sterilizer		

Scissors		
Curette		
Sphygmomanometer		
Laboratory equipment		
Test tubes		
Slides		

APPENDIX B

FORM 2

ESSENTIAL OBSTETRIC CARE (EsOc) FACILITY REVIEW.

12-month period under review: ----- through -----

Facility's possible EsOc Status : Facility's actual EsOc Status.

To be done at area level before

To be done at facility level

Completion of this form.

After completion of this form

Circle one

Circle one

Comprehensive EsOc

Comprehensive EsOc

Basic EsOc

Basic EsOc

1.Name of facility -----

2.Location of facility -----

3.Contact information -----

If no data at all are available at this facility, check here: ----(skip to last page and sign.)

4.Type of facility: a) Hospital----- b) Maternity-----c) Health Centre

(Check one) d) Clinic-----e) other (specify).

5.Type of operating agency: a) Government-----b) Private-----

(Check one).

6.Total deliveries during 12-month period-----

7.Normal deliveries during 12-month period-----

8.Caesarean sections during 12-month period-----

Check Yes or No for each of the following items.

9. Were the following services performed at least once during 1999?	Yes	No	Do you have the logistics \personnel
a) Parenteral antibiotics			
b) Parenteral Oxytocics			
c) Parenteral sedatives\anticonvulsants			
d) Manual removal of placenta			
e) Removal of retained products			
f) Assisted vaginal delivery			
g) Blood transfusion			
h) Caesarean section			

Determination of EsOc status

Use question 9. Check only one.

- If all of 9a-h = Yes, check:

-----COMPREHENSIVE EsOc.

- If all of 9a-f = Yes, **AND** 9g **OR** 9h=No, check:

I -----BASIC EsOc.

- If **ANY** of 9a-f = No, check:

-----NOT EsOc.

10. What sources of data were used to complete this form?

(Eg maternity ward register, delivery book, general admissions register, etc)

Quality of information:

11. In your informed opinion (from talking to staff, seeing the record system, etc.) what proportion of the complications treated in this facility are recorded on this form? (Check one) None----- Some---- Most----- All-----

12. Date of review: -----

13. Reviewed by: Name: -----

Title: -----

APPENDIX C**WORKSHEET 2A****COMPLICATED OBSTETRIC CASES DURING 12-MONTH PERIOD.**

Facility: -----

Period: -----to-----

Enter the number of each type of complicated case treated each month during the 12-month period using the grid below.

Complication. If more than one use the Most life threatening	Month (write in month below each number)											
	1	2	3	4	5	6	7	8	9	10	11	12
1.Haemorrhage (ante or post-partum)												
2.Prolonged\obstructed labour												
3.Post-partum sepsis												
4.Complications of abortion												
5.Pre-eclampsia\ eclampsia												
6.Ectopic pregnancy												
7.Ruptured uterus												
8.Monthly Totals.												

APPENDIX D

KEY INFORMANT INTERVIEW GUIDE.

This will be conducted on all heads of facilities where obstetric services are provided.

1. Do you perform manual removal of placenta? a) Yes b) No
b) Do you perform manual vacuum aspiration? a) Yes b) No
2. Do you have trained personnel for the procedures named above? Yes\No.
b) How many are they?
3. Give reasons why the procedures named above are not performed though trained personnel are available.
4. How do the communities know that you can perform the procedures named above?
5. How often are training sessions organized for staff.
When was the last one organized?
- 6 How far do your referrals come from?
Within a) 0-5 km b) 5-10 km c) more than 10 km.
- 7 How do you refer your clients? Explain.
- 8 Do you refer your clients with intravenous line in place in cases of PPH\APH?
Yes\No a) Always b) Sometimes c) Never.
- 9 Where do you receive your logistics? (Drugs, equipment etc.)
i) Medical stores

- ii) Pharmacy shops
 - iii) NGO's
 - iv) Others (specify).
- 10 How often do you receive these logistics?
- 11 When was the last time you received logistics?
- 12 What do you think are some of the reasons for unavailability of EsOc services?
- 13 What recommendations do you have for improving the availability of services?

Thank You.

APPENDIX E

Definitions

Availability is the percentage of time that the resources (personnel, equipment, drugs, etc) required to provide a service were available.

Maternal death The world health organization defines maternal death as the death of a woman while pregnant or within 42 days of termination of pregnancy irrespective of duration or site of the pregnancy from any cause related to or aggravated by the pregnancy but not from accidental causes.

Working definition of a complicated obstetric case:

Haemorrhage: antepartum or postpartum

Prolonged\obstructed labour

Postpartum sepsis

Complications of abortion

Pre-eclampsia\ eclampsia

Ectopic pregnancy

Ruptured uterus

Note: if a woman has more than one of these complications, the most immediately life-threatening one should be selected.