KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY, KUMASI

DEPARTMENT OF COMMUNITY HEALTH

SCHOOL OF MEDICAL SCIENCES

What Factors are Influencing the Utilization of Skilled Delivery Services in the Offinso South District of Ghana?

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A COMMUNITY SURVEY ON THE FACTORS INFLUENCING THE UTILIZATION OF SKILLED DELIVERY SERVICES IN THE OFFINSO SOUTH DISTRICT OF GHANA

BY

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DECLARATION

I hereby declare that, except for specific references which have been duly acknowledged, this work is the result of my own field research and it has not been submitted either in part or whole for any other degree elsewhere.

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DEDICATION

To: My wife Adwoa Afrakoma and our three beautiful kids whom God has been generous enough to give us. I dedicate this book for their love and support through all these years and particularly during the duration of this course.

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DEFINITION OF TERMS

Maternal death

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

Maternal mortality ratio

Number of maternal deaths during given time period per 100 000 live births during same time period.

Maternal mortality rate

Number of maternal deaths in given time period per 100 000 women of reproductive age, or woman-years of risk exposure, in same time period.

Lifetime risk of maternal death

Probability of maternal death during a woman's reproductive life, usually expressed in terms of odds.

Skilled health worker

An accredited health professional - such as a midwife, doctor or nurse - who has been educated and trained to proficiency in the skills needed to manage normal uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of complications in women and newborns"
(World Health Organization, 2004).

Skilled attendant

A professional care giver who possesses the knowledge and a defined set of cognitive and practical skills that enable the individual to provide safe and effective health care during childbirth to women and their infants in the home, health centre, and hospital settings. Skilled attendants include midwives, doctors, and nurses with midwifery and life-saving skills.

Skilled attendance

The process by which a pregnant woman is provided with adequate care during labour, birth, and the postpartum and immediate newborn periods. In order for this process to take place, the attendant must have the necessary skills and must be supported by an enabling environment at the domiciliary, primary (health centre), or first referral (hospital) levels which includes adequate supplies, equipment, and infrastructure, as well as an efficient and effective system of communication and referral/transport.

Traditional birth attendants (TBA)

The term TBA refers to traditional, independent (of the health system), non-formally trained and community-based providers of care during pregnancy, childbirth and the postnatal period (World Health Organization, 2004).

ABBREVIATIONS /ACRONYMS

ANC	Antenatal Care
DHMT	District Health Management Team
DHS	Demographic Health Survey
GDHS	Ghana Demographic and Health Survey
GES	Ghana Education Service
GHS	Ghana Health Service
GSS	Ghana Statistical Service
JSS	Junior Secondary School
KVIP	Kumasi Ventilated Improved Pit Latrine
MCH	Maternal and Child Health
MDGs	Millennium Development Goals
NHIS	National Health Insurance Scheme
NMIMR	Noguchi Memorial Institute of Medical Research
RH	Reproductive Health
SMI	Safe Motherhood Initiative
SSS	Senior Secondary School
TBA	Traditional Birth Attendant
UN	United Nations
UNAIDS	Joint United Nations Program on HIV/AIDS
UNICEF	United Nations International Children's Fund
UNFPA	United Nations Population Fund
WHO	World Health Organization

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ABSTRACT

The fifth Millennium Development Goal (MDG-5) is to improve maternal health by targeting a reduction in maternal mortality ratios by 75% between 1990 and 2015, and increasing the proportion of all births assisted by skilled attendants to at least 90% globally by 2015. Progress towards these targets seems to have slowed down and even stagnated in many parts of Sub-Saharan Africa where many women continue to deliver at home without skilled assistance. The Ghana Demographic Health Survey (GDHS) 1988-2003 reports for instance show that for over two decades, the percentage gain in skilled assistance was just six points, rising from 41% in 1988 to 47 % in 2003.
The Offinso District which lies in the Ashanti region of Ghana has observed rising trends in its maternal mortality ratio (MMR) figures over the past three years with a steady decline in the proportion of ANC attendants who deliver in health facilities and thus receive skilled assistance. Marternal Mortality Ratio has risen from 140/100 000 in 2004 to 210/100 000 in 2006 and skilled attendance has declined from 92% to 81% over the same period.

To determine the factors influencing the utilization of skilled delivery services in the Offinso district of Ghana and identify the barriers that pregnant women encounter in their bid to access delivery.

A descriptive cross sectional study was done between September and October 2008 by administering a structured questionnaire to 400 women between the ages of 15-49 years who had delivered within 12months prior to the survey. Socio-demographic, household level, community, pregnancy care and delivery related factors were collected and analysed.

A majority, (97%) of respondents attended ANC at least once, and another 80% of them attended four times or more. Only 63% had skilled assistance at delivery with the rest delivering at home. Barriers cited include transportation (27%); money (23%); short labour (22%) and socio-cultural (11%). Urban residency, (contrast rural) odds ratio (OR)=4.32 (2.82-6.63); women with more than basic formal education, (contrast less) OR=3.55 (2.33-5.40); women living in proximity to a health facility, (contrast living afar) OR=3.60 (1.90-6.72); with relatively higher income (compared to lesser) OR=7.10 (3.7-13.7) and respondents who paid four or more ANC visits during pregnancy (in contrast to those who paid fewer) OR=8.52 (4.8-15.1) all showed statistical association with the utilization of skilled assistance during labour.

ANC coverage is high but delivery care coverage has stagnated at 61% since 2003 GDHS. There are still significant rural urban disparities, and women with lower education, lower monthly earnings and living far from health facilities face challenges accessing skilled care and hence deliver at home. Transportation, money and socio cultural barriers need to be overcome to improve delivery care coverage in district.

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background Information

Over 529,000 women are estimated to die annually worldwide from complications of pregnancy and childbirth.

An additional estimate of over 300 million women in the developing world are believed to be currently suffering from short-term or long-term illness brought about by pregnancy and childbirth. (UNFPA, WHO, 2004)

Most of these maternal deaths occur in poor countries in Africa and Asia with less than 1% of these maternal deaths occurring in high-income countries.

Maternal mortality is highest by far in sub-Saharan Africa, where the lifetime risk of maternal death is 1 in 16, compared with 1 in 2800 in rich countries. .

Three quarters of all maternal deaths are known to be due to direct obstetric causes such as hemorrhage, abortion, sepsis, and ruptured uterus and hypertensive diseases of pregnancy.

Ironically the medical solutions for most of these identifiable causes of deaths and other disabilities attributable to childbirth are well known and preventable!

‘‘Timely and effective professional care during pregnancy, labour and post-delivery makes the difference between life and death for both mothers and their newborns.’’ (WHO, 2005)

This unacceptably high burden of death and disability in women of reproductive age, informed the international community’s inclusion of the Improvement of Maternal Health as one of the eight Millennium Development Goals (MDGs).

Goal five, (MDG-5) which aims at improving maternal health, has specific targets of reducing by three quarters the maternal mortality ratio between the years 1990 and 2015,

and to have more than 85% of deliveries assisted by skilled attendants globally by 2010 and 90% by 2015.

Ghana's adult lifetime risk of maternal death is at 1:45 with a maternal mortality ratio (MMR) estimated around 560 per 100,000 live births. (WHO, 2007)

This is very far from the MDG-5 target of 141 per 100 000 births by 2015.

The Ghana Demographic Health Survey (GDHS) 2003 report shows that a little more than 50% of women do not utilize health facilities but prefer home delivery services.

The survey showed that just 47 % of deliveries were assisted by skilled personnel.

Traditional birth attendants (TBAs) on the other hand assisted with 31%, and relatives or friends attended to 19% of all deliveries (GDHS 2003.).

1.2 **Problem Statement**

The proportion of births with skilled personnel in attendance is a proxy indicator for tracking progress in achieving MDG-5.

Although the evidence is quite circumstantial maternal mortality is generally lower in countries where mothers giving birth, have skilled professional care in attendance.

(Graham et al., 2001)

However, just about half of the world's mothers deliver each year with a skilled attendant, leaving more than 60 million women giving birth mostly at home and without skilled care. Between 11% and 17% of maternal deaths happen during childbirth itself and between 50% and 71% in the immediate postpartum period.

About 45% of postpartum maternal deaths are believed to occur during the first 24 hours, and more than two thirds during the first week. (WHO, 2005; UNFPA, 2004)

For optimum safety therefore, every woman, without exception, needs professional skilled care when giving birth, in a suitable setting close to her place of abode.

Such care is best provided for by a registered midwife or a health worker with midwifery skills, in first-level facilities.

This is known to prevent, forestall and solve many of the life-threatening difficulties that could arise during delivery, and thus reduce maternal mortality to low levels

However, personal communications and unpublished data from years 2004-2006 obtained from the Offinso District Health Directorate show that previous modest gains made by the district in set targets aimed at meeting MDG-5 were declining.

Table 1: Maternal health indices of Offinso District

INDICATOR	YEAR 2004	YEAR 2005	YEAR 2006
ANC REGISTRANTS	105% of set target	94% of set target	93% of set target
ASSISTED DELIVERY	92% of set target	84% of set target	81% of set target
MATERNAL MORTALITY RATIO	140:100,000	200:100,000	210:100,000

1.3 Rationale of Study

Maternal mortality is generally lower in countries where mothers giving birth have skilled professional care in attendance. *(*WHO, 2005.*)*

The history of successes and failures in reducing maternal mortality has shown that this is not a specious statistical association.

Sweden, in the late nineteenth century trained and deployed many midwives in order to promote skilled attendance at birth. This measure resulted in a precipitous drop in maternal mortality. (ABOUZAHR, 2000)

The Ghana government has since year 2005 put in place a policy that makes maternal services free of charge in all health institutions. The policy was first piloted in four of the most disadvantaged regions in 2003 and then extended nationwide in 2005.

Besides this the introduction of a National Health Insurance Scheme, (NHIS) in all districts was expected to reduce the financial burdens on all pregnant women and thus increase access to delivery services.

The anticipated synergistic effects of these two policies were to eliminate financial barriers that could hinder uptake of maternal services by women-especially the socio-economically disadvantaged, allow an increase in skilled attendance at delivery and thus reduce maternal and perinatal mortality.

The Ghana Demographic and Health Survey 2003 report on delivery service utilisation showed that there is a greater than fourfold difference in uptake of delivery care with a health professional between the poorest and richest quintiles.(GDHS, 2003)

Interestingly the existence of a health facility, particularly in relation to reproductive and sexual health is not a guarantee that the community will utilize it.

Other determinants of care seeking behavior by women come into play.

A mother’s education, socio-cultural, economic and religious background all play important roles.

User fees, interactions with service providers, transportation difficulties, and poor road networks are other well known barriers that could account for the underutilization of skilled delivery services in a community. (SMI 2004; UNFPA 2005.)

The Offinso experience shows that despite the minimization of probable financial barriers during delivery care, by the abolition of user charges and introduction of insurance schemes in the district, utilization of skilled delivery services is still low.

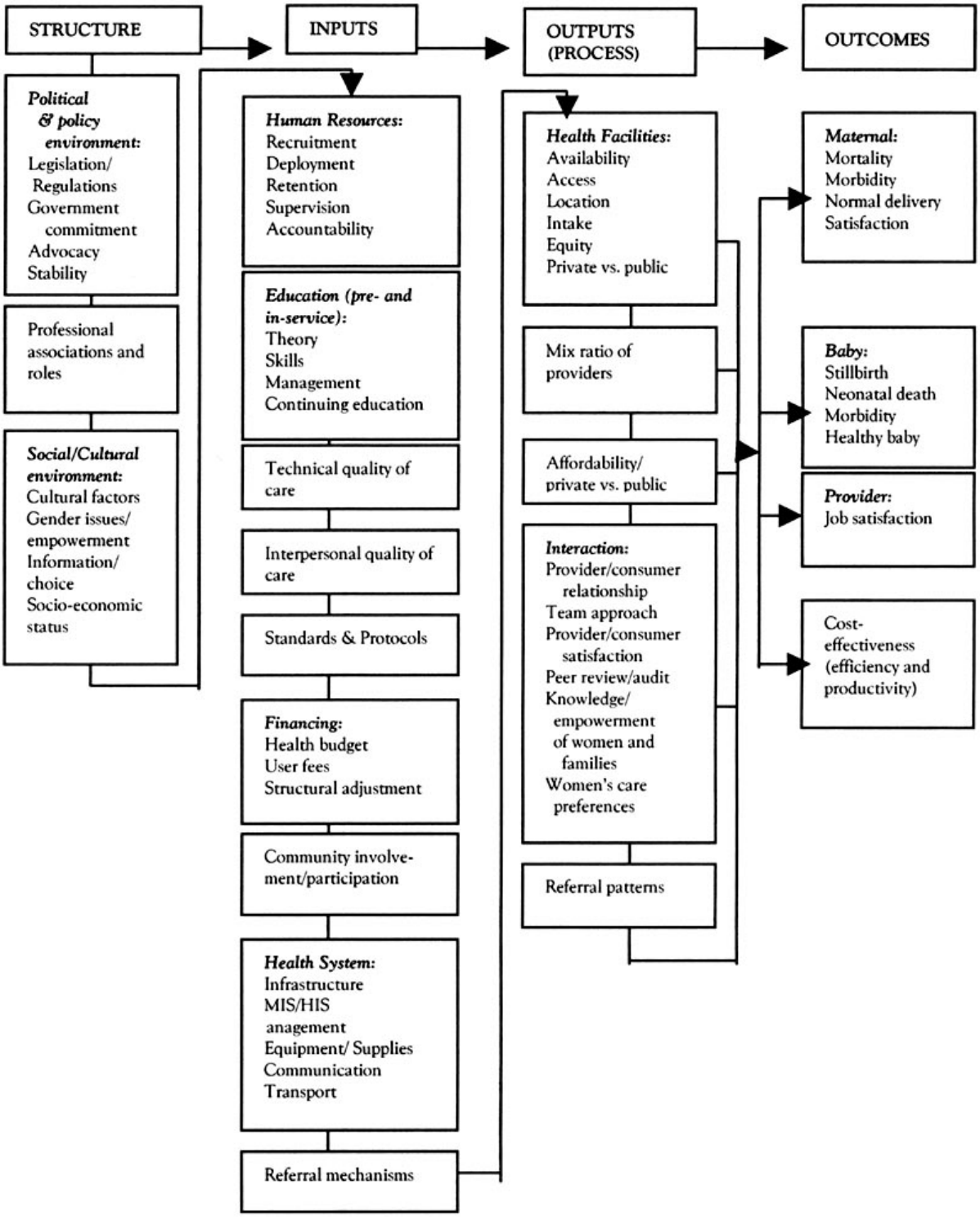
This trend, if it continues would be a serious drawback in the district's determination to meet set targets in pursuit of MDG-5.

In the specific case of the Offinso South District what are the factors contributing to the utilization of maternal delivery services?

A search of the available and published literature reveals that no such study has been done in the district and thus justifies why this study should be done to explore the reasons why most women still prefer not to deliver with skilled personnel in attendance.

This will help the district health directorate plan and target specific interventions policies and programs at identified groups of mothers who need to be persuaded to resort to the use of maternal delivery services in the district in order to reduce maternal mortality.

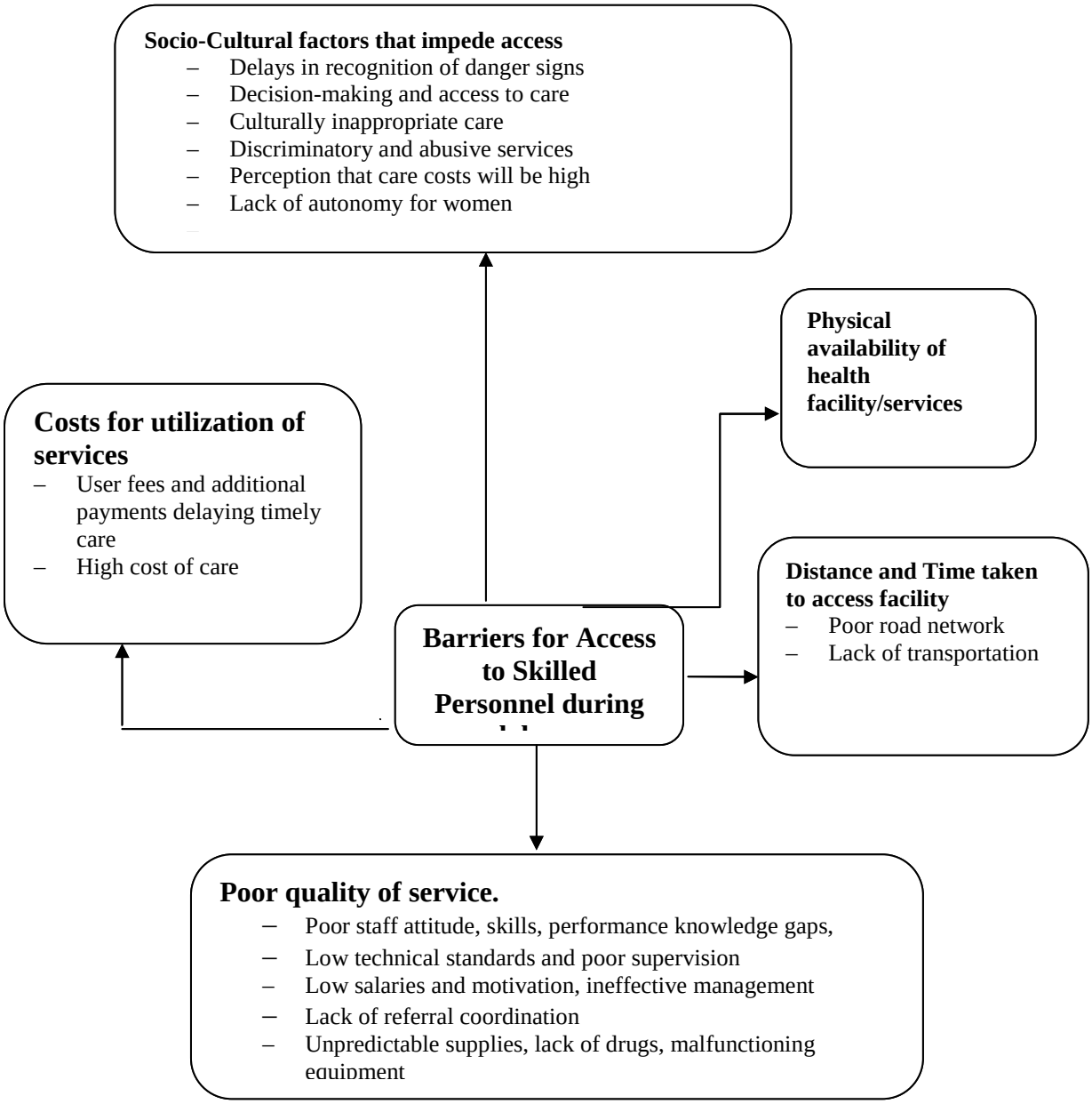
Figure 1: Conceptual Framework



Conceptual framework for skilled attendance at delivery

***SOURCE: Graham and Bell 2000a**

Figure 2:Schematic Diagram of Author's Conceptual Framework.



Conceptual Framework of Barriers to Accessing Care: Adapted from above by Author

1.4 Research Questions

In order to achieve the objectives given below the following research questions were formulated

- What proportion of women in the district utilized antenatal services during their most recent delivery?
- What proportion of women in the district made use of skilled attendants during their most recent delivery?
- What are the general characteristics of women who delivered at places with skilled delivery services?
- What are the barriers to the utilization of skilled delivery services?

1.5 General Objectives

- To determine the factors influencing the utilization of skilled delivery services in the Offinso district

1.6 Specific Objectives

- To determine antenatal care coverage in the district
- To find out what proportion of mothers who attended antenatal care during pregnancy utilized skilled delivery service during their last delivery
- To determine the proportion of births attended to by skilled personnel in the district
- To describe the socio-demographic characteristics of women who utilized skilled assistance during their most recent birth.
- To identify the barriers to the utilization of skilled delivery services in the district

1.7 Profile of Study Area

1.7.1 Introduction

Offinso District is one of the 21 districts in the Ashanti Region.

Area estimated at 1254.06sq km ≈5.2% total land mass of Ashanti Region. (GDHS, 2003)

Capital is New Offinso.

The 2000 Population and Housing Census showed that the District has a head count of 138,190 persons with a male: female sex ratio of 1:1.01.

Children under 15 years accounts for about (46.6%), and the economically active group of 15-64 years, (47%) .

The Ghana Demographic Health Survey (GDHS) report of 2003 shows that the average household size in the district is 5.5. Heads of the households are mainly male. In households where females are heads, it is either single or single parent household.

1.7.2 The People, Religion and Culture

The district is said to be homogeneous in terms of ethnic composition. The Asante ethnic group forms about 80% of the total district population. The remaining 20% are migrant groups from other ethnic tribes in the Northern, Upper West and Upper East regions of Ghana.

Akan culture dominates in the district although the migrant settlers from the north also practice their culture alongside the Akan traditions and culture. According to the 2000 Population and Housing Census report, there are three main religious groupings in the District.

Christians constitute (68%), Islam (15.9%) and Traditional African Religion (8.5%).

6.8% of the population do not subscribe to any of the above mentioned religious denomination.

1.7.3 Geography

The 2000 Population and Housing census show that Offinso has a rural-urban split of 57.8: 42.2 %.

The national criteria for rural: urban classification of localities is population based. A population size of 5000 or more is classified as urban and less than 5000 as rural.

Five of the 126 settlements are therefore urban, and the rest rural.

The urban localities are New Offinso (36190) Akomadan (14018) Abofour (11,177) Nkenkaasu (10,014) and Afrancho (7,727).

1.7.4 Infrastructure

The district is served by the main Kumasi-Techiman trunk road and a network of feeder roads. The Kumasi-Techiman road is the only tarred road in the district. Most of the feeder roads are hardly motorable especially during the rainy seasons when they develop gullies and become muddy although the road networks in the southern portions of the district are better than the northern portions.

1.7.5 Economic activities

About 64% of the labor force is engaged in agriculture depicting it as the major economic activity. This is followed by commerce 16%, service 12% and industry 8%.

A total land area of about 24,000 hectares is put under food crops production each year. An estimated 23,500 hectares of farmland lie fallow each year. Large tracts of fertile land thus remain uncultivated each year. Major crops cultivated in the district include cassava,

maize, plantain, vegetables, oil palm, cocoa, cashew and rice. Cocoa is exported outside the country through the Ghana Cocoa Board.

Small-Scale manufacturing industries like timber processing mills, carpentry, dressmaking, local beer brewing, corn milling, cassava processing and others play major role in the economic life of the district

1.7.6 Health and Health Services

There are 13 health care facilities in the district. They comprise government and mission hospitals, health centres and rural clinics. Nkenkaasu and St. Patrick's Hospital are the two hospitals in the district. Other health care centres are Akomadan Health Centre, Abofour Health Centre, AME Zion Health Care, Dorcas Memorial Clinic, Quality Care Clinic, Offinso District Assembly Maternity Centre, Anyinasuso SDA Clinic, Bonsua MCH/FP Centre, Nyamebekyere Clinic and Kyebi Clinic.

According to records of the District Health Directorate, 2005, the doctor-patient ratio is 1: 16,391 and the nurse-patient ratio is 1: 1,707, with only 60 percent of the population having access to health care facilities.

The District has instituted the District Mutual Health Insurance Scheme in line with the National Health Insurance Policy of the Government. This is aimed at improving access to affordable quality health care, and ensuring equity in health care delivery. In June 2006, for instance, the District Health Insurance registered and collected ¢601,247,904 as informed premiums with 10,901 patients benefitting from the Scheme.

Out of these 10,437 representing 92% were out-patients and 464 representing 8% were in- patients.

CHAPTER TWO

2.0 LITERATURE REVIEW

How to attain set targets in the United Nations fifth millennium development goal of improving maternal health, and ensuring universal access to reproductive health by 2015, remains perhaps the greatest developmental challenge for the developing world. Maternal mortality is highest in sub-Saharan Africa, where the lifetime risk of maternal death is 1 in 16, compared with 1 in 2800 in rich countries (UNFPA, 2004).

There is an estimated 529,000 women who die annually worldwide from complications of pregnancy and childbirth besides over 300 million more women in the developing world who are believed to be suffering from short or long-term illness brought about by pregnancy and childbirth, (UNFPA, 2004). This is unacceptable by any standards.

One of the most critical and important determinants of maternal mortality is how well national health systems function and ensure that every woman can be delivered by a skilled birth attendant (a nurse or doctor with midwifery skills), backed up by ready access to emergency obstetric care when unpredictable complications arise.

Besides the maternal mortality ratio, a second health-care indicator selected to monitor the “process” of reducing maternal mortality is the proportion of births attended to by skilled health personnel. The choice of this indicator was based on historical and observational evidence on the relationship between having a skilled health worker at delivery and the reduction of maternal mortality (Graham et al., 2001).

The proportion of deliveries attended to by skilled health personnel, is therefore a key indicator for the MDG-5 target of reducing maternal mortality.

It was agreed at the special session of the United Nations General Assembly in 1999, held for the five-year follow-up to the International Conference on Population and

Development (ICPD), that globally, 80%, 85% and 90% of all deliveries should be assisted by skilled health personnel by 2005, 2010 and 2015, respectively, (WHO, 2007).

Although worldwide estimates show that 63.1% of all deliveries are done by skilled personnel, there is a wide disparity between developed and developing countries.

Whilst virtually all deliveries in the developed world (99.4%) were assisted by skilled personnel only 59.1% of deliveries in the developing world were supervised by skilled personnel.

In Africa this figure dropped to 46.5%, and even declined further in the Western African region where only 39.6% had skilled delivery services-quite far from targets set for 2010, (WHO, 2007.).

Although Ghana's average was estimated by the 2003 DHS to be about 47% this is still well below set targets if MDG-5 can be attained by 2015.

AbouZahr C. *et al*, 2001, report in their review that although the evidence is quite circumstantial, because of the absence of unequivocal epidemiological evidence from scientific studies, the historical data however, clearly show that countries successful in reducing maternal mortality have emphasized the role of a professional midwife or doctor working in an enabling environment- a health institution-for successful maternal outcome during labour.

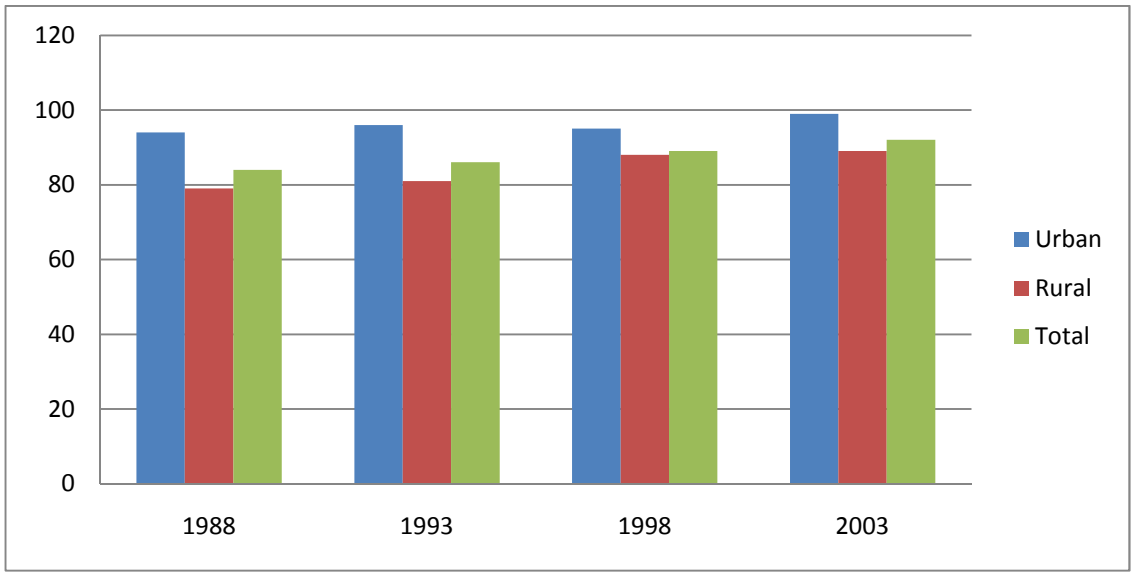
2.1 Antenatal Care Coverage

Antenatal (ANC) coverage is the proportion of women who made at least four antenatal visits during pregnancy provided by skilled health personnel for reasons relating to pregnancy among all women who gave birth to a live child in a given time period, (WHO, 2005).

Current worldwide estimates by the WHO and UNICEF, (2003), show ANC utilization to be around 70%. This approximates to the ANC coverage obtained for the Ghana DHS of year 2003 although there was a 61:84 percent rural: urban disparity, (DHS 2003).

Analysis of the 1988-2003 Ghana DHS by ORC MACRO, 2005 as depicted in figure below, shows modest gains in antenatal care coverage after a period of little change between 1988 and 1993. These gains were realized among both urban and rural women. However, rural women were less likely to receive antenatal care than urban women. For example, in 2003, the proportion of rural births for which the mother received no care during pregnancy was 11 percent, compared with 1 percent for urban births.

Figure 3: Percentage of women who received ANC by residence: Urban –Rural. Ghana DHS; 1988- 2003



Antenatal care simply means ‘‘care before birth’’ but nonetheless involves a complex package of interventions administered to pregnant women at organized health services.

The purpose is to prevent or identify and treat conditions that may threaten the health of mother and or foetus and newborn, and to help a woman approach pregnancy and birth as positive experiences.

The WHO recommended approach to ANC emphasizes the quality of care rather than the quantity and thus recommends for normal pregnancies just four ANC visits. During these visits the emphasis is placed on focused antenatal care and limits the component packages of care rendered to counselling, examinations and tests that serve immediate purposes and have proven health benefits. (VILLAR J. et al. 2001)

Focused ANC thus aims at helping women maintain a normal pregnancy through

- ✓ Identification of pre-existing health conditions
- ✓ Early detection of complications arising during the course of the pregnancy
- ✓ Health promotion and disease prevention
- ✓ Birth preparedness and complication readiness planning

These interventions in and on their own are not expected to have significant impact on maternal mortality but rather impact significantly on improving maternal health and accrue beneficially to the health and survival of the infant.

However the question begging for answers is whether ANC has any remarkable impact on maternal mortality?

The research findings to support or otherwise that antenatal screenings and interventions are effective in reducing maternal mortality are scanty and the conclusions contradictory.

For instance, COLLIN S., *et al*, (2007); in their review, show bias in the selection of controlled trials and systematic reviews that favour a clear correlation of antenatal interventions and reduction in maternal mortality, and thus concludes that maternal

mortality could be reduced in Sub-Saharan Africa by as much as 8% by a combination of micronutrient supplementation and presumptive treatment of infection during pregnancy!

VANNESTE A. *et al*, (2000) however, followed a cohort of ANC attendants till delivery in order to assess the effectiveness of prenatal screening exercises in predicting severe labor or delivery complications in Bangladesh. They conclude that antenatal screening by trained midwives fail to adequately distinguish between women who will need special care during labor from those who will not need such care. However the study showed that women who had an antenatal visit were four times more likely to deliver with a midwife than women who had no antenatal visit.

Similar conclusions are made by BLOOM S. *et al*., (1999) in urban Uttar Pradesh in India, ANWAR I. *et al* (2008) in Bangladesh- that frequent ANC influence choice of skilled care during delivery.

Similarly, AKAZILI J. *et al*, (2004) found in Northern Ghana that inaccessibility to ANC increases the odds of delivering without skilled personnel in attendance by 27 times and that increased ANC visits decreases the chance of delivering at home.

ABOU-ZAHR, C. and WARDLAW, T. 2003, in reviewing data from the DHS of 45 developing countries found that, there appears to be a consistent link between use of antenatal care and delivery by skilled personnel. Women reporting four or more antenatal visits are far more likely to have given birth with professional assistance than women reporting fewer visits.

The 2003 Ghana DHS report showed for instance that 59 % of women with four or more antenatal visits delivered with skilled assistance in a health facility in contrast to just 10%

of women who did not receive antenatal care delivering at a health facility with skilled personnel in attendance.

This strong positive association between antenatal care obtained during pregnancy and the use of skilled assistance during delivery, helps to explain why antenatal care could indirectly be associated with a reduction in maternal mortality.

Antenatal care therefore, has the potential to serve as a strategy for increasing the use of skilled delivery services at health facilities by pregnant women at delivery – a time during which most maternal deaths occur – and therefore, indirectly reducing maternal mortality in developing countries like Ghana.

2.2 Delivery Care

Place of delivery and Skilled Assistance received

The World Health Organization recognises and supports a variety of birth environments, in the context of an organised health system and skilled attendance, and has this to say;

"In developed countries and in many urban areas in developing countries, skilled care is usually provided in a health facility. However, birth can take place in a range of appropriate places, from home to tertiary referral centre, depending on availability and need, and WHO does not recommend any particular setting. Home delivery may be appropriate for a normal delivery, provided that the person attending the delivery is suitably trained and equipped and that referral to a higher level of care is an option" (UNFPA, 2004).

The International Conference on Population and Development (ICPD) held in Cairo in 1994 [United Nations, 1995], set international development targets for the indicator "proportion of deliveries with skilled attendants". This was echoed later in a Special

Session of the United Nations General Assembly in July 1999, (FULLERTON J. *et al.*, 2003).

By 2005, it was expected that where the maternal mortality rate is very high, at least 40% of all births should be assisted by skilled attendants; by 2010 this figure should be at least 50% and by 2015 at least 60%. Globally the targets set were, 80% of all births should be assisted by skilled attendants by 2005, 86%, by 2010, and 90%, by 2015.

The implicit goal of this recommendation is to ensure that normal deliveries are handled appropriately, with minimal interference, and also that complicated cases (whether predicted or not) are also managed effectively.

However 2008 updates provided by the WHO show that world-wide 65.7% of births were attended to by a skilled health worker howbeit with large inter-regional variations.

For instance, although nearly all births were attended to by skilled health personnel in developed country settings (99.5%), this proportion reduces to 61.9% in less developed countries and to only 35.3% in the least developed countries.(WHO, 2008).

Table2: Global, regional and some sub-regional estimates of the proportion of births attended to by a skilled health worker (WHO, 2008)

Region/Sub-Region	% Skilled health worker (doctors, nurses, midwives, and other cadres	Coverage of estimates (% of live births for which data on presence of SBA was obtained)
World total	65.7	99.2
More developed regions	99.5	93.5
Less developed regions	61.9	99.8
Least developed countries	35.5	100
Northern America	99.5	100
Europe	99.5	88.4
Asia	65.4	99.8
Africa	46.5	99.9
Eastern Africa	33.7	99.9
Middle Africa	55.0	100
Northern Africa	70.5	99.8
Southern Africa	89.4	100
Western Africa	41.2	100
Latin America and the Caribbean	88.5	99.9

In less developed regions, Africa and Asia were the two regions worse off achieving just 46.5% and 65.4% respectively of professionally assisted births. The lowest levels of skilled attendance at birth were found in Eastern Africa (33.7%), followed by Western Africa (41.2%), in sharp contrast to North America and Europe (99.5%).

KOBLINSKY M. *et al* (2006), looked at the data from 40 nationally representative household surveys in developing nations and observes that the rather slow and almost stagnant growth, in usage of skilled assistance in delivery has been due to the vast rural populations who still have little or no access to skilled delivery services and rely by far on relatives and traditional birth attendants to deliver at home.

The 2003 DHS in Ghana found out that 46% of deliveries were attended to by skilled personnel but three years later the WHO 2006 estimates showed just a marginal increase to 49.7%. (WHO, 2008)

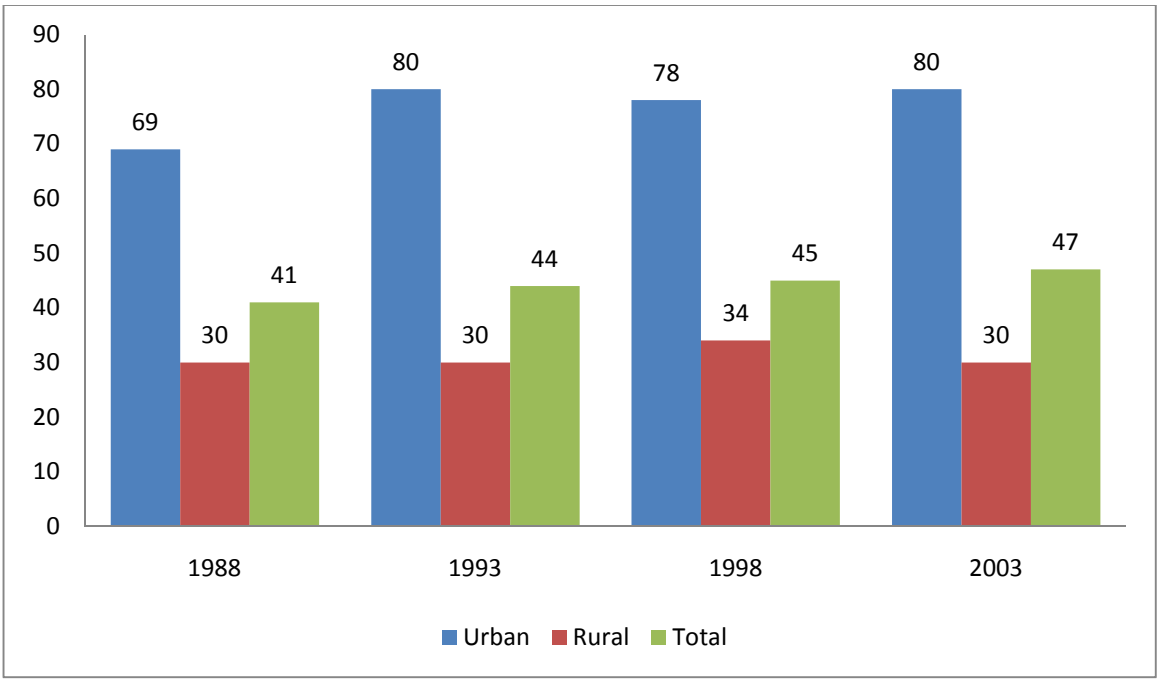
Furthermore, although the survey showed that 78 % of urban deliveries took place in a health facility with skilled attendants, only 24% of their rural counterparts delivered in health facilities where they probably had assistance by skilled personnel (GDHS, 2003) in perfect agreement with Koblinsky's observations.

A further look at the trends of skilled assistance at delivery shows that over the period since the surveys begun in 1988 there has been a minimal rise in skilled assistance from 41% in 1988 to 47% in 2003 implying that far more than half of women in Ghana still deliver at home and without skilled assistance. See Figure 4 below.

Table 3: Percent distribution of live births in the five years preceding the survey by place of delivery, according to background characteristics, Ghana DHS, 2003.

Background Characteristics	Health facility Public	Health facility Private	Home	Other	Missing
Age at birth					
< 20	35.7	10.9	52.8	0.3	0.4
20-34	36.7	9.5	52.9	0.4	0.5
35-49	35.1	8.0	55.4	0.3	1.2
Parity					
0	45.7	12.6	41.2	0.3	0.2
1-2	35.7	11.1	51.8	0.4	0.9
3-4	33.2	7.5	58.2	0.1	1.1
5+	30.1	4.8	64.4	0.6	0.1
Residence					
Urban	61.0	17.6	20.4	0.4	0.6
Rural	24.0	5.3	69.7	0.3	0.6
Mother's Education					
No Education	22.9	4.9	71.0	0.5	0.7
Prima ry	35.4	7.5	56.4	0.2	0.5
Middle/JSS	50.1	13.3	35.5	0.3	0.8
Secondary+	60.2	28.8	11.0	0.0	0.0
ANC Visits					
None	8.1	2.3	89.0	0.5	0.0
1-3	16.4	4.3	78.9	0.4	0.0
4+	46.5	12.7	40.5	0.3	0.0
Wealth					
Quintile	17.0	2.4	79.6	0.3	0.7
Lowest	24.1	6.0	69.0	0.6	0.4
Second	32.8	7.9	58.5	0.2	0.7
Middle	57.3	15.5	26.4	0.6	0.2
Fourth	68.0	21.4	9.2	0.0	1.4
Highest					

Figure 4: Trends in GDHS 1988-2003 of women who received skilled assistance at delivery



2.3 Determinants of Skilled Assistance Utilization

Socio-demographic characteristics

The Ghana DHS (2003) report, BELL J., SIÂN L. *et al* (2003), BAWA S. *et al* (2004), MAYHEW M. *et al*, (2008), have all demonstrated that urban-rural residence, economic status (wealth index), parity, maternal education and age are important and relevant socio-demographic characteristics associated with the use of skilled delivery services in several communities.

Mother's Age

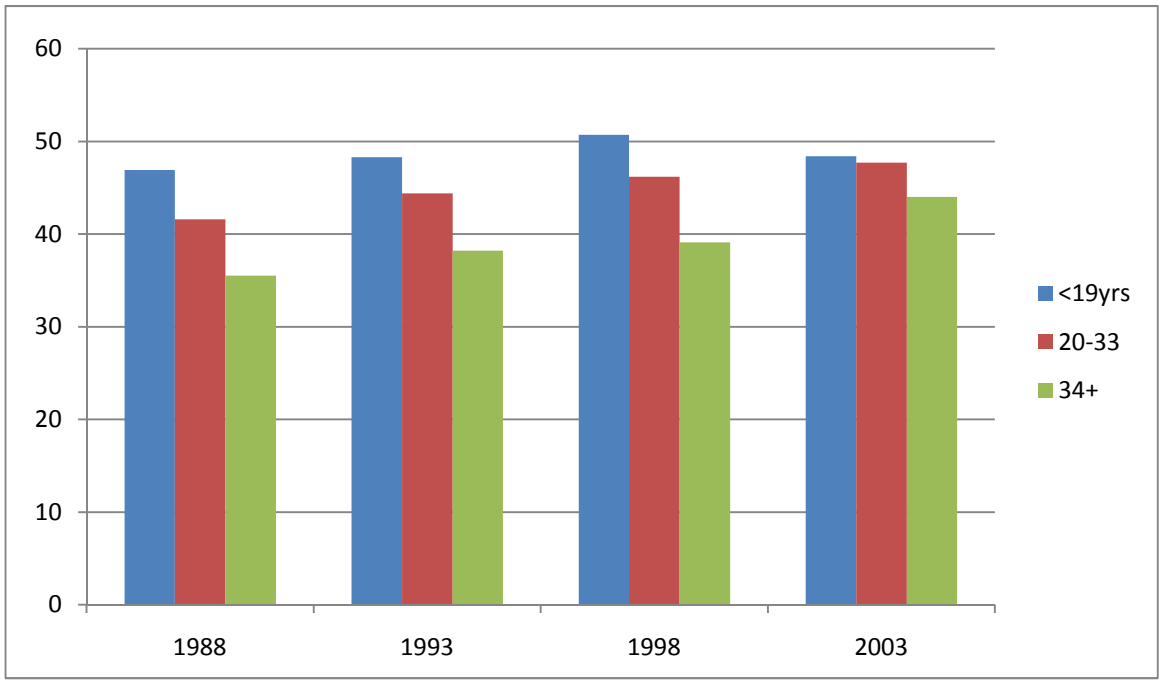
Looking at the trends of all four Ghana DHS and at the relationship between mother's age and place of delivery show slightly lower use for women above the age of 35, although further statistical analyses show that this is unremarkable. CHOWDHURY R *et al* (2007) similarly analyses the Bangladesh DHS data of 1999-2000 and found that younger

mothers were significantly less likely to utilise skilled assistance during delivery although several other studies show contrary conclusions.

ONAH H. *et al* (2006) found that a woman's age was relevant in use of skilled delivery services in Enugu, Nigeria.

BELL J. *et al*. (2003) looking at the DHS data of Bolivia, Malawi, Bangladesh and the Philippines noticed similar trends just as STANTON C. *et al* (2007) does with their review of DHS data in developing countries, that a woman's age at delivery matters in their choice of delivery suite; with older women 35 years or more tending to use skilled services lesser than younger women- especially those below 19 years.

Figure 5: Trends of percentage of deliveries with skilled assistance by mother's age for Ghana DHS; 1988-2003.

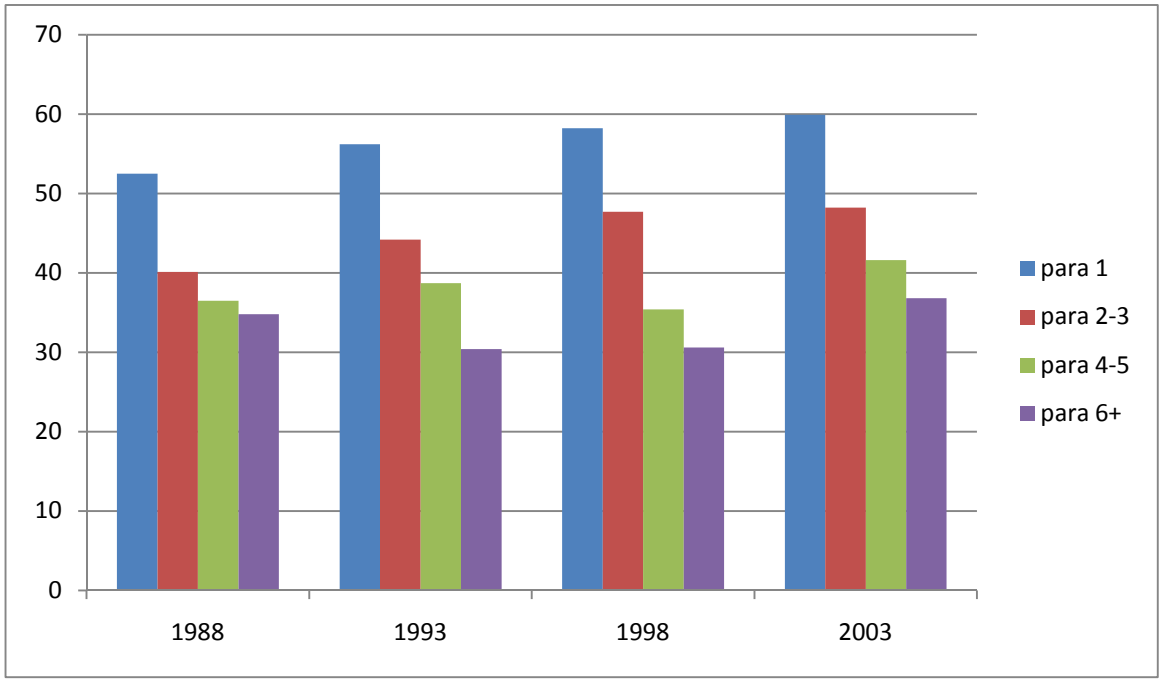


Parity

Primiparous women have been found in a number of studies to be more consistent in the patronage of skilled delivery services than women of higher parity groups. BELL J. *et al* (2003); GSS., NMIMR., and ORC MACRO (2004).

Trends from the Ghana DHS of 1988-2003 (figure 3) show quite a consistent pattern; with findings in other surveys and studies done by MILLS S. *et al* (2008), in Northern Ghana, ONAH H. *et al* (2006) in Enugu, Nigeria and Bell J. *et al*.'s (2003) analysis of trends in Bolivia, Indonesia, Malawi, Bangladesh and the Philippines.

Figure 6: Trends in Percentage skilled assistance at delivery by parity in Ghana. DHS 1988-2003



Rural –urban residence

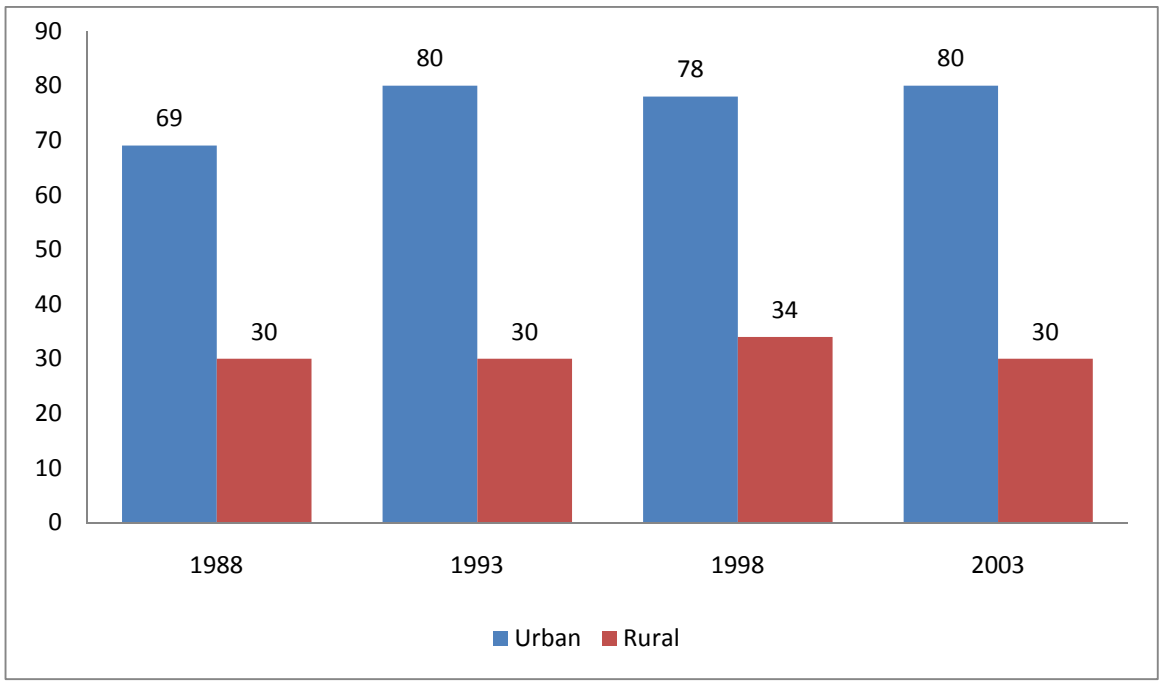
A look at all the past four surveys done in Ghana from 1988-2003 show consistently that a child born in an urban area is two and a half times more likely to have been delivered at a health facility than a rural-born child. See figure 4 below.

BELL J. *et al* (2004) observed similar trends for Bolivia, Malawi, Indonesia, Bangladesh and the Philippines in their analysis of data from their Demographic health surveys.

RONSMANS C. *et al* (2003), ONAH H. et al (2006) and IKEAKO L. *et al* (2006) in their works done in the West-African sub-region, all observed this pattern of wide rural-urban disparities in utilization of skilled assistance during delivery.

Urban women therefore, due to the existing inequities in many communities due to maternal education, physical or geographical access to services, generally, tend to access skilled assistance during labour more than their rural counterparts.

Figure 7: Trends in percentage skilled assistance at delivery by residence: Ghana DHS 1988-2003



Maternal Education

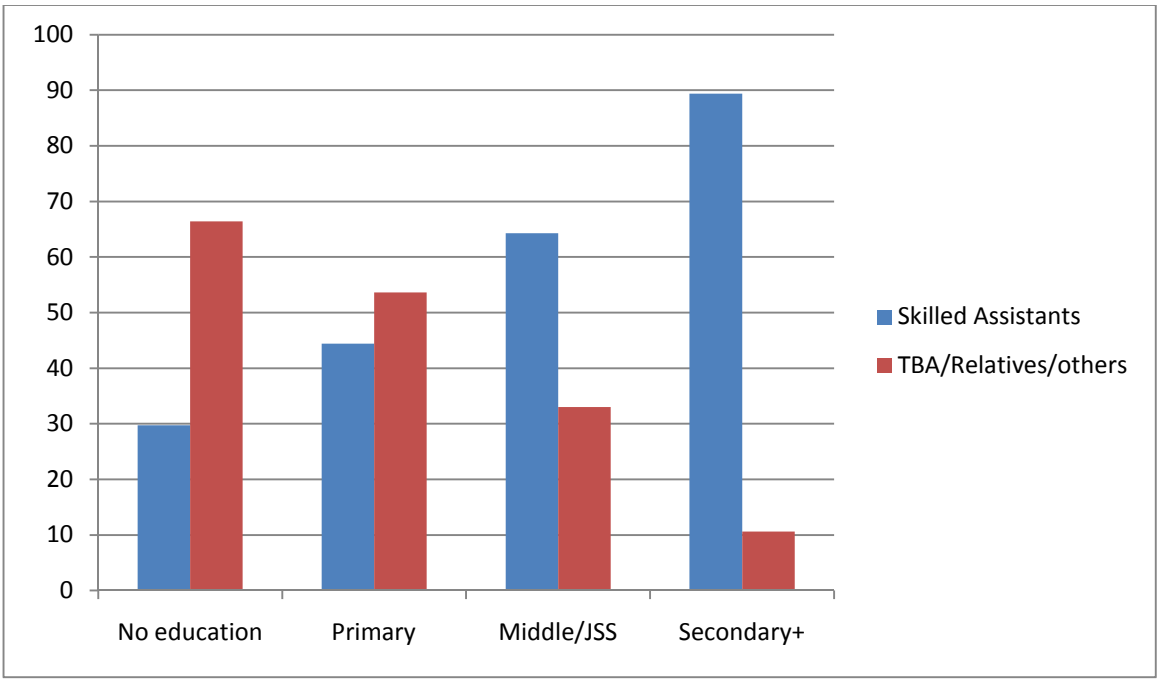
A woman's level of education has been found to be strong determinants of institutional deliveries and therefore skilled attendance usage in many studies.

For example the Ghana 2003 DHS report, shows that 89 percent of births to women with at least secondary education occurred in a health facility and with skilled assistance compared with 29 percent of births to women with no education. (Figure 5)

Bell J., (2003) and colleagues make the same observation in their analysis of the DHS data of the Philippines, Bolivia, Bangladesh, Malawi and Indonesia.

TANN C., et al (2007), in Entebbe, Uganda, VAN DER BROEK et al (2006) in Malawi, IKEAKO L., et al (2006) in Enugu, Nigeria, CHAKRABORTY N., et al (2006), and COLLIN S. et al (2007) in reviewing data from four DHS in Bangladesh all observed that maternal education has a strong correlation with utilizing skilled assistance during childbirth.

Figure 8: Percentage of deliveries with skilled or non-skilled assistants by mother's education; Ghana DHS 2003



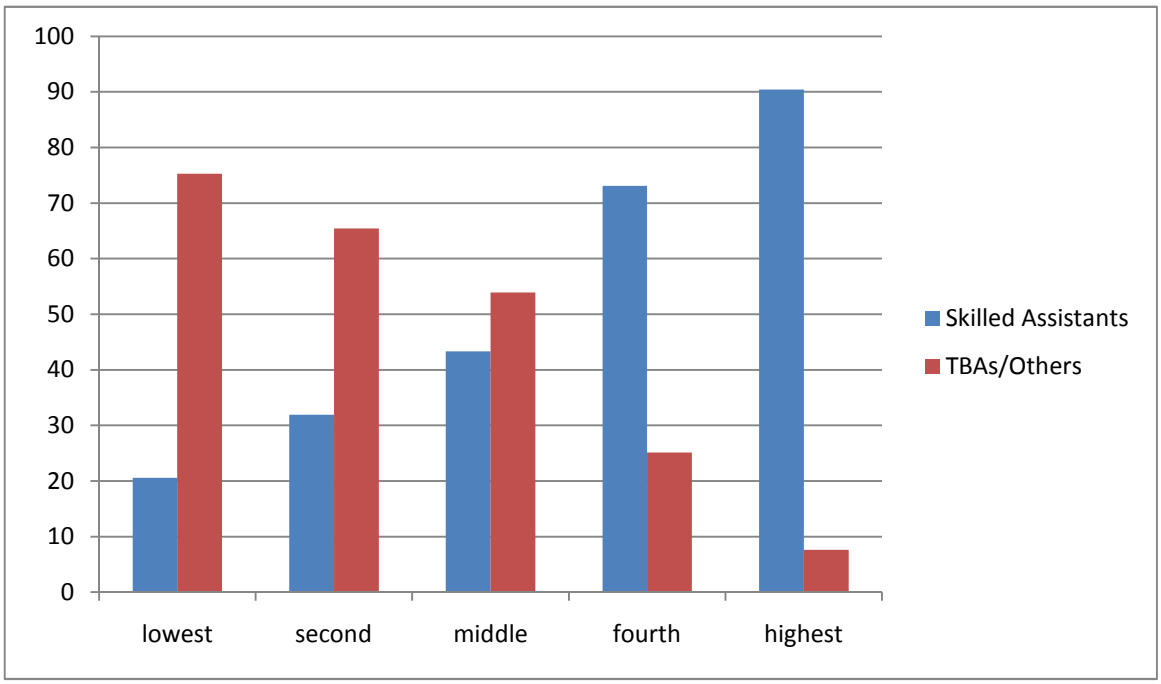
Wealth Quintile

The interpretation of trends in delivery care by wealth quintiles need careful analysis because most of the data collected that aggregates respondents into quintiles has to do with relative wealth and not absolute wealth. This implies that the poorest quintile in one particular survey could well be the richest quintile in another survey and so caution is required in extrapolating the results to the general population, (Bell J. et al., 2003).

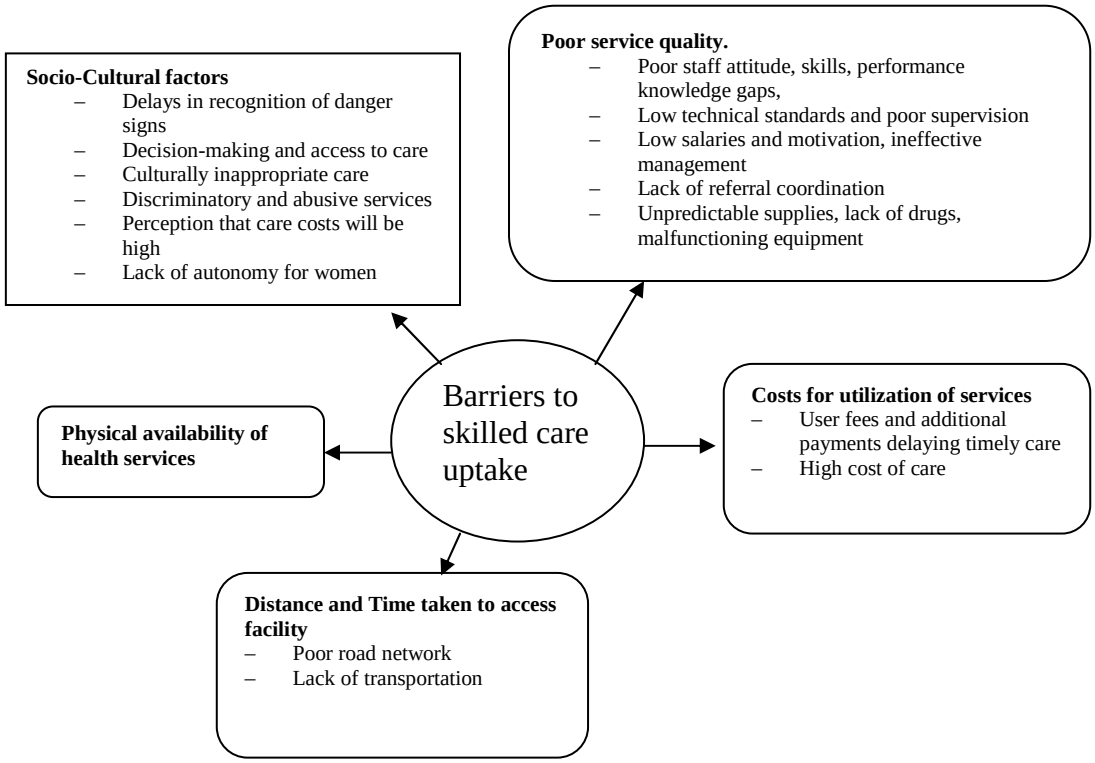
However a look at the Ghana DHS of 2003 (figure 6) show that ninety percent of women in the highest wealth quintile had an institutional delivery compared with twenty percent of women in the lowest wealth quintile. Several studies substantiate this observation that a woman's socio-economic status by and large determines whether she will seek skilled assistance during delivery or not with women in the highest quintile using skilled assistance more than those in the lowest wealth quintile.

For example studies by ANWAR I et al (2008), and CHAKRABORTY et al (2003) both in Bangladesh; TANN C., et al (2007) in Entebbe, Uganda and SHARMA S., et al (2007) in Nepal, all demonstrate a strong positive association between a mothers socio-economic status and her utilization of skilled assistance during delivery.

Figure 9: Percentage of deliveries with skilled assistants by economic status (wealth quintile) of the mother Ghana DHS of 2003



Barriers to skilled assistance



Although coverage of skilled attendance at delivery has gone up in most sub-regions of the world since the 1990s, the West African sub region in particular has seen little or no growth - remaining stagnant around 41%. (WHO. 2008)

Ghana for instance has experienced a marginal rise within two decades of just six percentage points-41% in 1988 to 47% in 2003 (ORC MACRO, 2005).

These coverage gaps is by no means peculiar to Ghana alone but prevalent in much of resource-constrained communities in rural Africa and Asia where decades of economic stagnation has left most of these countries without basic infrastructure like good roads, pipe-borne water ,transport and health facilities.

Combined with a chronic shortage of skilled personnel and weak health systems many women in these settings continue to deliver without skilled attendants supervising in order to provide life saving support when complications arise.

Several studies have been done to confirm the role these barriers play in the existing inequities in rates of uptake of professional care during labour between developed and developing countries, the rich and poor and among rural and urban dwellers in resource-poor countries.

As illustrated in the conceptual framework above, significant barriers that exist and have been identified can be grouped under socio-cultural factors within the communities, the physical availability of health facilities, the distance and time needed in order to access these facilities, the costs for utilizing these facilities and the quality of the services being offered which if poor and unsatisfactory lead to under utilization by the communities involved.

Socio-cultural factors

Cultural norms, either social or religious in origin and other acceptability factors can affect utilization of delivery services by women in labor even when these are within reach.

For instance many women in many communities in Africa lack decision making capacity and the final decision as to where to deliver rests on the household head especially if cost will be incurred. (SELJESKOG L. et al., 2006). Husbands, mothers in law, or other relatives must make the final decision.

BAZZANO A. et al (2008) working in rural Ghana found that home delivery raises a woman's status in her community, while seeking skilled attendance lowers it. Seeking assistance in childbirth wastes other people's time and that secrecy in labor was to be cherished- a luxury unavailable in a health facility.

KYOMUHENDO G., (2003), found in western Uganda that traditionally, pregnancy is considered as a test of endurance and maternal death if it occurs although sad was a

normal event; the use of primary health units and the referral hospital was to be patronized only when complications occurred and then used as a last resort.

MILLS S. and BERTRAND J. (2005) also working in northern rural Ghana found that although all the women groups interviewed were knowledgeable about the life-threatening signs and symptoms of complications of pregnancy and labor, decisions about place of delivery were generally made only after the onset of labor.

NGOMA C., and MBUKWA R. (2008) in Zambia; VAN den BOOGAARD J. et al (2008) in Zambia; GAGE A., (2007) in rural Mali, all made similar findings that socio-cultural factors play significant roles in determining the use of health facilities and skilled assistants by women in labor.

Transportation, Distance and Time taken to access facility

Transportation difficulties during the onset of labor, either due to its availability, affordability, or the challenge of trekking on very poor roads in order to reach a health facility may prevent pregnant women from utilizing the local health service during labor.

In many rural settings, the primary mode of transportation for women in labour is walking and as such care-seeking may be limited by the unpredictability of the situation, fear of delivering en route, and the physical hardships of travelling in such a state.

The cost of transportation may also be a deterrent to seeking care at a health facility if it takes too much of the household's income.

Transport costs according to BORGHI J. et al (2006) have been estimated at almost half of total expenditure for a normal delivery and 25% for a complicated delivery in studies in Tanzania and Nepal.

Total (travel and waiting) time costs were likewise estimated at 9–14% of total household expenditure for a delivery in Nepal, and 65–93% in Tanzania and as such act as a deterrent in seeking skilled assistance during labour.

STEKELENBURG J., (2004) working in rural Zambia found that although 96% of respondents preferred delivering in a health facility, only 54% actually did, because of long distances and the lack of transport.

VAN den BOOGAARD J. et al (2008) made similar findings in Lukulu, Zambia where TBAs are preferred to skilled assistants simply because of the distance one had to travel during labor to access one.

Poor service quality

Poor staff attitude, inadequate skills, performance knowledge gaps, low technical standards and poor supervision; low salaries and moral, ineffective management, lack of referral coordination, unpredictable logistics supplies and malfunctioning equipment are all documented reasons why the quality of maternal services tend to be poor in resource-constrained settings.

KOBLINSKY et al. (2006), in reviewing the literature on barriers to care with skilled assistance, report that negative interactions with health personnel is one of the reasons that influence care seeking behaviour by women in labor.

Some studies in Bolivia had showed some women claiming to have felt abused and demeaned by being ‘put on display’ on the maternity suite as doctors came in turns to examine them.

The same series reports of women preferring to deliver at home because health personnel use offensive and demeaning language, ridicule women because of their poor clothing, parity, smell, hygiene, or cries of pain.

A study by MWANIKI P. et al (2002) in Mbeere District in Kenya had focus group participants citing shortage of drugs and essential supplies, lack of commitment by staff, poor quality of food and lack of cleanliness in the health facilities as constituting reasons for preference of home delivery.

KYOMUHENDO G. (2003) in Uganda found from respondents that, a lack of skilled staff at the primary health care level, verbal abuse, neglect and poor treatment in hospital and poorly understood reasons for procedures, plus health workers' views that women were ignorant, explained the unwillingness of women to deliver in health facilities.

D'AMBRUOSO L., et al (2005) working in the Greater Accra region of Ghana, cited poor staff attitudes as one of the reasons for non-acceptability and low-utilisation of delivery care services by women in the district just as NGOMA C., and MBUKWA R. (2008) found in studies done in Zambia; with the women in Ghana saying that they expected a humane, professional and courteous treatment from health professionals as well as a reasonable standard of physical environment else they consciously change their place of delivery and make same recommendations to others if they experience degrading and unacceptable behaviour from health professionals.

Similarly 22% of Bolivian women surveyed in a study by OTIS K., and BRETT J., (2008) mention that poor quality of care available at health care centres are reasons for non utilisation by respondents.

Poor service quality therefore is a significant barrier to non- utilisation of delivery care in health facilities.

Costs for utilization of services

Health facility user fee is one of the proximate determinants of utilization of skilled delivery services. Payments irrespective of the amount demanded generally deter many women from patronising maternity services and this hurts poor rural folks a great deal as

this can considerably erode their household incomes and plunge them into debts, (MCINTYRE D., et al (2005) and VAN DAMME W., et al (2004)).

In resource-poor countries, the high cost of user fees for deliveries limits access to skilled attendance, and contributes to maternal and neonatal mortality and the impoverishment of vulnerable households, (WITTER S., et al (2007).

For instance, Ghana, in the year 2002, used estimates of its yearly gross domestic product (GDP), pegged at $380, as a proxy for individual income per head. A normal delivery was valued at 5-6% of GDP whilst a complicated delivery like a caesarean section, cost as much as 16-35% of GDP! (BORGHI J., et al. 2006).

Even where formal charges are nonexistent studies show that women incur other unofficial expenses, including cost of care for accompanying family members who help them out.

BORGHI J., et al. (2006), reports on studies that show that women in labour sometimes have to purchase detergents like bleach for sterilization of instruments, bed sheets, gauze gloves, and sanitary pads on admission for delivery services.

KRUK M., et al (2008) working in Tanzania, found that 73.3% of women with facility delivery reportedly made out-of-pocket payments for delivery related costs.

Nearly half (48.3%) of respondents reported cutting down on spending, borrowing money or selling household assets just to pay for delivery-with the poor reporting this most frequently.

In Bangladesh, MAHABUB U., et al (2006) notes cost as the most commonly cited reason for not seeking care for delivery complications. Their study revealed that 84% of women in the lowest wealth group compared to 13% of women in the highest wealth group did not seek treatment for delivery complications due to cost.

In order to improve these financial inequities and make accessing delivery care easier for the most vulnerable, various financing schemes like mutual insurance schemes and health equity funds-which attempts to improve access to health care services for the poorest by paying the provider on their behalf- operates in some resource-constrained countries (NOIRHOMME M. et al 2007).

Even though faced with many challenges, the evidence on the ground suggests that the policy of exemptions and fee waivers for the poor and pregnant women improve access to outpatient services. JAMES C. and colleagues (2006) in Uganda, and WITTER S. et al (2007) in Ghana, that though there were problems with disbursement and sustainability of the fund, more women were utilizing health facilities for free maternal health services.

User fees therefore hurt and acts as a disincentive for the poor introducing inequities in healthcare utilization by disadvantaged women especially in pregnancy, labour and the post partum period.

CHAPTER THREE

METHODOLOGY

3.1 Study Methods and Design

A descriptive cross-sectional survey was done. Quantitative research methods were employed in the study which involved interviews to a random sample of women (age 15–49) who gave birth within one year prior to the survey using a structured questionnaire.

The questionnaire was pre-tested in a similar population in a neighbouring district to test for clarity, validity and reliability of the questions after which the tool was revised accordingly and finalized for use.

3.2 Data Collection Techniques and Tools

A simple structured, pre-tested, open and closed ended questionnaire was administered by trained research assistants. These field workers collected the necessary data from eligible respondents and on return from the field each day assisted a data entry clerk to enter the gathered information into a computerized program-Statistical Program for Social Sciences (SPSS) version 16 statistical software package.

3.3 Study Population

Study population was women of child bearing age 15-49 years who had delivered either in hospital or at home within a period of twelve months (one year) prior to the survey.

3.4 Sampling Techniques

A multi-stage cluster random sampling method was employed in order to select the study subjects. First all the communities in the district were stratified by their current sub-district categorization.

Based on population figures of the district obtained from the Ghana Statistical Service proportional estimates were assigned to each sub-district at a ratio of 50:30:20 percent respectively; with the largest sub-district, Offinso Central taking 50% and Bunsua sub-district 20%.

Simple systematic random selection was then used to select each seventh listed rural or urban community. Each of the selected communities was then representative of a cluster. Within each cluster the fifth house on the right hand side as one entered the community was chosen as the starting point and then all qualified respondents within each house were interviewed until 10 respondents were obtained for each cluster and then the next cluster was entered.

This plan was followed until the required sample size of over 368 was obtained. In all 415 respondents were interviewed but 15 others were rejected leaving 400 respondents for data entry, cleansing and further analysis.

Table 4: The Sample:		
BUNSUA (10 Respondents/ Cluster),	**OFFINSO CENTRAL** (20 Respondents per Cluster)	**ABOFOUR** (10 Respondents per Cluster)
GAMBIA, WAWASE MANSERA, LOBIGAO,KUTRIKROM, ADAEKROM, AMA NSIAKROM, AGYENPRA	DOME, ADUKRO, DESUA, KOTOKOLI LINE, NAMONG, NYAMEBEKYERE, OLD TOWN, ANYINASUSO, SAMPROSO, KOKOBENG,	AFRANSUA, NTIMKROM, ADUKOFIKROM, DOBIHWE, CAMP 31, PENYKROM, ABOFOUR OLD TOWN, ABOFOUR NEW TOWN, ABOFOUR ZONGO, DUMESUA OLD TOWN, DUMESUA NEW TOWN, DUMESUA SAWMILL.

3.5 Sample Size

Proportion of women who delivered at home (p) in the Ashanti Region from the GDHS 2003 was =40%.

At 95% confidence interval, power of 80%, and accuracy(d) of 5% then the sample size would be N= z*z* p(1-p)/d*d

Z=1.96 p=40% q=60% d=.05

A total of 368 participants were determined to be adequate for the study.

3.6 Pre-Testing

The questionnaire was pre-tested among similarly matched women of child bearing age in the Atwima district, which has similar characteristics in terms of geo-political, ethnic and socio-cultural norms.

3.7 Data Handling

Regular weekly meeting was held between the principal investigator and research assistants.

Data was entered onto an SPSS for windows version 16, database after each weekly meeting between the Principal Investigator and research assistants.

The database was then edited and cleansed and then subjected to statistical analysis by both SPSS statistical package and further analysis by Stata Statistical software package SE9, at the end of the exercise.

3.8 Ethical Considerations

Ethical approval was obtained from the Local Research Ethics Committee at the School of Medical Sciences, University of Science and Technology, Kumasi, Ghana through the Department of Community Health.

The Regional Director of Health Services, the District Chief Executive, and the District Director of Health Services of the Offinso District who was involved in preliminary discussions about the study was all consulted about the conduct of the study and gave their verbal consent for the study to proceed in the district.

Written informed consent was obtained from all participants.

3.9 Limitations of Study

- Sampling bias may have been inadvertently introduced due to purposely restricting respondents to birth within 1 year of survey
- Views and opinions of respondents may not necessarily be representative of the entire population
- Time and financial constraints did not help in covering entire community and this potentially limits the representatives of the sample size.

3.10 Assumptions

To achieve the objectives of the study, the following assumptions were made:

- Opinions expressed by the respondents would be fairly representative of the views of the general population and that these findings can be extrapolated to the general population
- That the respondents understood the questions.
- That the field workers were careful in the administration of the questionnaire and that the answers provided by respondents were not altered prior to entry.
- Those respondents were truthful and did not give socially desirable answers.
- That data entry for analysis was correctly done.

CHAPTER FOUR

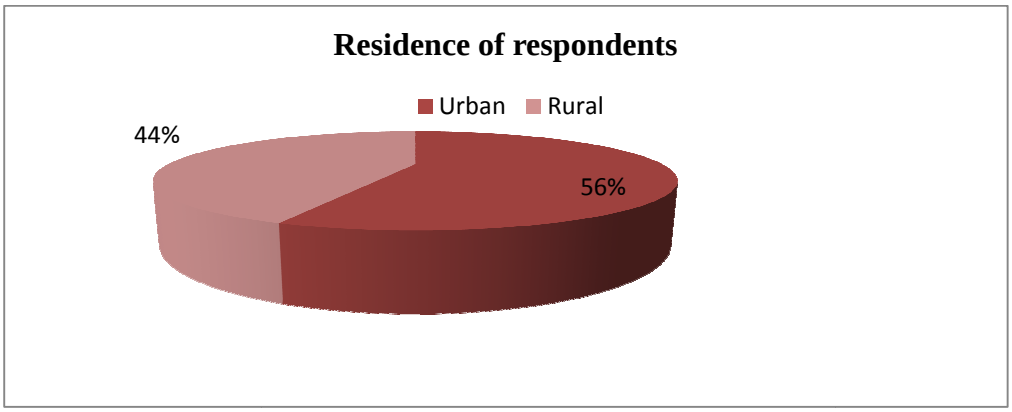
RESULTS AND ANALYSIS

This chapter provides a summary of the results of the survey conducted over an eight week period in the months of August and October 2008 by means of frequency tables, graphs and appropriate inferential statistical techniques.

4.0 Socio-Demographic Characteristics of Respondents

As shown in figure 10 below, of the 400 respondents who were willing to be interviewed, 225 (56%) [95% CI 51.2%-61.2%] were urban dwellers whilst 175 (44 %) [95% CI 38.8%-48.8%] were rural.

Figure 10: Residence of Respondents



Majority of the respondents, 210 (53%) were in the 20-34 years age category, 65 (16%) were teenagers whilst 125 (31%) were in the 35-49 years age group.

Table 4: Age of respondents by marital status

	Marital status			Total
	Single	Married/co-habit	Divorced/separated	
15-19 years	30 (42.3%)	35 (10.7%)	0 (0%)	65 (16.2%)
20-34 years	38 (53.5%)	171 (52.3%)	1(50%)	210 (52.5%)
35-49 years	3 (4.2%)	121 (37%)	1 (50%)	125 (31.2%)
Total	71(100%)	327 (100%)	2 (100%)	400
$\chi 2$ value 56.4 df (4) p< 0.001				

These age groupings were insignificant by their place of residence but appeared highly significant in terms of their marital status with, 292 (89%) of those respondents above 20 years of age ($p<0.001$) either married or co-habiting.

Figure 11: marital status of respondents.

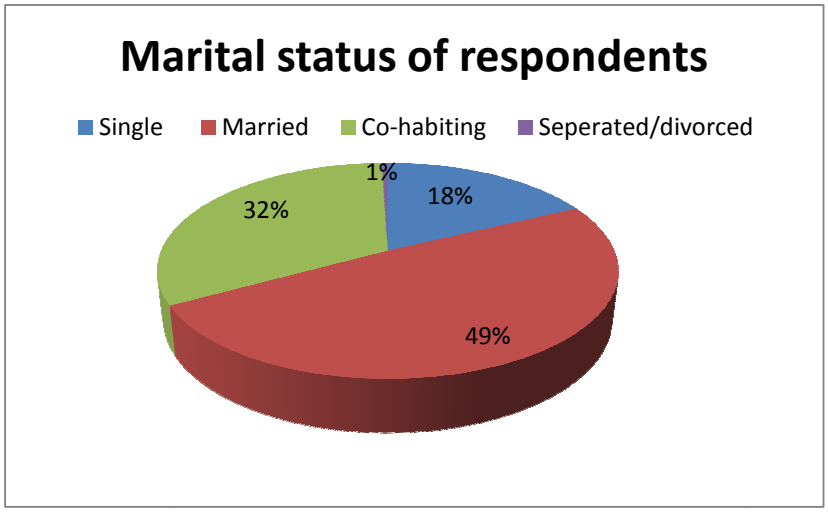


Figure 12 and table 5 show the educational attainments of our respondents.

Three hundred and seventeen (79%) of our respondents had at least a primary education; 31, (7.8%) of these with senior secondary or tertiary education and 191 (48%) were educated to junior secondary level.

More rural respondents 59(71%) had no education compared to our urban dwellers 24(29%) and more urban dwellers 21(77%) had senior secondary education or more compared to rural residents 7(23%). [$\chi 2$ values 48; df (4) ;$p<0.001$]

Figure 12: Educational Level of Respondents

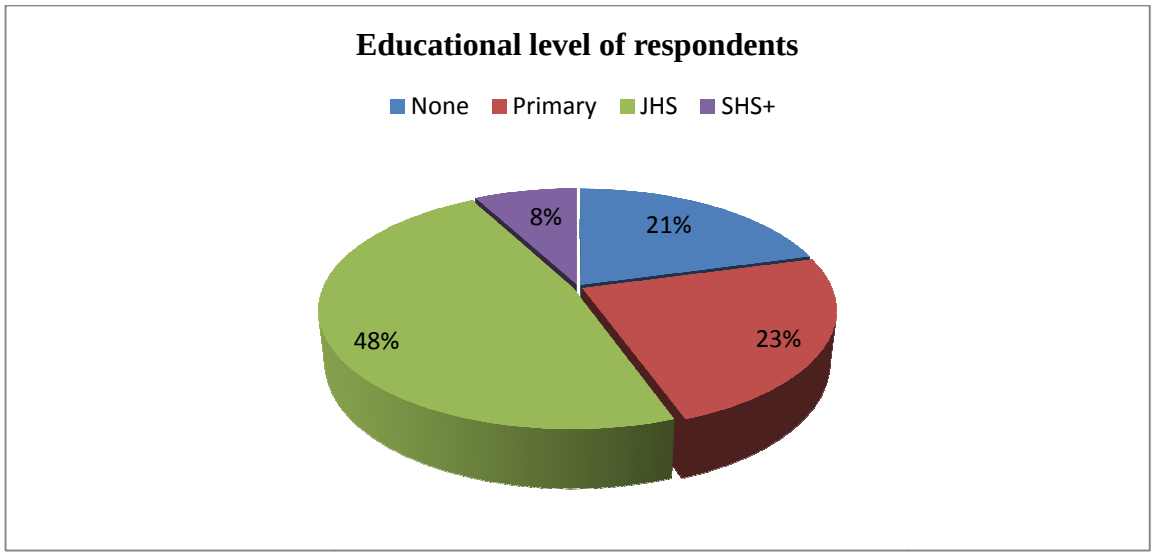


Table 5: Crosstabulation of Residence and Educational Level

Mother's Educational level by residence						
	None	Primary	JHS	SHS	Tertiary	Totals
Urban	24 (29%)	46 (48%)	131 (69%)	21 (78%)	3 (75%)	225
Rural	59 (71%)	49 (52%)	60 (31%)	6 (22%)	1 (25%)	175
Totals	83 (21%)	95 (24%)	191 (48%)	27 (7%)	4 (1%)	400
$\chi 2$ =45, df (4), p<0.001						

Parity

From table 5 below we find out that 150(37.5%) of respondents had two to three children, 137 (34 %) had given birth to only one child and 43 (11%) had six or more children.

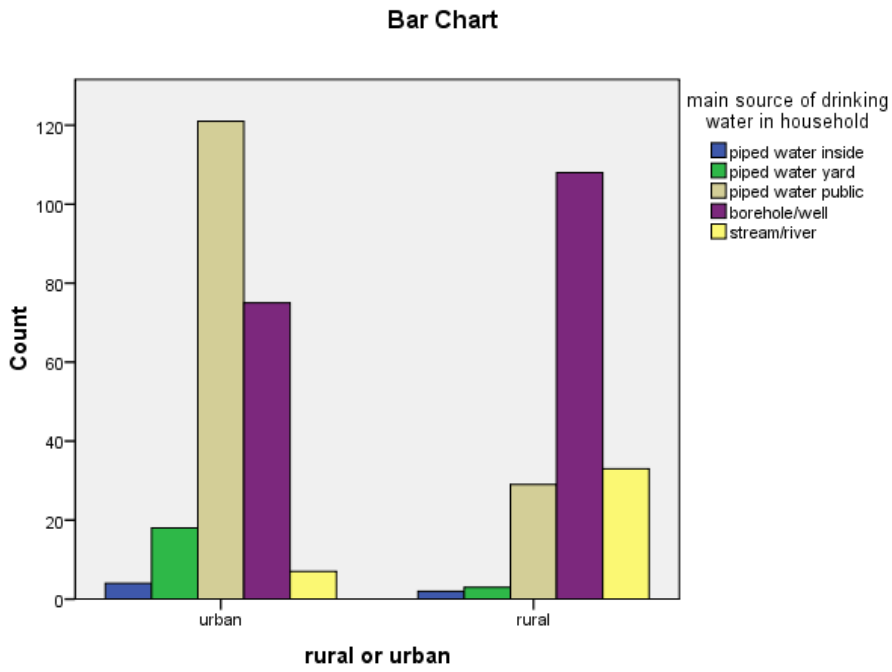
However there was significant association observed for mother's educational level and parity. For instance for birth orders of 1-3, 97% of mothers with senior secondary education fall in this category, 74% of JHS mothers, 68% primary and 60% of mothers with no schooling fell in this bracket. (p=0.001)

Table 6: Parity of respondents with respect to education

		Parity (total no of births)/frequency				
		1	**2-3**	**4-5**	**6+**	**Total**
Educational level	None	18	32	15	18	83
	Primary	27	38	20	10	95
	JHS	73	69	34	15	191
	SHS+	19	11	1	0	31
	Total	137 (34.2%)	150 (37.5%)	70 (17.5%)	43 (10.8%)	400
$\chi 2$ value=34.7 df(12) p=0.001						

4.1 Household Characteristics and Wealth

Figure 13: main source of drinking water by urban-rural residence



In terms of household characteristics, wealth and assets, 177(44%) of our total respondents used pipe borne water either inside or outside the house, 183(46 %) used boreholes or wells and the rest 40(10%) used streams as their main source of drinking water with statistically significant ($p<0.001$), albeit anticipated, urban-rural disparities. For instance 143(64%) of urban respondents had access to pipe borne water compared to 34(19%) of rural respondents.

Similarly out of the 10 (2.5%) respondents with flush toilets in their homes, 8(80%) were urban residents and in like manner 80% of the 219 users of the Kumasi Ventilated Improved Pit Latrines (KVIP) came from urban households. Conversely, 77% of the 119 traditional pit latrines users found in the survey were resident in the rural area.[$\chi 2$ value 128.7 df (4) $p<0.001$]

Figure 14: type of toilet facility used by respondents by residence

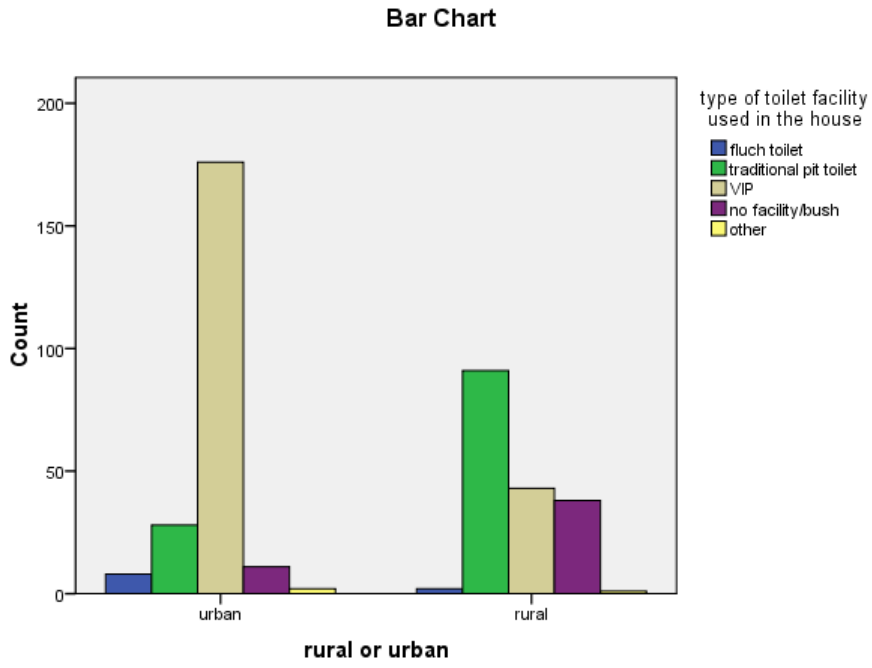


Table 7: Crosstabulation of Residence and Source of Fuel

		Main source of fuel used for cooking					
		Gas	Kerosene	Charcoal	Wood	Other	Total
Residence	Urban	4(100)	2(66.7)	110(79.1)	109(43.1)	0	225
	Rural	0(0)	1(33.3)	29(20.9)	144(56.9)	1	175
	Total	4	3	139	253	1	400
	$\chi 2$ =52 df (4) p<0.001						

The majority of our respondents 392(98%) used either charcoal or wood as the main source of fuel for cooking with just under 2% using either liquefied petroleum gas (LPG) or kerosene.

Significantly though, 144(82%) of rural households used firewood as their main source of fuel for cooking, 68% of kerosene users, 100% of LPG users and 110(79%) of charcoal users were all urban residents.(Table 7)

Table 8: Crosstabulation of Residence and NHIS Status.

		Are you registered with the NHIS?		Total
		Yes	No	
Residence	Urban	135(66.5%)	90(45.7%)	225
	Rural	68(33.5%)	107(54.3%)	175
	Total	203(51%)	197(49%)	400
	$\chi 2$ value 17.6; df(1) p<0.001			

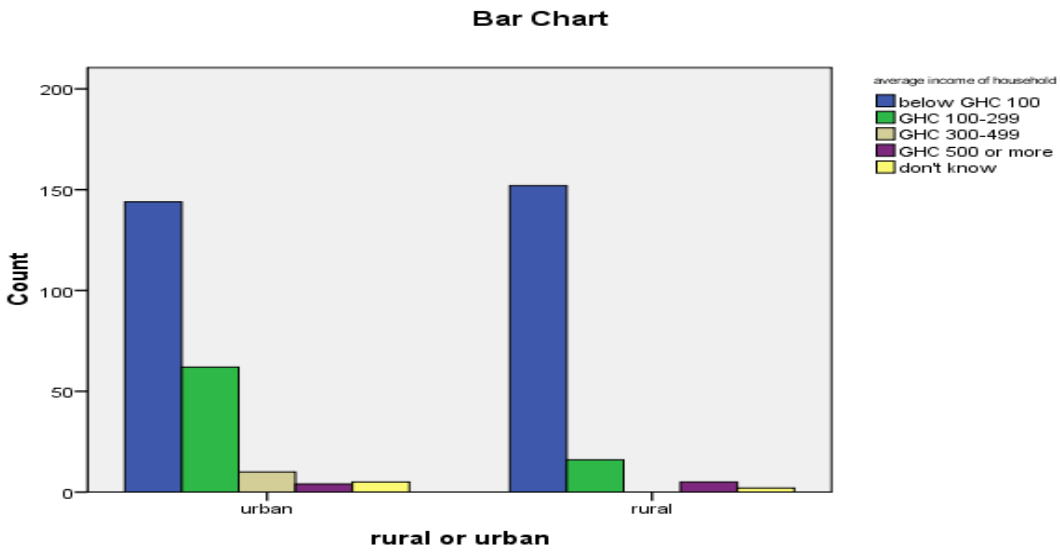
As a guide of how much of household wealth was perhaps being used in healthcare we inquired from respondents how many of them were registered with the National Health Insurance Scheme (NHIS). Significantly we found that (table 8), majority,135 (67%) of registered members were urban residents whiles conversely those unregistered had the majority coming from the rural communities. (p<0.001)

On inquiry, close to three-quarters 296 (74%) of respondents earned less than GH¢100 a month as their average income. Another 78(20%) were in the income bracket GH¢100-299, about 5% others earned above GH¢300 and the remaining 1% declined to reveal their income. Predictably, significant urban rural disparities were observed. Of the 97 respondents earning more than GH¢ 100, 76(78%) of them were urban residents.

Out of the 175 rural respondents, 152(87%) of them said they earned less than GH¢ 100 in contrast to 64% urban respondents (N=225) found in that income bracket.

[$\chi 2$ value 33. df (4) $p<0.001$]

Figure 15: Average monthly household earnings by urban-rural residence



Antenatal Care Coverage

Majority of respondents 386 (97 %) [95% CI 94.2%-98.1%] attended ANC services at least once before their most recent delivery. Out of the386 respondents who attended ANC, 307(79.5%) [95% CI 75.2%-83.4%] attended four times or more, as recommended by the WHO.

Table 9: Crosstabulation of Residence and ANC Attendance

		Did you attend ANC services?		Total
		Yes	No	
Residence	Urban	221(98%)	4(2%)	225
	Rural	165(94%)	10(6%)	175
	Total	386(96.5%)	14(3.5%)	400
	$\chi 2$ value 4.6 df (1) p=0.034			

Ninety –eight percent of urban residents and 94% of rural respondents attended ANC at least once before delivery.

Of those who failed to attend ANC before delivery (N=14), 10 (71%) were rural residents and the rest 29% urban residents. A hundred and ninety four respondents, (86%) of urban respondents were able to make the minimal four visits in contrast to 112(64%) rural counterparts.

On timing of first ANC visit, majority, 277 (72 %) made their first ANC visit during their second trimester, 86 (22%) started in their first trimester, and 21 (5.4%) paid their first visit during the third trimester of their pregnancy.

Table 10: Crosstabulation of Residence and Frequency of ANC visits.

		How many ANC visits did you make?					Totals
		None	One	Two	Three	Four or more	
Residence	**Urban**	4	7	6	14	194	225
	Rural	10	5	10	38	112	175
	Total	14(3.5%)	12(3%)	16(4%)	52(13%)	306(76%)	400
$\chi 2$ value 31.2 df (4) p<0.001							

Figure 16: No of ANC visits made before delivery by urban: rural residence

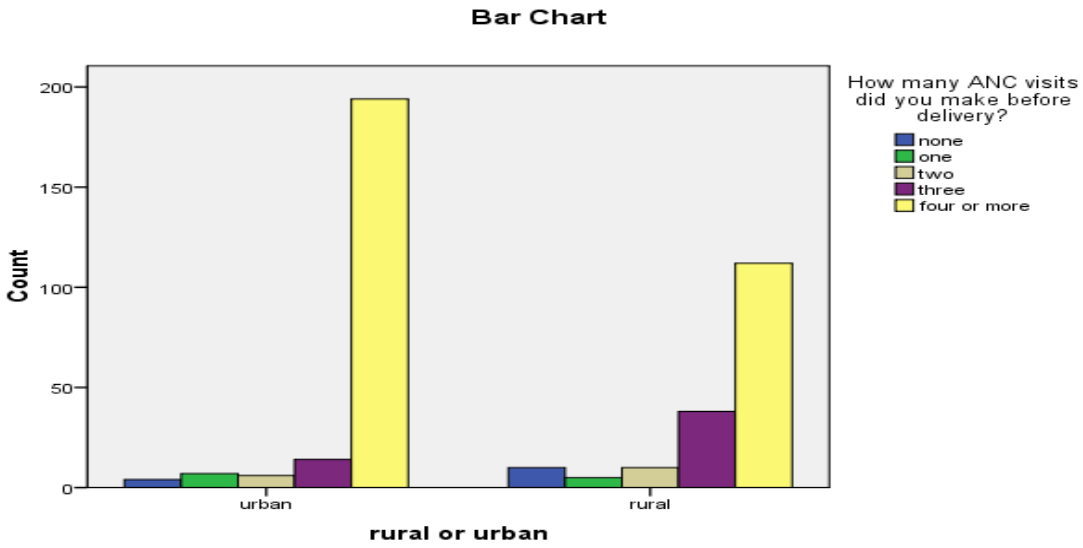
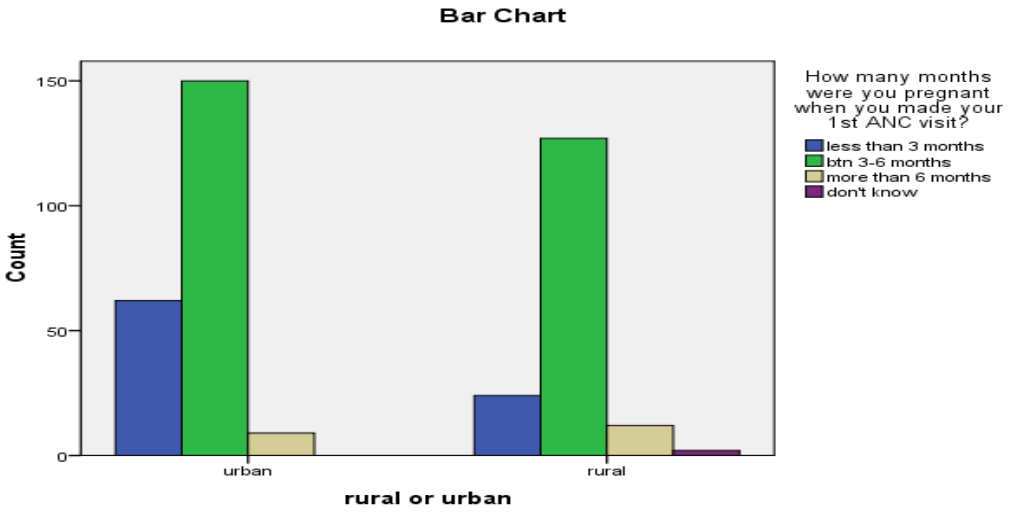


Figure 17: Timing of first ANC visits by urban: rural residence.



4.2 Delivery Care

Majority, 245 (61%) of respondents in this survey [95% CI 56.3%-66.1%] delivered at a health facility with the rest, 155 (39%) [95% CI 33.9-43.7%] delivering at home mostly without skilled attendance. Urban: rural disparities prevail; 76% of urban deliveries took place in a health facility in contrast to 42% of rural deliveries. In like manner majority (65%) of those who delivered at home were resident in the rural area.

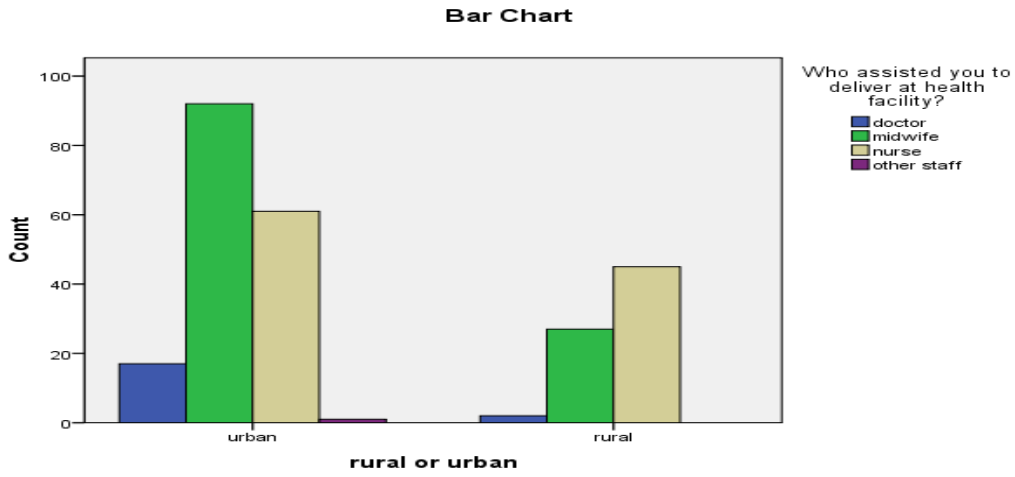
Table 11: Crosstabulation of Residence and Place of Delivery

		Where did you deliver your last baby?		Total
		Home/TBA	Hospital/Health facility	
Residence	Urban	54 (24%)	171(76%)	225
	Rural	101(58%)	74(42%)	175
	Total	155(39%)	245(61%)	400
χ2 value 47.2 df(1) p<0.001				

Of those who delivered at a health facility (n=245), 19 (7.8%) were assisted by a doctor, 119 (48.6%) were attended to by a midwife, and 106 (43.3%) were assisted by a nurse at the health facility. Only a fraction of a percentage 1(0.4%) claimed to have been attended to by some other health personnel either than the skilled assistants identified above.

Out of the 19 doctor-assisted deliveries, 17(90%) were urban residents and 2(10%) were rural residents. Nearly 90% of deliveries in the urban areas were done by nurses or midwives in contrast to over 97% of rural deliveries that were done by these same categories of skilled personnel.[χ2 value 14.7 df (3) p=0.002

Figure 18: Personnel identified as assisting respondent at delivery by place of residence.



Of those who delivered at home (N=155), 30 (19.4%) said they delivered all alone with no one in attendance, 70 (45.2%) had a TBA in attendance, 45 (29%) had relatives or neighbours assisting and only 10 (6.5%) had skilled assistance from a nurse or midwife.

Of the TBA-assisted deliveries, (n=70); 45(64%) occurred among rural residents and similarly 74% of those who had relatives or neighbours in attendance (n=45) were rural respondents (p>0.05). Overall 17.5% of all deliveries were attended to by TBAs thirteen percentage points lower than the national average.

Figure 19a: Person(s) present to assist respondent deliver at home.

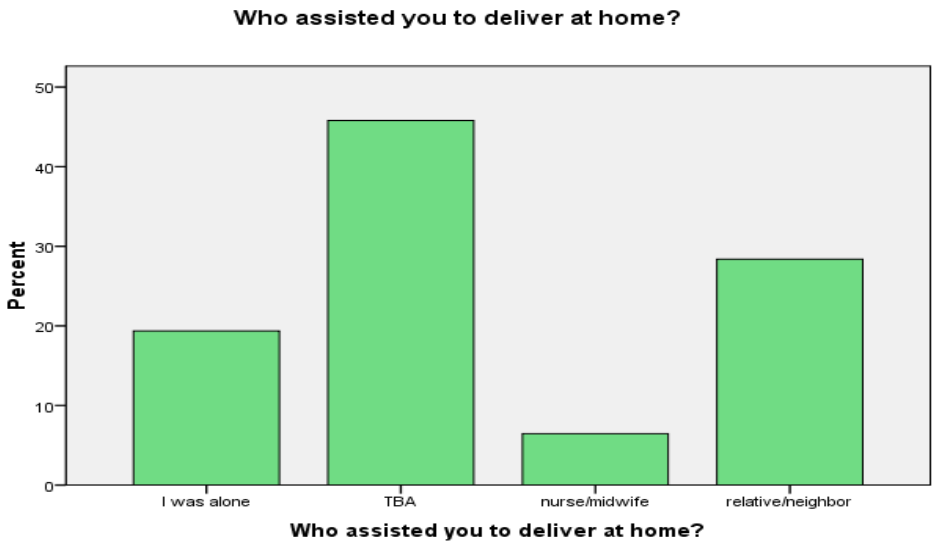
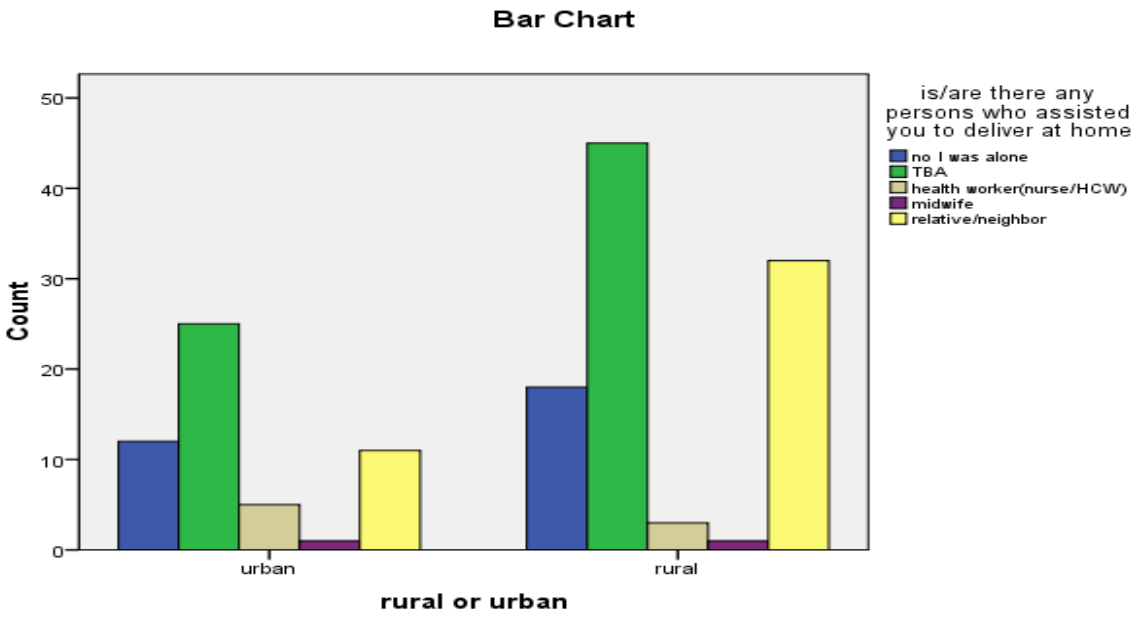


Figure 19b: Person(s) present to assist delivery at home by rural: urban residence



4.3 Determinants and Barriers to Care

An analysis of the determinants of delivery care (Table 7) shows an association between residence (urban-rural) and place of delivery with respondents in urban areas of the district 171(76%) utilizing institutional delivery care more than their rural counterparts,

74 (42%) $\chi 2=47$ df (1) ($p < 0.001$). Mother's age and parity did not show any significant association with institutional delivery care ($p>0.05$) but mother's educational level, time taken to normally access the nearest delivery suite (used here as proxy to distance to nearest facility), number of ANC visits made prior to delivery and the average income of household per month (also used here as proxy to household wealth) all showed significant association with choice of delivery place.

Table 12: Determinants of place of delivery

Variable	**Place of delivery**				
	Home	Hospital	Totals	$\chi 2$ value /(df)	p- value
Residence					
Rural	101(65.1)	74(30.2)	225	47.14 (1)	<0.001
Urban	54(34.8)	171(69.8)	175		
Totals	155	245	400		
Mother's Age					
15-19	34(21.9)	31(12.6)	65	6.08 (2)	0.05
20-34	77(49.6)	133(54.3)	210		
35-49	44(28.4)	81(33.1)	125		
Totals	155	245	400		
Parity					
1-3 births	103(66.5)	184(75.1)	287	3.5 (1)	0.06
4+ births	52(33.5)	61(24.9)	113		
Total	155	245	400		
Mother's Education					
None or up to Primary	98(63.2)	80(32.6)	178	35.93 (1)	<0.001
Post primary	57(36.8)	165(67.3)	222		
Totals	155	245	400		

Time taken to access nearest health facility in minutes					
Less than 30 mins	107(69.0)	218(88.9)	325	24.8 (1)	<0.001
More than 30 mins	48(31.0)	27(11.1)	75		
Total	155	245	400		
No of ANC visits					
1-3	60(41.9)	19(7.8)	79	64.46 (1)	<0.001
4+	83(58.1)	224(92.2)	307		
Total	143	243	386		
Average Income of Household					
Less than $100 per month	144(92.9)	159(64.9)	303	40.5 (1)	<0.001
More than $100 per month	11(7.1)	86(35.1)	97		
Total	155	245	400		

4.4 Barriers to Skilled Assistance

Figure 20, and table 13, below, depict the barriers identified as inhibiting women in the study from gaining access to institutional delivery care during their most recent birth at the time of the survey.

A hundred and fifty-five respondents in the survey (39%) delivered at home mostly without skilled assistance. Out of these, 42 (27%) cited transportation difficulties as their major problem encountered; majority, 40 (95%) of these respondents with transport challenges were rural residents and the remaining 5%, urban dwellers.

Furthermore, 36 (23%) mothers claimed to have had problems with money (believed they could not afford facility charges; 22(61%) of these were rural residents and 39% urban residents.

Thirty-four mothers (22%) had short labor and could therefore not access a health institution in time; 23 (15%) respondents simply preferred a home delivery, and 14(61%) of them were rural residents.

Seventeen (11%) of mothers interviewed cited various religious or cultural reasons for delivering at home

[Observed urban: rural disparities were statistically significant: $\chi 2$ value=30.2 df (7) $p < 0.001$]

Only 3(1.9%) of respondents cited poor attitude of health staff at the local health facility as their reason for avoiding the place during their most recent delivery.

Table 13: Proportion estimation of barriers encountered in accessing skilled delivery services

What are your reasons for giving birth at home?			
	Frequency	Proportion (%)	Binomial exact [95% conf. interval]
My own preference	15	9.7	5.5-15.5
Family preference	8	5.2	2.3-9.9
Short labour	34	22.0	15.7-29.3
Problem with transport	42	27.0	20.3-34.8
Money problem	36	23.2	16.8-30.7
Poor attitude of health staff	3	1.9	0.4-5.5
Traditional/cultural reason	17	11.0	6.5-17
Total	155	100	

Figure 20a: Barriers to skilled assistance at delivery

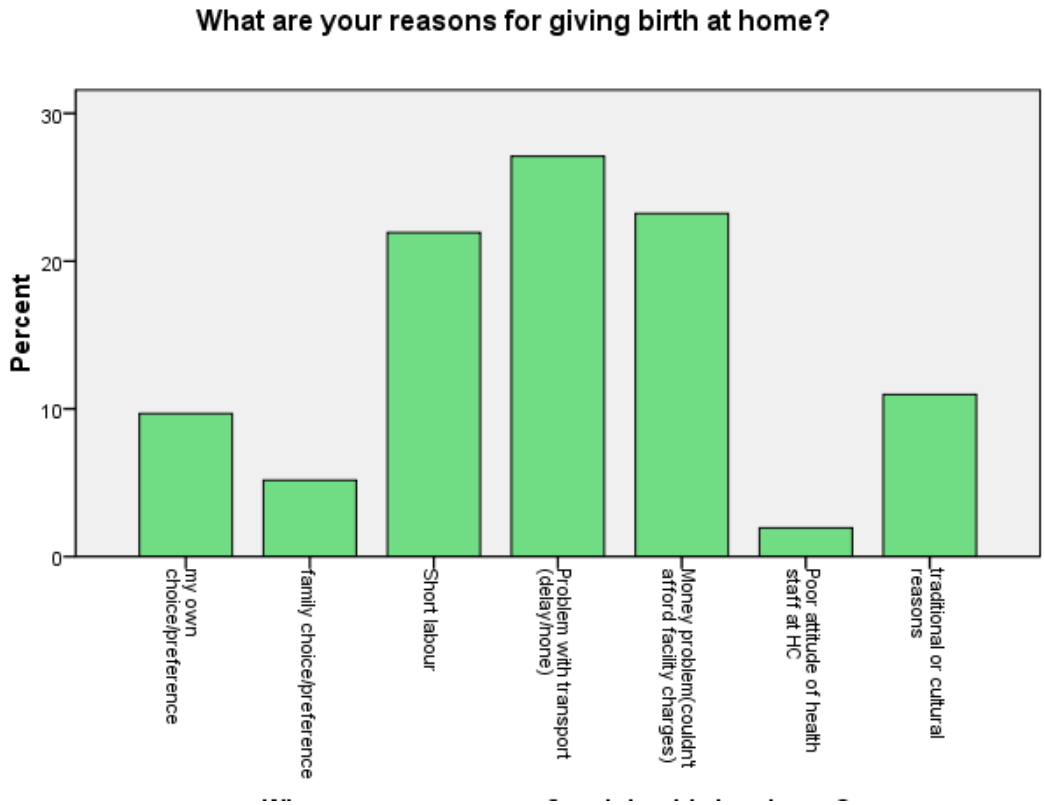
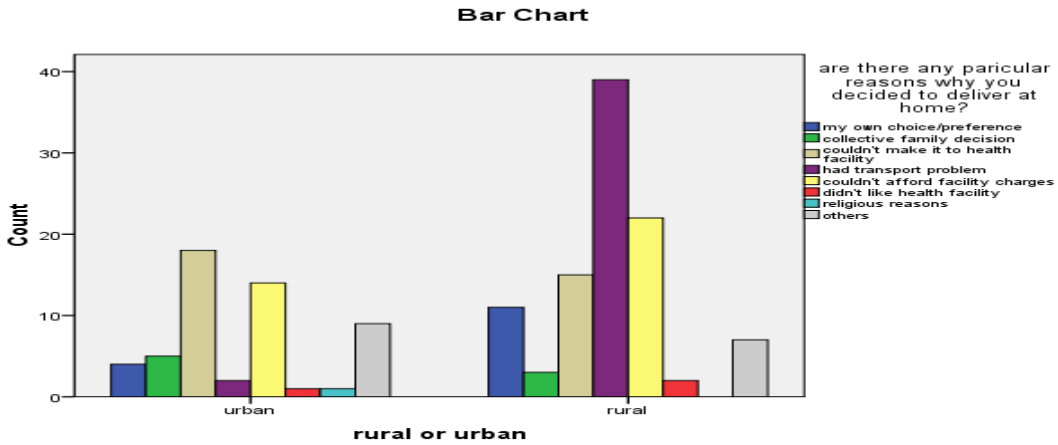


Figure 20b: Barriers to accessing skilled assistance per urban: rural residence.



CHAPTER 5

DISCUSSION OF RESULTS

This chapter discusses the important findings emerging from the survey.

5.1 Socio- Demographic Characteristics

Residence

This survey shows that 56% of our respondents were resident in urban areas and 46% in rural areas and could perhaps be attributed to the increasing urbanization of Ghana's population as evidenced by looking at the trends of all population censuses since 1960-2000. The proportion of urban dwellers has almost doubled since 1960, increasing from 23% in 1960 to 44% in year 2000.(ORC Macro., 2005); very important perhaps in providing easy access to basic and emergency obstetric health care for pregnant mothers.

Age

Our results also show that over two in three of our respondents, (69%) were below 34 years of age unlike that obtained for the Ghana DHS report of year 2003 where 55% of respondents surveyed were below 30 years of age.

Eighty one percent of our respondents were either married or co-habiting, and 18% others single and never married; in contrast to the 2003 Ghana DHS where 62% of women surveyed where married or co-habiting, and 28.4% were found to be single or never married.

This is remarkable because it implies that perhaps more and more women are marrying and also giving birth at an earlier age.

There appears to be fewer single mothers in our survey than the National figure and so more of our men are perhaps taking greater responsibility in sharing the financial and psychological burdens with their consorts than previously found.

Education

A look at the educational level of our respondents reveals improvements over national averages in non educated, primary and junior secondary levels seen in the last DHS report.

For instance 21% of our respondents had no formal education at all –a seven percentage point decrease compared to the 28% national average, 23% had up to primary level- three percentage points above the national figure and 48% junior secondary education, eight percentage points above the national average. The same improvement could not be said of secondary education where the near 8% figure observed is four percentage points lower than the national average of 12% observed in the 2003 DHS.

This implies that although more and more women are getting some education, secondary and postsecondary education is quite low. However the overall improvements observed in educational levels is a very useful observation for women's reproductive health matters, where education literally empowers women to assume full control not only of their reproductive health rights, but also enable them have greater access to better paid jobs and improve their socio-economic well being.

Also of particular interest is the significant rural: urban disparity in educational achievement of mothers interviewed in the survey.

For instance, out of the 83 respondents without any formal schooling, 59 (71%) were rural residents and the rest urban dwellers.

In like manner, 24 (78%) of those with secondary education or more were urban residents and the remaining 7(22%) lived in the rural area. ($p < 0.001$)

IKEAKO *et al*., (2006), in Enugu, Nigeria and the Ghana DHS 2003 report similar findings.

In these studies significant association were equally found between mothers' residence and educational level –with rural mothers achieving substantially lower educational attainment than their urban counterparts.

Parity

Our results revealed that most (72%) of respondents at the time of the survey had given birth to between one and three children compared to 53% observed in the GDHS of 2003. Similarly the observed trend of increasing educational attainment and lower parity was significant and consistent with research findings that more and more women are giving birth to fewer and fewer children -particularly educated women.

The postulated explanation is that, better educated women generally have higher expectations for their children and they therefore normally plan having fewer children in order to be able to make greater investments into their education and well being (ORC Macro, 2005).

5.2 Household Income and Wealth

The amenities and assets available in households can generally be used as proxy indicators of the socio-economic status of the general population.

We are unable to construct a wealth quintile in this study and instead use these household assets as proxy indicators of the possible wealth of our respondents but then go on to use the average income or earnings of the household as the definitive indicator of the probable economic status of our respondents. It's unsurprising to note that the majority of respondents in this survey were earning less than GH¢100 given that most of them were subsistence farmers in a largely agrarian community. There is virtually no large scale manufacturing industry in the entire district and so earnings from trade and commerce is quite low. Most of the respondents would therefore face major challenges when it comes

to out of pocket payments for services rendered in health institutions which fortunately for pregnant mothers has been fee-exempt since April 2005 by a government policy that made pregnancy and delivery care free nationwide (WITTER S., *et al* 2007).

5.3 Antenatal Care Coverage

Our study shows that antenatal care attendance is still quite high among pregnant mothers with the 97% [95% CI 94.2-98.1%] observed in this study, five percentage points higher than the national figure of 92% obtained during the 2003 GDHS. It is similar to findings by MILLS S. *et al* (2008) working in Northern Ghana.

Urban: Rural disparities were minimal though; 98:94 percent ratio in this study compared to the 2003 GDHS ratio of 98:89 percent observed; an indication perhaps that rural residents have improved more on ANC attendance than their urban counterparts.

The statistical significance even though appeared weak ($p=0.034$) for one or more ANC attendance (yes or no), it show stronger statistical association ($p<0.001$) for the number of visits made and urban or rural residence. Our 86:64 percent urban: rural ratio is quite similar to the 84:61 percent ratio reported in the 2003 GDHS, and observations made from an analysis of DHS data obtained from 45 countries in the developing world (ABOU-ZAHR C., and WARDLAW T. 2003).

Rural mothers, perhaps more from multi factorial reasons like education, household wealth, parity, age and access, among many others tend to be more inconsistent in ANC attendance than their urban counterparts and hence unable to make the 4 minimal visits recommended.

A key objective of maternal health care programmes has been to ensure that women present for antenatal care early in pregnancy in order to allow enough time for essential

diagnosis and treatment regimens such as treatment of STIs, malaria chemo-prophylaxis and management of anaemia.

The results of our survey which showed that majority 72% of respondents reported in the second trimester for their first ANC visit, whilst 22% presented in their first trimester is consistent with the findings of DHS data from 45 developing countries analysed by ABOU-ZAHR C. and WARDLAW T., (2003) where just about 22% of women in sub-Saharan Africa present early in the first trimester.

Although women in sub-Saharan Africa make their first antenatal visit rather late in pregnancy, they nonetheless tend to report more than one visit just as was found in this survey.

Late ANC attendance however may preclude women from benefiting fully from preventive strategies deployed at ANC service delivery points. In some rural communities iron and folic acid supplementation, treatment of helminthic infections, and intermittent preventive treatment with sulfadoxine-pyrimethamine for malaria could prove highly beneficial for most women in pregnancy, who could be susceptible to anaemia.

Overall, the antenatal care coverage observed in this survey (97%) is appreciably high in this survey despite the late timing of the first visit and the urban: rural disparity in respect of the minimal four visits necessary before delivery.

5.4 Delivery Care

An examination of trends in delivery care in Ghana from the past four demographic health surveys (1988-2003) show a gradual increase in the professionalization of delivery care, rising from 41% in 1988 to 47% in 2003 (BELL J *et al*. 2003; ORC Macro. 2005).

Our survey results of 61% [95% CI 56.3- 66.1%], institutional delivery care, and with skilled attendance- fourteen percentage points above the national average, and twenty three percentage points above similar work done by MILLS S., *et al* (2008) in rural Northern Ghana is encouraging, although still far below the MDG target of 80% by 2005 and 86% by 2015 (WHO., 2008).

The 61% skilled care utilization observed in this survey is similar to the 60% GDHS 2003 results for the Ashanti region. It is enticing to conclude that nothing much has perhaps changed five years down the lane by way of improvement in skilled assistance at delivery in the district. Even the urban: rural disparity ratio of 76:42 percent observed in this study, though significant, is quite close to the 79:29 percent seen in the GDHS report.

Utilization of skilled assistance in the district, particularly among rural residents appears to be better than the national average.

Nonetheless the urban: rural differential is still relevant and not an unusual finding in our current study because as KOBLINSKY M., (2006) and colleagues report, this is the trend in most of Sub-Saharan Africa where a substantially large portions of her population still live in rural settlements.

A look at the category of skilled personnel in attendance in our study shows that doctors assisted in fewer than 8% of deliveries that took place in health facilities –just like the national estimate and estimates in Indonesia, Bangladesh and Malawi, (BELL J., *et al*. 2003).

That the vast majority of deliveries in health facilities (92%) were attended to by midwives and nurse-midwives is refreshing. These skilled cadres are trained to proficiency levels in managing normal deliveries and taking the appropriate decisions when it comes to complicated deliveries and hence pregnant mothers are in safe hands reporting to health facilities in the district during labor.

Other determinants apart from residence that proved significant in this study (table 12) were mothers' education, time taken to usually access a health facility, (used here as proxy to distance), household earnings per month and number of ANC visits made before delivery.

Similar findings have been made in several studies on the impact of these variables on skilled service utilization (CHOWDHURY R., *et al*. 2007; SEPEHRI A., *et al*. 2008 ;).

Although parity has been found to be associated in some studies with place of delivery (MILLS S. *et a*l. 2008; CHOWDHURY R., *et al*. 2007; ONAH H., *et al* 2006); and indeed the 2003 GDHS found so, with lower birth orders, (1-3) associated with health facility delivery than higher birth orders (4+), our current study found any such association rather weak ($p=0.06$) in our study area even after controlling for other confounding factors. Although not very clear it is probable that our present observation could be due to the fact that the current user fee exemption policy in place makes it possible for women of any parity to access this policy if they so wish hence the obliteration of any association between parity and maternal use of skilled care.

Maternal education, well noted in multiple studies to be a predictor of use of skilled delivery care, (STEKELENBURG J., *et al*., 2004; Bell J., et al., 2003; IKEAKO L., *et al*., 2006) was found in our study area to be a significant factor in the utilization of skilled delivery services. Mothers with more than primary education were strongly associated with use of skilled assistance at delivery than those with less ($p<0.001$). A look at urban: rural residence heightens this association further, [Urban: $\chi2=4.4$ df (1) $p=0.037$; Rural: $\chi2=15.9$ df (1) $p<0.001$] showing that a rural residence and a primary education or lower was strongly associated with home delivery and therefore non use of skilled assistance.

This is not a spurious association as it is well known that maternal education and urban: rural residence is the strongest predictor of delivery with health professionals (BELL J., *et al*., 2003; ANWAR I *et al*., 2008).

Well educated mothers are more likely to be resident in urban areas where they can have preferential access to the many comforts of urban settlements like electricity, portable water and good healthcare. They are equally more likely to be more informed about the dangers of a home delivery should complications set in and therefore more likely to opt for a hospital delivery than their counterparts less educated and living in rural settings.

The distance of a health facility from the abode of a woman in labor and hence the time taken to access that health facility in minutes (used here as proxy to distance to health facility) has been found to be highly associated with use of skilled assistance during delivery. The closer a health facility to the residence of users the more likely it is that they will be patronized during labor (SHAIKH B., and HATCHER J., 2004; MPEMBENI R., *et al* 2007).

Our current study confirms the observation made in multiple studies about the health seeking behavior of women in labor particularly in rural communities-that the closer the health facility to the community in which women live the more likely it will be accessed for their health care needs. Those who took less than 30 minutes to access the nearest health facility were more likely to access skilled assistance during labor than those living further on than 30 minutes travelling time.

The fear of delivering on the way or encountering unknown challenges, cited by mothers in other studies for home delivery could well be some of the reasons for the current observation where respondents living more than 30 minutes travelling time away from the closest health facility used it less often than those living closer than 30 minutes.

5.5 Barriers

The proportion of non users of skilled assistance in this survey (39%), although higher than a similar study done by BAZZANO A. *et al*., (2008) in Northern Ghana is quite similar to that obtained for the Ashanti region wherein Offinso district lies, during the 2003 GDHS. That five years down the lane, rates of skilled delivery utilization has perhaps stagnated in the district, even if not in the entire region is remarkable and a little bit worrisome. Refreshingly though, only 2% of those who delivered at home cited poor attitude of health staff at health facilities within the district as problematic.

However the major barriers identified-namely transportation, money, short labour, traditional and cultural practices as well as personal or family choices- as impeding access to skilled assistance, especially the observed urban: rural disparities, is similar to those acknowledged in multiple studies done in similar settings (MILLS S., and BERTRAND J., 2005; STEKELENBURG J., *et al* 2004).

Transportation difficulties, cited by more than a quarter of our respondents are not unusual given that the road networks in the district which consists largely of unmotorable feeder roads, are poor particularly during the rainy seasons.

That more than one in five respondents cite money as a major deterrent to the non-utilization of delivery care is not too surprising given that majority of the population are rural peasant farmers and the survey shows that more than 75% of our respondents earn less than GH¢100 a month. Surprising though is the fact that most of our respondents did not perhaps know or were unwilling to take full advantage of the government's delivery exemptions policy in place since April 2005 (WITTER S., ADJEI S., 2007).

However as JAMES C., and colleagues (2006) have noted, where fees are abolished, there needs to be clear communication with a broad stakeholder buy-in and careful monitoring to ensure that official fees are not replaced by informal fees. Are stake holders

in the district aware of this fee-exemption policy for delivery care? And how well is this communicated to pregnant women in the district who patronize quite substantially, ANC services?

Besides communication problems, evidence exists of rural and impoverished households being forced into deeper poverty when faced with substantial medical expenses, particularly when combined with a loss of household income due to pregnancy or ill-health (MCINTYRE D., *et al*., 2005). These impoverished households could therefore opt for the easier and less costly option of settling for a home delivery attended to by a traditional birth attendant, relative or friends who take next to nothing as formal or informal charges.

The very low (2%) respondents who cite poor staff attitudes in the local health facilities is very commendable to health staff working in the district. Coupled with the high patronage of ANC services in the district (97%) one could say that perhaps interactions between health services staff and clients although cordial and friendly has not been utilized to the fullest in persuading pregnant clients about the absolute necessity of having skilled care during labour.

Traditional and cultural reasons are cited by about one in ten (11%) of respondents as barriers that prevent them accessing delivery care in the district. What these cultural barriers are is difficult to ascertain at first hand in a quantitative study of this nature and will perhaps need further exploration in a qualitative study just like the 15% respondents who cited personal preferences or family preference for a home delivery because for all we know these personal reasons may well be an euphemism for something deep-seated, emotive in nature, and probably embedded in tradition, culture, or religious dogma.

CHAPTER 6

CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

The UN Millennium Development Goal 5, which seeks to improve maternal health, stipulates two global targets. Firstly, that maternal mortality ratio should be reduced by 75% between 1990 and 2015 and secondly, the universal coverage of skilled care at birth by 2015.

Although a user fee exemption policy is in place for pregnancy and delivery care, complemented by an operational National Health Insurance Scheme, (NHIS), yet still the anticipated surge of women in labour who utilize this free skilled assistance and care during labour is yet to materialize fully in the district. Contrarily maternal mortality seems to have gone up and skilled assistance gone down.

Our current study despite all its limitations has served the purpose of highlighting critical areas at the household level, the community level and service delivery and policy implementation levels that could be streamlined in order to propel the quest for universal skilled delivery in the district forward.

To begin with, our current study has showed that antenatal care coverage in the Offinso district is quite high and appreciable. The 97% coverage observed for at least one antenatal visit before delivery is commendable but then as shown by the study four minimal visits is critical to the utilization of skilled assistance during labour.

The 80% coverage observed for at least four visits can be improved. More frequent contact with service providers during antenatal visits is key, in influencing pregnant women to seek skilled assistance during labour and service providers must take full advantage of their interpersonal skills during the first initial contact to positively

influence their clients to attend more frequently. The lesser than 1% of, complaints elicited from respondents about poor staff attitude in the district shows the good image health staff have within their communities. This can be capitalized upon during focal antenatal care, a time known to reinforce cordiality between health staff and their clients, and the platform used to persuade more and more clients to seek skilled assistance during labour.

Secondly, the skilled delivery coverage of 61% obtained in this study, although higher than the national average of 47% is not different from that obtained in the Ashanti region during the 2003 GDHS. One could argue therefore that skilled delivery coverage seems to have stagnated over the past five years and there is the real danger of reversing any previous gains in our march towards attaining target 7 of MDG5. Much advocacy need to be put in during antenatal visits to persuade expectant mothers to seek skilled care during labour especially among rural residents and so increase skilled delivery coverage in the district.

Furthermore, important socio-demographic determinants highlighted by the results obtained from this study shows that a woman's residence, educational level, household wealth and monthly income, are important in the utilization of skilled care in the district.

A woman with more than primary education, especially if educated to secondary level and beyond, resident in the urban area and relatively wealthy- at least earns more than GH¢100 per month and is registered with the National Health Insurance Scheme (NHIS) will most likely seek skilled assistance during labour in the district. A woman's age and parity at the time of delivery did not seem to play a vital role in influencing a woman's choice of delivery place during labour.

Besides these the distance and therefore travel time taken to access skilled care during labour is important in the district and women who live closer than 30 minutes travel time

to the nearest health facility will patronize them during labour than those living further off.

Nonetheless important barriers highlighted by our respondents in this study would need to be overcome so as to facilitate access to the free delivery care put in place by the government.

Challenges with transportation, either its availability during the critical period when labour sets in, or easy passage via unmotorable roads, to the closest delivery suites particularly for rural women in the district will needs be surmounted.

The apparent lack of awareness by some women within the district that a government enacted exemption policy abolishing payment of user fees for pregnancy and delivery care since 2005 needs to be rectified by appropriately disseminating this information to relevant stakeholders and women groups.

Finally, cultural, religious and traditional barriers alluded to as barriers needs further exploration so that it's leaders and advocates can be engaged in fruitful dialogue that will facilitate a more positive attitude towards seeking skilled assistance during labour.

6.2 Recommendations

In the light of these findings and conclusions we wish to make these recommendations to all the relevant stakeholders in maternal health working within the district, region and country as whole.

To the Ghana Health Service (GHS) and District Health Management Team (DHMT):

1. It is recommended that focused antenatal care should be practiced and encouraged at all health facilities providing antenatal care as this is known to encourage frequent ANC visits which in turn improve the chances of skilled care utilization during labour.

2. Advocacy, communication and community mobilization efforts must be stepped up so as to disseminate relevant government policies that affect the health of the people especially in rural communities in the district.

   Community durbars, fora at schools, churches and other religious groupings can be targeted and the necessary information communicated.

To the Ghana Education Service (GES) and the District Assembly

3. Greater investments need to be made in education within the district particularly girl child and secondary education. This is important not only in empowering women within the district to enable them compete favourably with their male counterparts in better paid jobs and enhance their socio-economic status but also enable them have greater voice at the household and community levels on all issues that affect their reproductive health.
4. The road networks within the district will need to be improved to facilitate easier access to health facilities and these calls for central government increasing budgetary allocation of financial resources to the district.

To Traditional Authorities and Non-Governmental Organizations (NGOs)

5. There will be the need for NGOs working in the district to partner with the GHS and dialogue with traditional authorities, community leaders and other relevant stakeholders about strategies that can help reduce negative cultural and religious practices that militate against seeking skilled delivery care during labour.
6. The above named bodies can liaise with relevant parties in the transport industry to help transport pregnant women to the hospital free of charge during the critical

period when labour sets in to minimize the problem with transportation difficulties.

To Central Government and its Regional representatives

7. Greater and greater efforts need to be made in order to accelerate infrastructural development in the district in order to woo investors into the district and make use of the vast natural resources lying dormant in the district. This if done would create jobs and improve the socio-economic conditions for residents in the entire district -especially those living in the rural communities so as to help bridge the urban: rural disparity in wealth and social conditions.

Maternal health needs to be improved in the district in order to meet MDG5.

Although coverage of skilled assistance is higher in this district, compared to the national estimate our study has brought to the fore some of the pertinent challenges that could be tackled immediately so as to improve coverage.

Given the relative inputs being made by the Ghana government and other stakeholders by way of financial resources, policy directives and inputs, bold and pragmatic efforts by all stakeholders in the implementation of some if not all of the suggestions made could bring some degree of progress.

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APPENDIX

STUDY QUESTIONNAIRE

Factors affecting the utilization of skilled delivery services in the Offinso District Community Health Department, Kwame Nkrumah University of Science and Technology, Kumasi

STUDY QUESTIONNAIRE
Interview with Mothers who delivered ≤ 1yr ago

Respondents Id No …….. Location/EA No…….
How old is your last child?
Date of interview
General Characteristics
1.1 AGE ———
1.2 Parity ☐☐ (total No of births)
1.3 Marital status:
☐1: single ☐2: married ☐3: widowed ☐4: separated/divorced
☐5: co-habiting
1.4 Educational Level
☐1: None ☐2: Primary ☐3: JSS ☐4: SSS ☐5: Tertiary
1.5 OCCUPATION
☐1: farmer ☐2: trader ☐3: professional ☐4: skilled (specify) …….
☐5: unskilled (specify)……. ☐6: other (specify)…….
1.6 ETHNICITY)
☐1: Akan ☐2: Ewe ☐3: Hausa ☐4: Other (specify……..
1.7 RELIGION
☐1: Christian ☐2: Moslem ☐3: Traditional ☐4: Others
(Specify……
1.8 What is the educational level of husband or spouse?
☐1: None ☐2: Primary ☐3: JSS ☐4: SSS ☐5: Tertiary
1.9 What is his occupation?
☐1: farmer ☐2: trader ☐3: professional ☐4: skilled (specify) …….
☐5: unskilled (specify)…… ☐6: other (specify)……

2.1 What is the main source of drinking water in this household?
☐1: piped water inside ☐2 piped water yard ☐3: piped water public
☐4: borehole/well ☐5: Stream/River ☐6 : water tanker ☐7: rainwater tank
☐8: sachet water ☐9: bottled water
2.2 What type of toilet do you use in this house?
☐1: flush toilet ☐2: traditional pit toilet ☐3: ventilated improved pit latrine
☐4: bucket/pan ☐5: No facility/bush ☐6: other (specify)…….

2.3 What is the main fuel used for cooking in this house?

☐1: electricity ☐2: gas ☐3: kerosene ☐4: charcoal ☐5: wood
☐6: other (specify)……..

2.4 Do you have any of the following? (*multiple responses accepted*)
☐1: A car ☐2: A refrigerator and/or freezer ☐3: radio ☐4: televisions
☐5: stove ☐6: telephone/cell phone

2.5 Are you currently a member of the National Health Insurance Scheme(NHIS)
☐1: yes ☐2: no

2.6 Source of income of main provider for the household?
☐1: Regular employment? ☐2: Irregular employment ☐3: Home employment (income generating activity performed at home) ☐4: State pension
☐5: Contributions from others ☐6: Don't know
☐7: Other (specify)…….

2.7 How many people in all currently belong/live in this household?
……..

2.8 Can you kindly estimate the average monthly income in this household?
☐1: < ¢100 ☐2: ¢100-¢299 ☐3: ¢300-¢499 ☐4: ¢500 or more

3.1 How do you usually get to your nearest maternity home or clinic?
☐1: walk ☐2: taxi or bus ☐3: own car ☐4: other

3.2 How long does it normally take you to get to the nearest clinic or maternity home?
☐ Minutes

3.3 How much does it cost to get to the nearest clinic?
GHC ☐

3.4 How do you usually get to the nearest Hospital?
☐1: walk ☐2: taxi or bus ☐3: own car ☐4: other (specify)……

3.5 How long does it normally take you to get to the nearest hospital? (in minutes)
☐

3.6 How much does it cost to get to the nearest hospital?
☐

4.1 Did you receive or attend ANC during the last pregnancy/birth?
☐1: yes ☐2: No (*If yes proceed to 4.3 and If No to 4.2, then 5.1)*

4.2 If No can you briefly tell me why?
_____

4.3 If yes can you tell us briefly why?
_____

4.4 If yes where did you receive it from?
☐1: hospital ☐2: health center ☐3: maternity home ☐4: TBA's home
☐5: Other (specify

4.5 How many months pregnant were you when you 1st received or attended center for ANC?
☐1: <3mths ☐2: b/n 3-6 mths ☐3: >6mths ☐4: don't know

4.6 How many ANC visits did you make before delivery?
☐1: one ☐2: two ☐3: three ☐4: four or >

4.7 Were you seen by the one and the same person on all occasions of your ANC visit?
☐1: yes ☐2: no ☐3 don't know

4.8 Were you satisfied with the reception or treatment you received at the place you attended your ANC?

☐1 Yes ☐2: No

4.9 Would you recommend ANC services at this place/person to other women?

☐1: yes ☐2: no

Why or Why Not———————————

5.1 Where did you deliver your last baby ?

☐1: Home ☐ 2: Hospital ☐3: Private clinic ☐4: Health Center ☐5: Maternity Home ☐6 TBA

(*if Home delivery pls jump to section7.1)*

5.2 What type of delivery did you have at the health facility?

☐1: vaginal ☐2: vacuum ☐3: C/S ☐4 Other (specify)…….

5.3 What was the outcome of the delivery at the health facility?

☐1: Live Baby ☐2: Still Birth

5.4 Did you have any problems getting to the health facility (when in labor) for the birth of your baby?

☐1: yes ☐2: No

5.5 If yes please briefly describe the nature of the problems (*probe and tick all that apply*).

☐1 Family consent or approval ☐ 2 Money needed for delivery ☐3 Getting a vehicle ☐4 Poor road network

☐5 Other (specify)…….

5.6 Can you tell us who took the decision you deliver at health facility and not at TBA /home?(probe)

☐1 My own preference/choice ☐2 collective decision by me/spouse

☐3 collective decision by family

☐4 Other (specify)……..

5.7 At the health facility who attended to or assisted in your delivery process?

☐1: Doctor ☐2: Midwife ☐3: Nurse ☐4: Health care assistant

☐5: Other Staff (specify)……

5.8 Were any of your relatives allowed to be with you during the delivery process?

☐1: yes ☐2 No

5.9 Which would you prefer given the choice .To have to have relatives present to observe the delivery process

☐ 1 Relatives present ☐ 2 relatives absent ☐ 3 don't know

5.10 Did you have to pay any money for the last delivery?

☐1: yes ☐2 No ☐ 3: don't know

5.11 If yes how much money did you spend in all for the delivery?(direct [=formal charges]and indirect costs=informal)

1 direct costs=GHC ☐ 2: indirect costs =GHC ☐

5.12 If No who paid for the cost of the delivery?

☐1 NHIS ☐2: other private insurance ☐3: Employer ☐4 Other (specify)…….

5.13 How soon after the delivery were you discharged from the hospital?

☐1 Same day (<,24hrs) ☐2 day after (>24hrs)

5.14 Were you advised to come back to the health facility after the delivery?

☐1: yes ☐ 2: no ☐ 3: can't remember

5.15 now tell me how you were treated at by the health staff during the delivery?(probe and tick all that apply}

1:☐ positive		2: ☐ negative	
1.1 respectful		2.1 rude	☐
1.2 Patient with me		2.2 rushed	☐
1.3 Prompt attention		2.3 long waiting time	☐
1.4 provided privacy		2.4 no explanations offered	☐
1.5 made me comfortable		2.5 language difficulties	☐
1.6 others (specify)…….		2.6 others (specify)……	☐

5.16 How would you rate the overall service rendered to you during the delivery process?

☐1: Poor ☐2: Average ☐3: Excellent

5.17 Would you recommend labor or delivery care at this health facility to other women?

☐1: yes ☐ 2 no

Briefly explain to me why or why not……

6 FOR HOME DELIVERY ONLY

6.1 What was the outcome of your delivery at home?

☐1: Live Baby ☐ 2: Still Birth

6.2 Are there any particular reasons why you decided to deliver at home? (*probe gently and tick all that apply}*

☐1: my own choice/preference ☐ 2: collective family decision ☐3: couldn't make it to health facility (specify)…….

☐4: Had transportation difficulties ☐5: couldn't afford facility charges

☐6: didn't like health facility ☐7: traditional or cultural reasons (specify) …… ☐

☐8: religious reasons (specify)…… 9: Other (specify)……..

6.3 Is /are there any persons who assisted you to deliver at home?

☐1: No I was alone ☐2: TBA ☐3: Health worker (nurse or HCW)

☐4: midwife ☐5: relative/friend/neighbor

6.4 Did you develop any problems or complications whist delivering at home?

☐1: yes ☐ 2 no

6.5 If yes specify and briefly tell us what you did or were done for you.

…….

6.6 Tell me, is this the very first time that you are delivering at home?

☐1: yes ☐ 2 no

6.7 If you got pregnant again and had to deliver, would you prefer a home or health facility?

☐1: Home ☐2: Health facility ☐3: don't know

6.8 Any particular reasons for this choice?

……..

Thank you very much for the time spent with us.

CONSENT FORM

Hello. My name is _____ and I am a research student with the KNUST Department of Community Health. We are conducting a survey about the health of women in this community. We would very much appreciate your participation in this survey. I would like to ask you about your health and about issues related to pregnancy and childbirth. This information will be used to improve health services in this district. I will also be asking you some questions about the health facility you usually attend. We will not share your identity or your individual responses with the staff at that facility or with anyone else. There are no risks involved in participating in the study.

Only survey organizers and the Committee that oversees the ethical aspects of this study may view the data. The responses you provide will be kept strictly confidential and will not be shown to other persons.

Participation in this study or refusal to participate will not affect your ability to access health services or any other services. The interview usually takes between 30 and 40 minutes to complete.

Participation in this survey is voluntary and you can choose not to answer any individual question or all the questions. However, we hope that you will participate fully in this survey since your views are important. At this time, is there anything you would like to ask me about the survey?

For additional information about the survey and your participation in it, you can contact Dr Joseph Baah Obeng.

By consenting, you indicate that you understand the information I just read about the study and that you are willing to participate.

Signature of respondent
Date:

Signature of interviewer:
Date:

May I begin the interview now?