SCHOOL OF PUBLIC HEALTH

COLLEGE OF HEALTH SCIENCES

UNIVERSITY OF GHANA, LEGON

MATERNAL HEALTH CARE UTILIZATION THROUGH COMMUNITY-BASED INITIATIVES IN PERIURBAN ACCRA

BY

ADANNA ULOAKU NWAMEME
(10359287)

THIS THESIS IS SUBMITTED TO THE UNIVERSITY OF GHANA, LEGON IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF PHD PUBLIC HEALTH DEGREE

JULY 2018

DECLARATION

I, Adanna Uloaku Nwameme hereby declare that, except for the references cited in this thesis which have been duly acknowledged, this thesis is a product of my own PhD work under the supervision of Prof. Philip Baba Adongo and Dr. Phyllis Dako-Gyeke. I further declare that this thesis has not been submitted to this university or to any university elsewhere for the award of a degree.

Adanna Uloaku Nwameme
(PhD candidate)

16/01/19
Date

Prof. Philip Baba Adongo
(Primary Supervisor)

17/01/2019
Date

Dr. Phyllis Dako-Gyeke
(Secondary Supervisor)

17/01/19
Date

DEDICATION

This thesis is dedicated to my husband and children.

To my dear husband, Dr. Charles Emeka Nwameme, for your rock solid presence during the course of this PhD programme. Thank you for lovingly providing the much needed moral and financial support that has seen me to the end of this journey. I could not have asked for a better partner during this worthy undertaking.

To my darling children, Xavier Maduabuchi, Charis Ivuoma, and Tahlia Ivuaku Nwameme: you are the reason for which I undertook this endeavor. Thank you for your patience and understanding despite my hectic schedule during this process. My prayer is that I have been able to act as a role model such that you all will be encouraged to be tenacious in your undertakings, and strive to excel in all that you endeavor to do.

ACKNOWLEDGEMENT

The completion of this thesis has been possible because of a number of individuals who have shown me support through their mentorship, contributions and support.

I wish to express my profound gratitude to Prof. Philip Baba Adongo, my supervisor and mentor extraordinaire. Having you guide me has been a truly enriching experience and I am a better researcher today for it. To Dr. Phyllis Dako-Gyeke, my second supervisor, thank you for your sound advice, and for having confidence in my abilities.

I would like to also like to thank the Faculty and Staff of University of Ghana School of Public Health, who in one way or the other have made contributions that have helped my progression to the completion of this thesis. To my colleague, Philip Tabong, for his undiluted sense of camaraderie and encouragement; and Virtue De-Gaulle, for her indefatigable support throughout the programme.

Finally, I am immensely indebted to my wonderful parents Dr. Sir Darlington and Barr. Lady Uchenna Amamasi, whose unconditional love and unflinching support throughout my life has brought me this far.

ABSTRACT

Background: The availability of skilled care during pregnancy, childbirth, and the postpartum period ensures the best chances of delivering a healthy infant with no complication to the mother. Huge disparities in health exist between urban and rural dwellers but recent research has shown that the urban poor sometimes have worse maternal health outcomes than rural dwellers. Community-based interventions have been shown to foster interactions between pregnant women and health care providers and can go a long way in mitigating the adverse effects of urban poverty on maternal health. This study aimed to highlight how such initiatives are able to improve maternal health care utilization in a peri-urban settlement in Accra.

Methodology: This research was a cross-sectional study employing quantitative and qualitative methods of data collection and analysis. Four hundred and forty-one (441) women who delivered in the past 18 months were randomly sampled from two sub-districts of the Ga East Municipality for participation in the survey. The purposive sampling technique was then used to sample participants for the Focus Group Discussions and the In-depth Interviews. Five (5) FGDs (n=35) were conducted amongst mothers in the community depending on place of delivery (21), and with the Community Health Officers (14), whilst nine (9) IDIs were conducted with formal and informal health care providers in the communities. Analysis of the quantitative data was done using STATA 13© and univariable, bivariable and multivariable logistic analysis were carried out with p-value of <0.05 seen as significant. The qualitative data were audio-recorded, transcribed verbatim and thematic analysis was done using the NVivo 11© software.

Results: Socio-demographic characteristics such as employment (p=<0.01), autonomy (p=<0.001), and satisfaction with Antenatal Care service provision (p=<0.001) were found to be the main determinants of adequate ANC utilization. In addition, employment (p=<0.05), decision making (by males) (p=<0.001), having had obstetric complications (p=<0.001) and having ever been visited by a CHO (p=<0.01) emerged as determinants of Postnatal Care utilization in a timely manner. Barriers to maternal health care utilization include financial and time constraints, lack of public health care facilities within the communities, poor service provision at health care facilities, fear of having a Caesarean section, and cultural practices, causing women to access care from private facilities and Traditional Birth Attendant centres. There was no effect on ANC and SBA service utilization due to CHO home visits, but surprisingly, these visits reduced the likelihood of timely PNC service utilization (aOR=0.62, 95% CI=0.40-0.95). Mother Support Groups did not have any significant effect on ANC, SBA or PNC utilization. Public-private health care partnerships were weak and are dodged by lack of synchronism and high attrition rate of Mother Support Group volunteers.

Conclusion: Although majority of women in these peri-urban communities availed themselves of ANC, SBA and PNC services, a substantial number of them utilized these services inadequately, and in an untimely manner. In addition, community-based activities of formal and informal health care providers had a mixed effect on maternal health care utilization and collaborations between them faced challenges requiring a clear cut protocol to guide these partnerships.

TABLE OF CONTENT

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

ANC	Antenatal Care
BEOC	Basic Emergency Obstetric Care
CHO	Community Health Officer
CHPS	Community-based Health Planning and Services
CHW	Community Health Worker
EmONC	Emergency Obstetric and Neonatal Care
FANC	Focused Antenatal Care
GDHS	Ghana Demographic and Health Survey
HBM	Health Belief Model
ICPD	International Conference on Population and Development
LMICs	Low- and Middle- Income Countries
MDGs	Millennium Development Goals
MHD	Municipal Health Directorate
MHMT	Municipal Health Management Team
MMR	Maternal Mortality Ratio
PNC	Postnatal Care

SBA	Skilled Birth Attendance
SDGs	Sustainable Development Goals
SMI	Safe Motherhood Initiative
STIs/HIV	Sexually Transmitted Infections/Human Immuno-deficiency Virus
TBA	Traditional Birth Attendant
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
WHO	World Health Organisation
WIFA	Women In Fertility Age

CHAPTER ONE

1.0 INTRODUCTION

1.1 Introduction

This chapter provides a background to the study. It encompasses the maternal health care situation on global and local scales. It seeks to establish the importance of Antenatal Care, Skilled Birth Attendance and Postnatal Care utilization in ensuring positive maternal health outcomes. It further examines the place of community-based interventions in the provision of maternal health care for underpriviledged women living in peri-urban settlements. The chapter goes on to justify the reason for the study, while outlining the objectives to be met. The conceptual framework on which the study is premised is also described.

1.2 Background

Maternal health which encompasses the health of a woman during pregnancy, childbirth, and the postpartum period is a fundamental human right for all women (WHO/UNFPA/UNICEF/World Bank, 1999). Availability of skilled care before, during, and after childbirth is paramount in ensuring the best chances of delivering a healthy infant with no complication to the mother (WHO, 2016). Global efforts have been made to ensure good maternal health care and in 1987, the World Health Organization (WHO) formulated the safe motherhood package which comprises of ANC, family planning, safe delivery, and essential obstetric care conceived to ensure women's ability to safely carry their pregnancies and deliver healthy infants (Mahler, 1987). In 2000, the Millennium

Development Goal (MDG) 5 was set to improve maternal health by reducing maternal mortality by 75% and achieving universal access to reproductive health between 1990 and 2015 (WHO/UNICEF/UNFPA/World Bank/UNPD, 2015). By 2010, the Sustainable Millennium Goals were established to spur on the MDG efforts and SDG 3.1 aims to reduce worldwide maternal mortality to less than 70/10,000 live births by 2030. In order to achieve this goal, the continuum of care needed by pregnant women must be available and accessible.

Antenatal care (ANC) as is traditionally practiced was developed in the 1900s and is the first care offered to expectant women during frequent antenatal visits (WHO, 2005). The ANC services are oriented towards preparation for birth and parenthood, in addition to prevention, detection, alleviation, or management of pregnancy related problems that impact on mothers and babies, other health problems exacerbated by the pregnancy, as well as issues arising from unhealthy lifestyles (PMNCH, 2006). Antenatal Care provides an opportunity for women and their families to interact with the formal health system and access health services geared towards health promotion and preventive care, encourages skilled birth attendance and postpartum care, and contributes to good health outcome for the mother and child (ACCESS, 2005).

Conventional Antenatal Care is largely focused on a risk-based approach whereby women are classified based on the likelihood of developing pregnancy-related complications and therefore are required to make several antenatal visits to ensure better birth outcomes

(ACCESS, 2005). However, several studies have shown that there is no guarantee that women with risk factors will develop complications, and vice versa (Vanneste, Ronsmans, Chakraborty, & De Francisco, 2000; Yuster, 1995). These repeated visits also pose a financial and logistic burden to women; and a strain on resources available at the healthcare facilities (Villar & Bergsjø, 1997; WHO, 2002). In a bid to mitigate these challenges, the World Health Organisation (WHO) adopted the Focused Antenatal Care (FANC) approach in 2002, which aims at targeted assessments and individualised care of pregnant women during four ANC visits (PMCH, 2010). Targeted assessments make certain that the pregnancy and postpartum periods progress as expected, and ensure early detection and management of complications that may arise concerning the mother or the newborn; while individualised care provides supportive care and counselling to prepare the women and their families for birth and possible complications (ACCESS, 2007).

Several studies have also revealed that the availability or increase in skilled birth attendance results in reduction of maternal and child mortality (Bhutta et al., 2010; Prata et al., 2011; Yakoob et al., 2011). According to WHO, a skilled birth attendant refers to a health professional such as a midwife, doctor or nurse, who is trained and competent in the skills needed to manage normal childbirth and the immediate postnatal period, and who can identify complications and provide emergency management and/or refer the case to a higher level of health care (WHO, 2004). The postpartum period, interchangeably called the postnatal period, generally covers the first 42 days after birth and can be a precarious period for a woman, her newborn and her household physiologically, emotionally and socially (WHO, 1998). Although most maternal mortality and morbidity as well as neonatal

mortality occur during this period, not much priority is given to postnatal care (Ronsmans & Graham, 2006).

Antenatal Care, SBA and PNC service provision are important measures as direct obstetric complications such as haemorrhage, hypertension, sepsis, and obstructed labor are responsible for 71.4% of all maternal deaths that occur in Africa (Say et al., 2014) whilst over 50% of maternal deaths occur within twenty-four hours of birth (Nour, 2008). On the global front, there has been a significant increase in the number of women accessing ANC services but the progress in sub-Saharan Africa has been quite slow with only a 4% increase between 1995 and 2005 (WHO, 2005). In most African countries, less than 70% of pregnant women receive ANC, most of whom only have one or two visits and sometimes late in pregnancy (Houweling, Ronsmans, Campbell, & Kunst, 2007). Unfortunately, many of the women who do not have access to Antenatal Care are those who need it the most, typically poor women in rural areas and urban slums (Zanconato, Msolomba, Guarenti, & Franchi, 2006). Similarly, whilst significant strides have been made in developed countries with regards to the availability of skilled attendance during child birth, Africa continues to lag behind with less than 50% of all births in Africa taking place with a skilled attendant (Edouard, 2012) and receiving postnatal care within two days of childbirth (Lawn et al., 2014). The maternal mortality rates (MMR) in the sub-Saharan Africa region alone accounted for 62% (179,000) of the 289,000 women who died during pregnancy and childbirth globally in 2013 (WHO/UNICEF/UNFPA/The World Bank/UN, 2014). In the same year, the maternal mortality rate in Ghana was 380 per 100,000 live births which is still high, although it was a reduction from 760 in 1990 (WHO et al., 2014). Improving the

health of a woman during this critical stage in life and reducing maternal and neonatal death is a global priority.

Studies show that social determinants are closely linked with use of maternal health care services. In addition to poverty, gender discrimination and poor education (Banks et al., 2006; Lawn, Cousens, & Zupan, 2005; WHO/UNICEF/UNFPA/The World Bank, 2007), there are intra-urban and rural-urban disparities between healthcare accessible to individuals dwelling in urban and that operational in rural environments (Wirth et al., 2006). A 2007 report from the United Nations Population Fund predicts that the urban populations in Africa will double by 2030 with the fastest growing group being the urban poor. Moreover, 72% of sub-Saharan Africa's urban population currently lives under slum conditions associated with overcrowding and poor sanitary conditions, making them susceptible to ill health and diseases (UNFPA, 2007) and predisposing them to poor access to quality healthcare; a situation comparable to or less than what is prevalent in rural areas (Kinney et al., 2010). These poor conditions, in addition to insufficient nutrition, lack of potable water and poor education invariably result in maternal and child deaths (UNICEF, 2007). Maternal health care services have been proven to promote the health of mothers and their newborns but the urban poor have limited access to maternal health care services (Khan et al., 2012; Matthews et al., 2010). Where such inequity exists, the underpriviledged women can fall between the cracks of health service delivery as a result of access barriers and poor quality of available services, and end up with negative health outcomes.

Community-based interventions have been shown to have positive effects on access to and coverage of health care services, as well as on the diminution of health disparities, with the provision of health services to individuals who are difficult to reach (Lassi, Das, Salam, & Bhutta, 2014). In addition to improving utilization of maternal health care services by tackling socio-economic and cultural challenges, and improving the quality of services provided, the initiation of community programmes that foster interactions between the pregnant women and health care providers can go a long way in mitigating the adverse effects of urban poverty on maternal health (PMNCH, 2006). The involvement of Community Health Workers (CHWs), sometimes voluntarily, in such attempts at service provision has been shown to make a difference in access to health care and health outcomes (WHO/GHWA, 2010). In many Low-and-Middle Income Countries, CHWs are effectively involved in interventions geared towards the improvement of maternal and child health (Gilmore & McAuliffe, 2013; Lema et al., 2014).

Furthermore, evidence exists that highlights the benefits of fostering partnerships between public and private health care providers in underserved communities (Thadani, 2014; WHO, 2007). Due to the paucity of public health facilities in many urban poor areas, private health care facilities like the private hospitals, clinics, pharmacies and the laboratories tend to fill the gap in the health care delivery services that the public sector is not able to meet (Basu, Andrews, Kishore, Panjabi, & Stuckler, 2012). The perception that the private health care providers, which are usually profit making, have their services tailored for the rich is disputable. This is because the private sector is reported to be the main source of treatment for the poor, especially in developing countries, whereas the

public sector often provides care for the rich (Basu et al., 2012; Harding, 2009). This situation is also evident in the utilization of maternal health care in urban slums where women patronize private health care facilities for various reasons ranging from lack of public health care facilities, to dissatisfaction with service provision at available public institutions (Bayou, Mashalla, & Thupayagale-Tshweneagae, 2016; Fotso & Mukiira, 2012). In a bid to enhance provision of affordable and quality health care accessible to all, a well planned and executed public–private sector collaboration of health services can help address specific costs and investment challenges, improve service provision at affordable cost, boost expertise as well as increase infrastructural development and improve modern medical technologies (Nikolic & Maikisch, 2006).

1.3 Problem Statement

Maternal mortality continues to be a huge public health problem in sub-Saharan Africa where 71% of pregnant women attend at least one ANC clinic but only 44% attend the stipulated four times (Kinney et al., 2010). In 2015, about 86% of all maternal deaths occurred as a result of direct obstetric conditions such as hypertension and antepartum haemorrhage, and these are directly related to inadequate Antenatal Care (GBD 2015 MMC, 2016; WHO, 2005). For so long, popular opinion was that these conditions affected women living in rural areas more than those in the urban areas, but recent research has shown that the urban advantage is not all-encompassing as the urban poor sometimes have worse maternal health than rural dwellers (Matthews et al., 2010). These inhabitants of deprived urban environments sometimes find maternal health care services to be

inaccessible as more importance has been placed on reproductive health issues concerning rural dwellers than has been placed on the urban poor (Fotso, Ezeh, & Oronje, 2008).

Despite the fact that in Africa there is an inclination towards allocating the bulk of health services to urban areas, the urban poor woman living in a marginalised settlement has poor access to health care facilities (IDS, 2016; Magadi, Zulu, & Brockerhoff, 2003). In addition to the fact that the peri-urban settlements are informal and as such are deprived of government support, their locations are often times inaccessible to health workers and the increasing populations of these slums make it difficult for adequate health services to be provided (Magadi et al., 2003). The women in these settlements are also constrained by the need to engage in economic activities to survive, poor social support and high cost of health care services in urban areas (Fotso, Ezeh, & Oronje, 2008; Magadi et al., 2003). Furthermore, national surveys are neglectful of these slum settlements due to their illegal status, thus providing health indicators that are not reflective of the intra-urban disparities between the slum dwellers and the non-slum dwellers (Fotso et al., 2008). As such, the urban poor have benefited the least from improvements in maternal health care.

In Ghana, about 48% of urban dwellers are migrants with one in every six residents in Greater Accra Region being a migrant (GSS, 2014). This high incidence of urban migration in Ghana has led to an increase in vulnerability to poverty due to high living costs and paucity of job opportunities, and its attendant negative effect on health statuses (Novignon, Nonvignon, Mussa, & Chiwaula, 2012). In their study done in Accra, Ghana, Fobil et al.,

(2012) found an increase in mortality due to malaria and diarrhoea amongst financially vulnerable individuals living in poor environments. The case with maternal health care provision in Ghana is not different as the urban poor are usually left out of maternal health care plans with the urban non-poor and rural pregnant women having higher access to maternal services than their marginalised urban poor counterparts. (Matthews et al., 2010).

As explosive population growth continues to be the trend in sub-Saharan African cities, there is a need to tackle maternal health issues in resource-poor urban settings by implementing initiatives that have been shown to reduce maternal mortality and morbidity, such as Antenatal Care, Skilled Birth Attendance and Postnatal Care, accessible to pregnant women living in this unique environment.

1.4 Research Questions

This research work will aim to answer the following questions:

1. What are the peri-urban women's experiences with the Antenatal Care services offered by the health care providers in their communities?
2. How do pregnant women utilize Skilled Birth Attendance services from the health care providers in their communities?
3. What are the women's experiences with the Postnatal Care services they receive from the health care providers in their communities?
4. How do community-based interventions influence adequate ANC, SBA and timely PNC utilization in the peri-urban setting?

1.5 Objectives

1.5.1 General Objective

The general objective of this research is to investigate the utilization of maternal health care services through community-based perinatal care interventions in a peri-urban setting in Ga East Municipal.

1.5.2 Specific Objectives

The specific objectives are outlined as follows:

1. To assess the peri-urban women's utilization of Antenatal Care services offered by the health care providers in their communities;
2. To examine the women's utilization of Skilled Birth Attendance services from the health care providers in their communities;
3. To explore the women's utilization of Postnatal Care services offered by the health care providers in their communities;
4. To determine the influence of community-based interventions on adequate ANC, SBA and timely PNC utilization in the peri-urban setting.

1.6 Justification of the Study

In Ghana, though 95% of pregnant women receive some Antenatal Care, only 57% go ahead to deliver their babies in health care facilities while 30.3% of births are attended to by Traditional Birth Attendants (GSS/GHS/ICF Macro, 2009). The situation in Greater Accra Region is alarming as it is the only region out of the existing ten, that recorded a

decline in ANC coverage from 88.9% in 2002 to 85.2% in 2008 (GHS, 2009a). Supervised delivery in the region accounts for 53% of all births with TBAs taking 3% of the deliveries (GHS, 2009b).

Over the past two decades some areas of the Greater Accra Region have had a rapid increase in population growth with the concomitant spatial expansion into peri-urban surroundings and Ga East Municipal in the region is an area experiencing this fast population explosion (Pehr, 2010). This has led to poor social and health infrastructure provision in the municipal. The Ga East Municipal Health Management Team (MHMT) Reproductive and Child Health Report indicates that in 2015, the municipal had an ANC, SBA and PNC coverage of 78%, 42% and 54%, respectively (GEMHD, 2016). This statistic shows that many women miss out on the benefits of Maternal Health Care to the detriment of their health and that of their newborn. However, in this study area, there exists a number of community-based interventions tailored towards improving maternal health care service delivery to the underpriviledged women living in these communities. These include the home visits undertaken by Community Health Officers (CHOs) attached to the Community-based Health Planning and Services (CHPS) programme, the Mother Support Groups made up of female volunteers and collaborations between public and private health care providers in the communities.

This study is therefore tailored towards determining how these community-based interventions bridge the gap between communities and facilities and thereby improving

maternal health care service utilization in peri-urban settlements. Findings from the study will help in the formulation of recommendations towards the strengthening of collaborations between public and private health care providers thereby improving delivery of perinatal care services in marginalized urban areas.

1.7 Theoretical Underpinnings and Conceptual Framework

Research studies are based on theoretical frameworks which form the basis for the problem statement of the study, the significance, and the research questions, and provide a foundation for the literature review, the research methods and plan for analysis (Grant & Osanloo, 2014). Patient utilization of and satisfaction with health care services can be explained by a number of theories but this research is guided by the Donabedian Model and Weick's Health Communication Theory.

The Donabedian Model has been used widely as an evaluation framework targeted at outcomes of health care provided to individuals (Sardasht, Shourab, Jafarnejad, & Esmaily, 2014). Formulated in 1966, this framework outlines three standards for the assessment of quality of service provided and these are structure, process and outcome (Donabedian, 1997). Service delivery interacts with various underlying characteristics of the recipients thereby resulting in positive or negative health outcomes. In this study, this model was used to identify the structures in place to enhance the provision of maternal health care services to the women in the peri-urban settlements. This includes the channels of communication between the community based health care providers and the women in the communities, as

well as that between the providers. The process by which the care is given is characterised by the ANC, skilled birth delivery and PNC services provided at the community and facility levels. The outcomes of the process will include the periurban women's satisfaction with the quality of service provided and its subsequent effect on ANC, skilled birth delivery and PNC service utilization. As the Donabedian Model does not take demographic and socio-economic factors outside of the health care delivery system into cognizance, this research will use it in conjunction with the Weick's Theory to ensure that factors that impact on maternal health care utilization at the community level are also addressed.

The first International Conference on health promotion produced the Ottawa Declaration of 1986, which recognised the importance of mediation between social groups and health care providers towards the improvement of health (WHO, 1986). Weick's theory highlights the fact that communication and processing of information play a vital part amidst social groups and institutions. The theory emphasises the import of communication between healthcare providers as well as that between clients and health care providers (Raingruber, 2014; Weick, 1979). The three phases in Weick's theory are enactment, selection, and retention: the enactment phase centers on the health challenges being encountered; the selection phase dwells on strategies employed to improve on communication; while the retention phase deals with maintaining the learned lessons and putting them into action. These were used in this research to describe the challenges encountered with regards to utilization of maternal health care services and to communicate its importance to women at the community level during the enactment phase. The community initiatives that exist as a result of attempts to mitigate these challenges and the influence of socio-demographic

characteristics of the women on these intiatives were contextualized at the selection phase. In the retention phase, the research sought to highlight the effect of the support offered to the women living in periurban communities on utilization of perinatal care services in an adequate and timely manner. These two theories have informed my conceptualization of the research as shown in Figure 1 below.

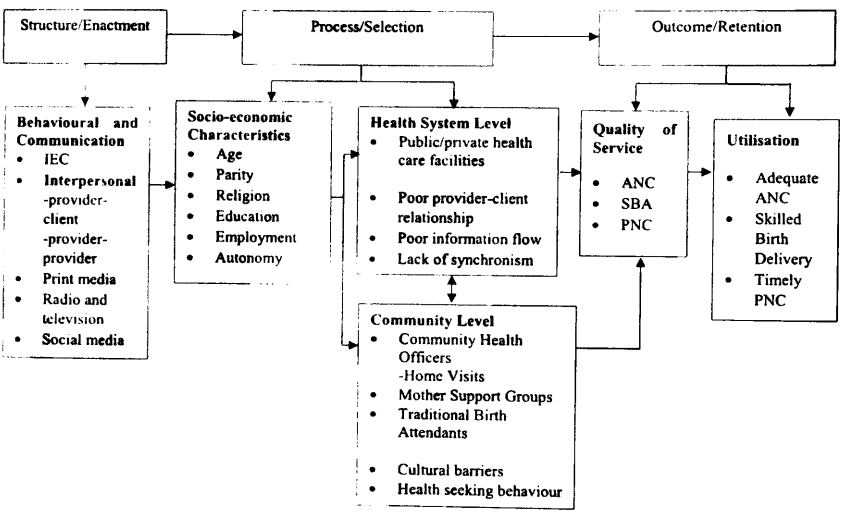

Figure 2: Conceptual framework for improving maternal health care utilization through community-based initiatives in periurban Accra

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

In this chapter, various literature that have a bearing to the study subject are reviewed. Taking the objectives of the study into account, the review covers the maternal health situation on a global scale, as well as in Ghana, and initiatives that were established to improve maternal health. It also explores existing literature on ANC, SBA and PNC, and health seeking behaviours of women in need of these services. Literature documenting the effects of rural to urban migration and community-based interventions on maternal health care utilisation are also reviewed.

2.2 The Global Situation of Maternal Health

Maternal mortality is a global public health challenge of vast proportions as one woman dies every minute from delivery complications worldwide (APP, 2010). Less than 1% of these maternal deaths happen in developed countries with the remaining 99% occurring in the developing world (WHO, 2014). Even though there had been a 47% decrease in maternal mortality worldwide between 1990 and 2010, the annual maternal mortality ratio decline rate has been 3.1%, a far cry from the 5.5% that was needed to achieve the fifth Millennium Development Goal (WHO, 2014). Equally as disconcerting is the fact that the advancement towards a decrease in maternal mortality has been disproportionate - while some countries have experienced a decrease in maternal deaths, other countries have

recorded an increase in maternal mortality ratio (Coeytaux, Bingham, & Langer, 2011). Maternal mortality ratios vary between regions - while the ratio in Europe and Central Asia is 44 deaths per 100,000 live births, in sub-Saharan Africa it is 900 deaths per 100,000 live births (WD, 2010).

A general assumption is that women living in developed nations are not at risk of dying from pregnancy-related complications. Pregnancies are at risk of unforeseen complications, with 15% of all pregnancies being life-threatening (WD, 2009). Studies indicate that the United States ranks fiftieth in maternal mortality out of 171 countries, performing poorer than other industrialised nations such as United Kingdom and Canada, as well as some developing countries like Vietnam and Albania (Bingham, Strauss, & Coeytaux, 2011; Coeytaux et al., 2011). Statistics also show that maternal mortality in the United States more than doubled from 6.6 deaths per 100,000 live births in 1987 to 15 deaths per 100,000 live births in 2007 (USHRSA, 2009; Xu, Kochanek, & Murphy, 2010). In Canada, the maternal mortality ratio in 2011 was 6.1 deaths per 100,000 live births (PHAC, 2013) and in the United Kingdom, it was 11.39 deaths per 100,000 live births in 2008 (CMACE, 2011).

The lifetime risk of maternal death in sub-Saharan Africa is 1 in 36, a catastrophe of high proportions when compared with 1 in 4900 prevalent in developed countries (WHO/UNICEF/UNFPA/World Bank/UNPD, 2015). For every maternal death that occurs due to complications, about 15 to 30 women end up having enduring illness and disabilities

(Kvåle, Olsen, Hinderaker, Ulstein, & Bergsjø, 2005). Even though some countries in sub-Saharan Africa have reduced their maternal mortality by half since 1990, and more headway has been observed in Asia and North Africa (WHO, 2014), in many parts of the developing world, more than 33% of pregnant women have no access to Antenatal Care, and 57% of deliveries are not attended to by a skilled health care personnel (UNFPA, 2005).

In 2005, about 48% of all maternal deaths occurred in India (117,100), Nigeria (58,800), the Democratic Republic of Congo (32,300), Afghanistan (26,000), and Ethiopia (22,200) (Hill et al., 2007). China, Sri Lanka, and Malaysia are developing countries that have succeeded in reducing their maternal mortality by improving on their health services coverage and services provided (Koblinsky, Campbell, & Heichelheim, 1999). On the other hand, in Zimbabwe the general decline in health services provision standards has led to an increase in maternal mortality over time (Choguya, 2015).

In Ghana, although considerable progress has been made in reducing the Maternal Mortality Ratio from 740 deaths per 100,000 live births in 1990 to 451 per 100,000 live births in 2008, the current ratio of 485 deaths per 100,000 live births is a far cry from the national 2015 fifth Millennium Development Goal target of 185 deaths per 100, 000 live births (GSS, 2013).

2.3 Causes of Maternal Mortality

The WHO defines maternal death as "the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and the site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes." (WHO/UNICEF/UNFPA/The World Bank, 2012). About 45% of all maternal deaths occur within the first 24 hours post-delivery while 66% occur within the first seven days (Nour, 2008). The major causes of maternal mortality include haemorrhage (24%), sepsis (15%), unsafe abortion (13%), eclampsia (12%) and obstructed labour (8%) (Ronsmans & Graham, 2006). Indirect causes such as anemia, malaria, and heart disease are responsible for 20% of maternal deaths while ectopic pregnancy, embolism, and complications during anesthesia account for 8% of deaths (Nour, 2008).

Pre-eclampsia and eclampsia account for 63,000 maternal deaths globally every year (WHO, 2005) with women in the developing world having a higher rate than their counterparts in the developed countries (Goldenberg, McClure, MacGuire, Kamath, & Jobe, 2011). Placenta abruptio and placenta praevia are responsible for 50% of all haemorrhages occurring in pregnancies (Shukar-ud-din, Tariq, & Soomro, 2010) while sepsis affects 4.4% of all pregnancies leading to almost 6 million cases of puerperal sepsis and 77,000 deaths of women in reproductive age (AbouZahr, 2003a). Treatment for postpartum bleeding has to be provided within a short space of time as the time interval from onset to death of a woman who is haemorrhaging has been estimated at two hours (Maine, 1991) with the prognosis being even worse where there is associated anaemia in

pregnancy (Kvåle et al., 2005). Of the more than 6 million cases of obstructed labour that occur worldwide, about 40,000 women die from neglect with 73,000 ending up with vesico-vaginal fistulae, while women in reproductive age also experience more than 14 unsafe abortions for every 100 live births, which translates to 68,000 maternal deaths annually (AbouZahr, 2003a).

Pre-existing health problems such as malaria, HIV/AIDS, anaemia and malnutrition can become more grave or complicated during pregnancy with negative effects on mothers and their newborn (PMNCH, 2006). There are 10,000 maternal deaths and 200,000 infant deaths annually resulting from complications of malaria and anaemia while tuberculosis is responsible for 9% of all maternal deaths encountered (WHO, 2005).

Cultural beliefs surrounding pregnancy and childbirth also have an effect on pregnancy outcomes in a positive or negative manner. While some communities encourage pregnant women to eat special foods and have rest periods, others do not regard pregnancy as a special period in a woman's life thus these women carry on with laborious tasks, and are bound by taboos preventing them from eating nutritious foods thus contributing to deficiencies emanating from malnutrition and anaemia (PMNCH, 2006). In addition, cultural practices such as female genital mutilation lead to complications during delivery, thereby increasing the chances of maternal deaths occurring (Banks et al., 2006).

Expectant mothers have the desire for a favourable outcome at the end of their pregnancies but newborns are not exempt from problems arising from maternal complications which result in about 900,000 babies dying in utero in the last three months of pregnancy in sub-Saharan Africa. Complicated pregnancies are also known to result in neonatal complications such as preterm births, poor foetal growth, congenital infections and foetal alcohol syndrome (PMNCH, 2006).

In resource-constrained environments, high mortality rates have been linked to the 'three delays' which have been identified as the delay in the recognition of a life-threatening situation; the delay in making a decision to access health care due to such issues as lack of knowledge concerning where to access health care, lack of money or the need to obtain permission to access health care; and the delay in arriving at the health care facility caused by poor transportation (Senah, 2003; Thaddeus & Maine, 1994). A fourth type of delay has been proposed to describe the delay in receiving adequate care at the health care facilities due to lack of health care staff or poor health care delivery services (Senah, 2003). Safe motherhood practices avert most maternal and infant deaths, yet maternal-related deaths and disability from preventable causes continue to affect millions of women worldwide.

2.4 Maternal Health Initiatives

2.4.1 The Safe Motherhood Initiative (SMI)

In 1985, the state of maternal health in the developing world was brought to light when the WHO reported that 500,000 of its women die annually from pregnancy-related complications (Starrs, 2006); and a paper written by Rosenfield & Maine (1985) pointed out the appalling condition of maternal health in developing countries. Following these, in 1987 the first international meeting on maternal mortality was held which led to the launching of the Safe Motherhood Initiative (SMI) at the Safe Motherhood Conference hosted by WHO, United Nations Population Agency (UNFPA) and the United Nations Development Programme (UNDP) in Nairobi, Kenya (Rosenfield, 1997). To further raise awareness of maternal health issues on a global stage, an Inter-Agency Group for Safe Motherhood (IAG) was then formed to encourage collaborations between international agencies and non-governmental organisations (Shiffman & Smith, 2007).

The goal of the SMI was to decrease maternal mortality and morbidity by 50% by the year 2000 (PRIME, USAID, PATH, & UNFPA, 1998) by adhering to specific strategies and interventions referred to as the Pillars of Safe Motherhood, which include family planning, Antenatal Care, obstetric care, Postnatal Care, post abortion care, and Sexually Transmitted Infections/Human Immuno-deficiency Virus (STIs/HIV) and malaria control (USAID, 2006). In addition to the substantial proof confirming that maternal deaths were of huge proportions, it was also apparent that there were far reaching consequences on child survival, and the health of the family and community as a whole (Lawn et al., 2005).

Progress towards this goal has however been very slow largely due to the wide range of its activities targeted at improving maternal health but inadvertently leading to uncertainty regarding the focal point of the initiative (Rosenfield, 1997). The lingering challenges posed to maternal health issues led to its being included as the fifth of the Millennium Development Goals (MDGs) in an effort to strengthen endeavours towards safe motherhood (AbouZahr, 2003b). The MDG 5 aimed to improve maternal health by reducing maternal mortality by three-quarters, increasing the proportion of births attended by skilled health personnel and achieving universal access to reproductive health by 2015 (UN, 2011). As that landmark year drew near, despite progress reports shown in maternal health indicators globally, the poor and vulnerable in the developing countries continued to record high maternal mortality ratios with sub-Saharan Africa and Southern Asia accounting for 86% of all maternal deaths in 2013 (UN, 2015). These deaths are preventable through interventions such as Antenatal Care, Skilled Birth Delivery and Post-natal Care (UN, 2015).

2.4.2 Averting Maternal Death and Disability (AMDD)

In 1999, the Bill and Melinda Gates Foundation gave an award of US$50 million to Columbia University to support their Averting Maternal Death and Disability Programme (Shiffman & Smith, 2007). The programme encourages the application of human rights principles at national and local levels and has formed collaborations with several international organisations such as UNICEF, UNFPA, CARE, and Save the Children (Maine & Rosenfield, 2001). The focal point of the AMDD programme is on improving

the accessibility of Emergency Obstetric Care (EmOC) to all women who encounter pregnancy-related complications, rather than on prevention of these complications (Maine & Rosenfield, 2001). The programme countered the maternal health focus on prediction of complications, based on the fact that identification of groups of women at high risk of complications is not individualised, thus there is the chance of women in this group birthing without severe complications while a large number of women in low-risk groups end up developing complications (Maine, 1991). Furthermore, the AMDD programme posits that the five major causes of maternal death- hemorrhage, unsafe abortion, eclampsia, infection, and obstructed labour- cannot be prevented but can be treated; and that adequate treatment in a timely manner will prevent most maternal deaths as well as maternal disabilities (Maine & Rosenfield, 2001).

Progress made by the programme is measured using process indicators providing answers concerning the availability and distribution of functioning health facilities providing EmOC in a given area; the utilization of these facilities by pregnant women; the range of services provided by these facilities; and the maternal deaths recorded in these facilities (Maine & Rosenfield, 2001). The advantages of these process indicators are that they can fit into the health system information of governments thus monitoring progress becomes inexpensive; they are not time-consuming as change can be demonstrated in two years or less; and they are able to pinpoint problematic areas that need to be addressed such as poor availability or utilization of services (Maine & Rosenfield, 2001).

2.4.3 Community-based Interventions to Prevent Maternal Mortality

The recent interest in community-based interventions is due to the fact that evidence suggests that community involvement in health programmes leads to successful outcomes, and reduces the costs of running these programmes (Bhuyan, 2004; Maine, 1991; Sakeah et al., 2014). In addition, community-based programmes in rural areas of low- and middle-income countries (LMICs) have improved reproductive health and child survival and achieved equity in access to health care through a combination of outreach efforts and community mobilization (Perry & Zulliger, 2012). The Alma Ata Declaration of 1978 promotes the creation of links between primary health care service providers and clients (Fendall, 1978) by ensuring that the services rendered are of good quality, and that communities are well informed on health issues and involved in health promotion actions (Lewycka et al., 2010).

In Bolivia, the Warmi Project, an intervention focused on maternal and neonatal care, was initiated in a poor rural area that lacked health infrastructure to improve perinatal care (O'Rourke, Howard-Grabman, & Seoane, 1998). By engaging groups of women to recognise and tackle significant maternal and neonatal health issues, the project was able to record a reduction in perinatal mortality rate of 73 deaths per 1,000 live births. Likewise in Nepal, the Mother Infant Research Activities (MIRA) Makwanpur study sought to improve perinatal outcomes through women groups and succeeded in decreasing maternal mortality by 78%, and neonatal mortality by 30% in two years (Manandhar et al., 2004). Training of Traditional Birth Attendants (TBAs) and providing them with disposable

delivery kits was the focus of a study carried out in Pakistan where the intervention arm of the study recorded less maternal deaths than the control arm, and a 30% decrease in neonatal mortality (Jokhio, Winter, & Cheng, 2005).

2.4.4 Maternal Health Initiatives in Ghana

Since its adoption of the 1987 Safe Motherhood Initiative, Ghana has put several measures in place in attempts to curb high maternal mortality. These measures include the inception of a safe motherhood task force and training of new midwives, which had resulted in an increase in national midwifery enrollment of 13% between 2007 and 2009 (GHS, 2015). The High Impact Rapid Delivery (HIRD) approach has also been employed to work in tandem with other maternal and child mortality reduction strategies such as Ghana Vitamin A Supplement Trials (VAST) Survival Programme, the Prevention of Maternal Mortality Programme (PMMP), Making Pregnancy Safer Initiative, Prevention and Management of Safe Abortion Programme, Maternal and Neonatal Health Programme, the Roll Back Malaria Programme which contains the Intermittent Preventive Treatment (IPT) for pregnant women; and Emergency Obstetric and Neonatal Care (EmONC) (GHS, 2015; MOH, 2008).

Ghana has also involved communities in ensuring that basic health care, including reproductive health services, is accessible to all individuals. The Community-based Health Planning and Services (CHPS) programme is a health intervention that was successfully piloted in 1994 in Navrongo, Upper East Region of Ghana (Nyonator, Jones, Miller,

Phillips, & Awoonor-Williams, 2005). The initiative sought to scale up the success story from the Navrongo pilot into a national programme in 2000 to ensure that health care services are made accessible, equitable and efficient, and are of good quality (Pence, Nyarko, Phillips, & Debpuur, 2007). This method of health care delivery entails the posting of a trained nurse known as a Community Health Officer (CHO) to designated communities called CHPS zones, to provide door-to-door health care services to community members (Binka, Nazzar, & Phillips, 1995; Nyonator, Awoonor-Williams, Phillips, Jones, & Miller, 2005) and has proven to lead to an improvement in the provision of maternal, reproductive and child health services (Nyonator et al., 2005). The CHOs in the CHPS zones serve as community-level basic health care service providers under the supervision of municipal health directorates.

The urban CHPS pilot which was initiated in the Ga East Municipal of Greater Accra Region in 2011 was designed to tackle obstacles to reproductive health and improve child health indicators in peri-urban slum areas in a bid to address health inequalities in the urban environment (Adongo et al., 2014). Community Health Workers have been shown to play an important role in the identification of expectant women in communities, and in offering health promotion information regarding birth and emergency preparedness, the importance of ANC and Skilled Birth Attendance, and the benefits of a healthy lifestyle (PMNCH, 2006). The urban CHPS pilot was started in two CHPS zones in Ga East Municipal with the posting of CHOs to these zones and lessons learnt at this stage led to modifications of the rural model to suit urban needs and a subsequent scale-up of the project (Adongo et al., 2014). Community Health Workers aid in establishing links between communities and the

health care system, and their ability to mitigate a portion of the ANC service provision workload at the facilities has been documented (PMCH, 2010).

The challenges faced by the government of Ghana with regards to combating maternal mortality include setbacks in scaling up maternal health care services; lack of skilled health workers, equipments and logistics for the provision of high quality health care; poor referral system and high costs of transportation leading to delays in transporting women with pregnancy complications to referral centres; inadequate data collection on maternal health indicators and poor assessment of instituted maternal health programmes. In addition, access barriers encountered by expectant mothers and their families or communities are as a result of lack of finance, long distance to health care facilities, low level of education, poor health-seeking behaviour, and socio-cultural factors such as women's inability to make decisions concerning seeking health care (Ghana Health Service, 2015).

2.5 Antenatal Care

Antenatal Care (ANC) is defined as the health care services provided from conception to delivery, to make certain that women experience pregnancy and childbirth in good health, and are delivered of a healthy newborn (JHPIEGO, 2004). In the early 1900s, not many pregnant women had contact with the health care system before they went into labour as many physicians considered foetal studies to be unimportant. Sir John William Ballantyne, an obstetrician and teratologist from Edinburgh also known as 'the great apostle of the

Antenatal Care movement', played an important role in convincing the medics and the public that an interest in antenatal life would serve to improve the quality of life of the generations to come (Al-Gailani, 2009).

The traditional model of ANC was instituted two centuries ago with the aim of educating 'ignorant' women on child welfare issues due to an attempt to improve on the declining manpower of nations (Oakley, 1986). Later on, in the 1950s, ANC became a tool for screening women for high risks of complications but its usefulness for this purpose was limited as it dealt with ineffective measures with little scientific advantage such as routine weight and height checks (Villar & Bergsjø, 1997; WHO, 2003). It is also imperative to note that some of the women who are classified as low risk experience complications, especially during delivery (PMNCH, 2006).

The delivery and the early postpartum periods are times of the highest risk for a pregnant woman and the health promotion offered by Antenatal Care during these periods contribute to the lowering of maternal and neonatal deaths (Magadi, 2004). In addition to this, pregnant women are presented with the opportunity to make contact with the health care service where they can obtain integrated care, acquire education on healthy home practices and avail themselves of existing referral system options. When done properly, ANC has the potential to prevent direct causes of maternal death, as well as to identify and treat indirect causes (Kvåle et al., 2005). The ANC schedule is programmed in such a way that a pregnant woman will have to make monthly visits in the first seven months, twice a month

in the eighth month, and then weekly in the final month, culminating in 12 - 13 visits overall (NCPD, CBS & MI, 1999). These number of visits translate to financial and time costs which impact negatively on utilization of Antenatal Care services and quality of care given (Kearns, Hurst, Caglia, & Langer, 2014). A survey conducted in Zambia found out that women intentionally initiated ANC late to avoid making several visits to the health care facility and to reduce the overall costs of patronising the facilities (Menon, Musonda, & Glazebrook, 2010).

Studies have documented the fact that some women access ANC from both orthodox and unorthodox sources. In rural Sumatra, Indonesia, pregnant women prefer receiving ANC from the TBA as a result of their cultural beliefs, but go ahead to deliver their babies at formal health care facilities (Agus & Horiuchi, 2012). Okafor, Sekoni, Ezeiru, Ugboaja, & Inem (2014) established in their study conducted in Nigeria that inasmuch as parturient women accessed ANC from both the TBAs and the formal health facility, the choice of place of delivery was dependent on personal and household reasons, for instance cost and decision-making by family members such as husbands and mothers-in-law. Another study in Nigeria highlighted the fact that childbirth was occurring in unorthodox settings even though the women involved had attended Antenatal Care and the reasons outlined include high cost of facility care, scarce transportation, fear of evil spirits and prophetic admonitions from the church (Etuk, Itam, & Asuquo, 2000). Childbirth for some of these women is managed by untrained Traditional Birth Attendants (TBAs) or occurs in churches with no emergency obstetric care at hand or no referral system in place to handle any complications that may arise (Etuk et al., 2000). Another reason why women preferred the

TBAs to the health care facilities was due to the fact that they were able to obtain herbal medications from them, which they preferred to the drugs and injections administered at the ANC clinics (Okafor et al., 2014). In the light of these, health education offered to women during ANC visits should highlight the necessity for the continuum of care that includes skilled attendance at birth and Postnatal Care.

As ANC provision in many environments does not meet the compulsory standards (WHO, 2005), in 2002 the WHO recommended goal oriented ANC services for the provision of precise evidence-based interventions for pregnant women, to be carried out at stipulated times during the pregnancy (PMNCH, 2006). This recommendation followed trials carried out in Argentina, Cuba, Thailand and Saudi Arabia that provided evidence that a targeted approach to ANC was a more sustainable, comprehensive and effective model (WHO, 2002). The proposed model for adequate ANC for women experiencing normal pregnancies in developing countries includes four visits: within the first 12 weeks, at 26 weeks, at 32 weeks and between 36-38 weeks (Tran, Gottvall, Nguyen, Ascher, & Petzold, 2012; WHO, 2002). This recommended ANC package of services seeks to provide pregnant women with care tailored towards screening for health or socio-economic factors that may lead to adverse pregnancy outcomes, timely intervention during pregnancy, and provision of information to pregnant women concerning preparedness for delivery and emergencies (WHO, 2002). The tests and procedures provided are limited to those that have been scientifically proven to have a positive impact on maternal and neonatal health outcomes (Villar et al., 2001). The services offered during the four stipulated visits include measurements of body weight and height, blood pressure, fundal height and fetal heart rate;

vaginal examination; urine protein tests; blood tests for anaemia and HIV; tetanus toxoid vaccination; folic acid supplementation; malaria chemoprophylaxis; and counselling on birth preparedness, lactation and contraception (WHO, 2002). This new model of ANC has been taunted as the key to improved ANC services in low income countries due to the less number of visits entailed for low-risk pregnant women, more time spent in consultation with expectant mothers, and clear-cut referral regulations (WHO, 2002). It is also important that developing nations with limited resources carry out financial allocations in an efficient manner and the reduced number of visits results in less cost incurred by the health facilities as well as the pregnant women by way of time, money, working hours lost, and care of the other children (Zanconato et al., 2006). Despite these measures put in place to avert maternal deaths, more than 800 women die daily worldwide from perinatal complications (WHO et al., 2012).

The underprivileged women in every society are constantly at the receiving end of poor maternal health care. In the industrialized countries, there is widespread utilization of Antenatal Care by pregnant women with the exception of the underserved groups such as migrants, minority ethnic groups, unmarried teenagers, the very poor and those living in isolated rural communities (WHO, 2005). The dire condition of maternal health in urban slums in the developing world has been documented in several studies that highlight the poor uptake of ANC services in these resource-deprived urban areas. A study conducted in Kenya showed that female slum dwellers started ANC later than other urban dwellers with 66% of pregnant women in Nairobi slums starting in their second trimester while 20% started in their last trimester, contrary to the WHO recommendations (Magadi, 2004). In

her review of studies on maternal health amongst slum dwellers in India, Madhiwalla (2007) documented that only 55% of female slum dwellers attended at least 3 ANC visits while 74% of female non-slum dwellers did. The same situation was found in Nigeria where 44.7% of female slum dwellers availed themselves of Antenatal Care services while 78.5% of the non-slum dwellers had Antenatal Care (Babalola, 2014).

Women of reproductive age in Ghana are widely affected by complications arising from pregnancy and childbirth leading to a national maternal mortality ratio estimated at 458 deaths per 100,000 live births (GSS, 2013; Nyarko, Armar-klemesu, Deganus, & Odoi-agyarko, 2006). These deaths are largely due to direct causes such as hemorrhage, unsafe abortion, hypertension in pregnancy, sepsis, ectopic gestation and complications arising from obstructed labour; as well as indirect causes comprising of infections such as pneumonia and meningitis, anaemia and HIV/AIDS-related infections (Der et al., 2013). In 2013, the Ghana Health Service Annual Reproductive and Child health Report stated that more than 50% of Ghanaian pregnant women do not attend ANC clinics till their second or third trimester (Ghana Health Service, 2013). The well documented advantages of ANC are mitigated by challenges due to availability, accessibility, coverage and quality of care (Fagbamigbe & Idemudia, 2015; Simkhada, Van Teijlingen, Porter, & Simkhada, 2008). Thus, in a bid to improve access, quality and continuity of ANC services offered to pregnant women, the Government of Ghana adopted the WHO Focused Antenatal Care package in 2002 (Nyarko et al., 2006), and went on to implement delivery fee exemption and free medical care policies for expectant mothers through the National Health Insurance Scheme in 2003 and 2008, respectively (Biritwum, 2006; Witter, Adjei, Armar-Klemesu,

& Graham, 2009). Even though these measures have been shown to increase Skilled Birth Attendance while reducing the cost of perinatal care services (Witter, Arhinful, Kusi, & Zakariah-Akoto, 2007), several challenges are posed by situations such as inadequate funding, financial constraints on service users due to poor access to health care services or transport fees, inadequate workforce in the health sector, lack of motivation of health workers, and poor quality of care at the health facilities (Witter et al., 2009).

2.6 Skilled and Unskilled Attendance at Delivery

The WHO defines a Skilled Birth Attendant as "an accredited health professional – such as a midwife, doctor or nurse – who has been 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" (WHO, 2004). The rate of maternal deaths is worsened by inadequate perinatal care, poor patronage of ANC and PNC services, and lack of skilled attendance at birth (Hogan et al., 2010). As more than 65% of maternal deaths occur during delivery, the importance of having a skilled attendant operating within a setting with adequate health care services during the time of birth cannot be overemphasised (Adegoke & Van Den Broek, 2009). Despite this, rural and poor urban dwellers in several countries do not have a good chance of having access to skilled attendance at birth (Bergström & Goodburn, 2001; Khan et al., 2012).

As a number of studies have shown that Skilled Birth Attendance during delivery leads to a decrease in maternal mortality (De Brouwere, Tonglet, & Van Lerberghe, 1998; Hussein et al., 2004), it has therefore been recognised as a process indicator for evaluating progress towards Sustainable Development Goal (SDG) 3 (SDSN, 2015; Van Den Broek & Falconer, 2011). In the developed world, skilled attendance at delivery is almost universal at 99.5% but the situation is different in the developing countries where only about 50% of women use the services of a skilled birth attendant with the rate in Africa being 46.5% (Stanton, Blanc, Croft, & Choi, 2007).

The situation in sub-Saharan Africa is not encouraging as utilisation of skilled birth attendance services continues to be poor, making only a slight increase from 42% to 46% between 1990 and 2004 (United Nations, 2006). Even though evidence shows that inadequate maternal health care services results in low utilisation of Skilled Birth Attendance (Koblinsky et al., 2006), women living in resource-poor environments are further constrained by poverty, lack of education and rural residence (Asamoah, Agardh, Pettersson, & Östergren, 2014). Other challenges emanate from direct and indirect costs of accessing health care, poor transportation services, health facilities that are too far, lack of information and unsavoury precedent experiences with health care personnel (Bazzano, Kirkwood, Tawiah-Agyemang, Owusu-Agyei, & Adongo, 2008; Koblinsky et al., 2006).

The place of Traditional Birth Attendants (TBAs) in the delivery of maternal care services has been an issue of long debate in safe motherhood circles. The WHO definition of a

Traditional Birth Attendant refers to "traditional, independent (of the health system), non-formally trained and community-based providers of care during pregnancy, childbirth and the postnatal period" (WHO, 2004). TBAs are not referred to as skilled birth attendants as those who have received any training at all, were trained for only a few days with follow-up meetings with health care personnel for supervisory and educational purposes (Bergström & Goodburn, 2001). Furthermore, studies conducted in Africa and Asia have demonstrated that where there are no skilled personnel in close proximity, these 'trained' TBAs are unable to reduce the risks of maternal deaths during delivery (Bergström & Goodburn, 2001; Sibley & Sipe, 2004). Regardless of this, 60 million births occur each year in developing countries that are attended to by a TBA or a relative, and in some cases, in the absence of any assistance (Knippenberg et al., 2005).

TBAs provide maternal care during the perinatal period, and are trusted by pregnant women in their communities as they are well-entrenched in the culture and norms of the communities they serve, are not far from reach, and present the families with the option of paying 'in kind' for services rendered (Pyone, Adaji, Madaj, Woldetsadik, & van den Broek, 2014). It has also been demonstrated that low income women prefer births assisted by TBAs or family members (Choguya, 2015). Magadi (2004) found in her study in Nairobi slums that although 6% of all deliveries in Nairobi were attended by a TBA, 25% of births that occurred in the slums were delivered by a TBA. However, even though TBAs are more accessible than health care professionals to pregnant women in their communities, they have proven to be ineffective due to high levels of illiteracy, inadequate monitoring and supervision, improper linkages with the health care system and non-existent emergency

referral systems (Bergström & Goodburn, 2001; Sibley, Sipe, & Koblinsky, 2004; WHO/UNFPA/UNICEF, 1992).

Many countries in Africa and Asia have a severe paucity of health care workers with fifty-seven countries in these regions lacking a total of about 4.3 million health workers (WHO, 2006a). Sub-Saharan Africa faces the greatest challenges as despite having 11% of the total world population, and 24% of the disease burden worldwide, there are only 3% of all health workers globally, with less than 1% of global expenditure on health spent in the region (WHO, 2006b). A high health care worker to population ratio is strongly associated with maternal and neonatal survival and regions with a low proportion of health workers have a commensurate downturn in survival rates (WHO, 2006a). Due to this prevailing situation, the training of TBAs has been espoused as an opportunity to provide maternal care in resource-constrained areas as a cheaper, more accessible option (Bullough et al., 2005).

Despite critics' continuous questioning of the usefulness of TBAs, several countries have recorded successes with reduction in maternal mortality by linking TBAs with the existing health system. Between 1950 and 1980, China succeeded in decreasing their Maternal Mortality Ratios from 1500 to 115 deaths per 100,000 live births by implementing a model using village birth attendants with basic training supported by a strong referral system to handle obstetric complications (Koblinsky et al., 1999). Malaysia and Sri Lanka are developing countries that have achieved MMRs less than 100 by steadily increasing the number of professional attendants buttressed by access to essential obstetric care services

(Pathmanathan et al., 2003). Contrary to these success stories, the training of TBAs in Bangladesh has led to a continued recording of high MMR due to the lack of essential obstetric care (Nessa, 1995). More recently, a comparative study carried out in Senegal among trained midwives and TBAs found that maternal mortality was higher with TBA-assisted births than with midwife-assisted births (De Bernis et al., 2000).

A third of all births in Ghana are assisted by a Traditional Birth Attendant, with or without training (Twum-Baah, Nyarko, Quashie, Caiquo, & Amuah, 1994; GSS/GHS/ICF Macro, 2009) and these attendants are culturally regarded as respectable, experienced old women with compassion for women in labour (Jansen, 2006). Several attempts have been made by the government to improve on the services provided by TBAs starting with the 1973 Danfa Rural Health Project, which trained and supervised TBAs (Eades, Brace, Osei, & LaGuardia, 1993). The National Traditional Birth Attendant (NTBA) training programme was started in 1989 to standardise maternal health practices offered by the TBAs, improve on provision of primary health care to rural environments, and create links between TBAs and other health care professionals (Smith et al., 2000). An assessment of the impact of this programme indicates that, though the programme has not been of any benefit to maternal and neonatal survival, it could still have a place in health promotion amongst pregnant women (Eades et al., 1993; Smith et al., 2000).

More than 30% of births that occur worldwide happen in the homes in the absence of a skilled attendant during delivery (WHO, 2008). In addition, data from twenty-three African

countries indicate that over 60% of births that occur in sub-Saharan Africa take place at home (PMNCH, 2006). Underutilization of maternal health care services by women has been associated with socio-cultural beliefs and where a high premium is placed on the ability to deliver a child at home, women within these cultures are wary of losing respect within their communities, or relinquishing control of the delivery process to a birth attendant (Asamoah et al., 2014; Bazzano et al., 2008). In a lot of cases, the decision concerning place of delivery is made by family members such as husbands and mothers-in-law, or community leaders such as village heads, soothsayers and traditional healers, with no regard to the pregnant woman's opinion (Crissman et al., 2013; Moyer et al., 2014). Besides this, certain apprehensions within communities concerning facility-based deliveries such as fear of invasive procedures like caesarean sections, infertility and death also result in women preferring home deliveries over facility-based deliveries (Bailey, Szászdi, & Glover, 2002; Prata et al., 2011). A study carried out by Khan et al., (2012) in Indian slums established that 'family tradition', financial challenges and rude treatment by health care facility workers were all reasons given by female slum dwellers for preferring home delivery over health facility delivery.

2.7 Postnatal Care

The postnatal period as defined by WHO begins an hour after the delivery of the placenta and ends forty-two days after the birth of the infant (WHO, 2013) and maternal and newborn health and survival are dependent on care provided during this period (PMNCH, 2006). Recommendations by WHO are that women who have delivered babies should

receive postnatal care within the first 24 hours, by days 2-3, between days 7-14, and six weeks after birth, during which the health status of the mother and the infant are assessed (WHO, 2013). The services offered for Postnatal Care include detection of danger signs; family planning; support for imbibing healthy behaviours; education on infant care-giving comprising of hygiene, breastfeeding, identification of danger signs and immunisation; as well as additional care for babies who are preterm or small-for-age (WHO, 2013). Immunisation of children as a component of Postnatal Care has been responsible for averting about 24% of the 10 million deaths that occur annually amongst children less than five years old (AbouZahr & Wardlaw, 2001).

While 98% of women in developed countries make a minimum of one ANC visit (WHO & UNICEF, 2003), 90% of them attend postnatal clinics at least once (Abouzahr, 1998). The situation is not as encouraging in sub-Saharan Africa where two-thirds of the pregnant women have home deliveries, and just 13% of all women receive a postnatal visit by the second day after delivery (PMNCH, 2006). Furthermore, for every ten women who have deliveries outside health care facilities, seven do not receive Postnatal Care (Koblinsky et al., 2006). In Ghana, the national PNC coverage was 64.1% in 2013, far below the national target of 90% (Ghana Health Service, 2013); evidence that not all women who utilized ANC services went on to access PNC services. In many communities, Postnatal Care is at variance with cultural practices that encourage the keeping of babies indoors, especially if the birth was a home delivery as was found in studies conducted in Bangladesh and Tanzania (Choudhury et al., 2012; Mrisho et al., 2009; Winch et al., 2005). In the Bangladeshi study, only 24% of women living in slum areas had received Postnatal Care,

with just 5% of them having had up to the recommended four visits (Choudhury et al., 2012).

Evidently, Postnatal Care is essential for proper maternal and newborn health care; and efforts to improve on maternal and neonatal health outcomes have to be directed towards making current ANC and PNC interventions more efficient (Abouzahr, 1998; Pfeiffer & Mwaipopo, 2013).

2.8 Rural-Urban Migration and Maternal Health Care

In major cities of the developing world, the migration of individuals from rural to urban settings puts a huge strain on economic and infrastructural growth (Tacoli, McGranahan, & Satterthwaite, 2015). More than 70% of the population growth as a result of migration occurs outside of the formal planning process, with 30% of urban dwellers in developing countries occupying vacant land illegally and forming informal settlements (FIG, 2007). With poverty in the urban areas now exceeding that in rural areas (UNFPA, 2007) the impact on health has become evident in addition to the widening disparities between the health status of the urban poor and the urban rich (Dye, 2008; Fotso, 2006). Even though rural dwellers have been found to have poorer utilization of ANC when compared to urban dwellers (Tran et al., 2012), several studies have documented the deplorable state of maternal health in resource-deprived urban areas (Fotso, Ezeh, Madise, Ziraba, & Ogollah, 2009; Magadi, 2004; Matthews et al., 2010). Migration to a new milieu poses peculiar

challenges to migrants with socio-cultural and environmental barriers that impact on their health-seeking behaviour and health care utilisation (Kim, Kreps, & Shin, 2015).

A study conducted in Peru found that female migrants from rural areas were less likely to use maternal services than women who were non-migrant urban dwellers (Subaiya, 2007). In Bangladesh, rural-urban migrants had a poorer attendance at Antenatal Care clinics than did their non-migrant counterparts (Choi & Robinson, 2009). In their study carried out in India, Kusuma, Kumari, & Kaushal (2013) found that only 37% of migrant women had access to adequate Antenatal Care services with 53% of all deliveries happening at home, and just a quarter of women receiving PNC services. The reasons for these disparities have been documented to include poor financial status, lack of education and inadequate knowledge of the advantages of perinatal care (Kusuma et al., 2013; Shaokang, Zhenwei, & Blas, 2002).

2.9 Health Seeking Behaviour for Maternal Health Care

For so long, health promotion programmes were tailored towards provision of health education that would encourage positive behavioural changes in individuals but it has become increasingly evident that this strategy has not been effective. More research has recently been focused on the interplay between community members' interaction with each other and the overall effect on the promotion of health-seeking behaviour that benefits the individuals (Mackian, 2003). Tipping and Segall (1995) categorised individuals' behaviours with regards to their health into two types: the health-seeking behaviour in relation to response to illness; and health care seeking behaviour in relation to utilisation

of health care facilities. Health-seeking behaviour in relation to response to illness is based on the premise that a person's perception of the prevailing social environment has an effect on health behavioural choices or in their decision to access health care (Mackian, 2003). On the other hand, socio-demographic variables such as age, sex, socio-economic status, disease pattern, access to and quality of health care services have a bearing on health care seeking behaviour in relation to utilisation of health care facilities, and the choice of formal or informal health care delivery channels (Tipping & Segall, 1995). Individuals have been known to seek several sources of health care depending on their peculiar experiences such as type of disease; beliefs regarding the causation of the ill health such as 'evil eye', infection or accidents; and existing obstacles to utilisation of health care such as lack of money or time - all entrenched in cultural decision-making processes (UNICEF, 2008). People are known to patronize several sources of health care concurrently, often oscillating between self-care, utilization of traditional, spiritual or informal health care providers, and orthodox health care channels (Mackian, Bedri, & Lovel, 2004). With regards to maternal health care, several studies have documented that the decision of where to go, and at what stage during the pregnancy lies with husbands or older family members such as mothers-in-law, grandmothers and family heads (Moyer et al., 2014; White, Dynes, Rubardt, Sissoko, & Stephenson, 2013; Woldemicael & Tenkorang, 2010).

Women's access to maternal health care is a reflection of societal response to their health needs and determines women's health status and productivity (Hunt & Bueno de Mesquita, 2011). Women of reproductive age in developing countries are often poor and vulnerable, and while these cadre of women are in dire need of adequate maternal care while parturient,

more often than not, there is inadequate utilisation of essential maternal health care services amongst them (Ethiopian Society of Population Studies, 2008). This inefficient use of maternal care services has been narrowed down to barriers due to access and availability, cost, and knowledge and attitudes - challenges faced by African pregnant women in particular (Africa Progress Panel, 2010).

2.9.1 Factors Affecting Health-seeking Behaviour and Utilization of Maternal Health Services in Peri-Urban Settlements

A review of literature from global perspectives indicate that an array of factors are contributory to poor utilization of health care services and these include socio-demographic status, low socio-economic status, lack of physical accessibility, cultural beliefs, low educational level attainment of women, large family size and poor health care service delivery (Shaikh & Hatcher, 2005).

2.9.1.1 Socio-demographic and economic factors

Several studies have documented the relationship between socio-demographic factors and utilization of maternal health services. These factors, although not exclusive to peri-urban dwellers, are made more obvious amongst this group due to their lower socio-economic status and poorer education than the urban rich dwellers (Shaokang et al., 2002). As well as poorly educated women having a very high risk of maternal mortality when compared to educated women (Karlsen et al., 2011; Pillai, Maleku, & Wei, 2013), the huge divergence in educational levels between males and females also leads to high maternal mortality rates due to the inability of the women to demand for appropriate health care

(McAlister & Baskett, 2006). Furthermore, it has been established that women who have some level of education are more likely than their uneducated counterparts to attend Antenatal Care clinics (Simkhada, Van Teijlingen, Porter, & Simkhada, 2008). It has also been documented that 70% of women that have had at least secondary education deliver their babies in a health care facility while 40% of those who have at most, an incomplete primary education have health facility deliveries (Magadi, 2004). As well as increasing the chances of women appreciating the advantages of perinatal care, education may diminish the provider-client power gap that exists between health care professionals and the women they care for (Pell et al., 2013) and reinforce women's ability to demand for appropriate care (Furuta & Salway, 2006).

Relationships have also been established between the age of a woman and birth order, and health care facility delivery. In their study of maternal health care in cities in 23 sub-Saharan African countries, Magadi et al., (2003) established that younger aged women and those with higher birth orders were less likely to access Antenatal Care services than older women or women with lower birth orders. Results from another study conducted in Peru indicated that women with multiple births were less likely to attend 4 or more Antenatal Care clinics while pregnant (Subaiya, 2007). In addition, women who are more than 35 years old or who have had multiple pregnancies are less likely to have health facility deliveries than younger women or women with lower order births. While 60% of primiparous women in a Kenyan study were found to have had their babies in a health facility, only 37% of women with six children or more, had health facility deliveries (Magadi, 2004). Single mothers were however shown to have inadequate maternal care

due to their mixed feelings towards the pregnancy showing the association between unintended pregnancies and poor maternal health service utilization in slum areas.

The economic status of a household has been shown to have positive effects on the use of maternal health care. A study conducted in Colombia found that mothers from a high socio-economic background were more likely to initiate and continue with Antenatal Care than their poorer counterparts (Vecino-Ortiz, 2008). Likewise in Mali, Gage (2007) found in her study that socio-economic problems often times amounted to poor utilization of maternal care services. In developing nations, urban dwellers of low socio-economic status encounter considerable challenges in their attempt to access health care services (Galea, Freudenberg, & Vlahov, 2005; Magadi et al., 2003). Studies done in Nigeria and Uganda identify distance and finance as key obstacles to health-seeking decision making (Amooti-Kaguna & Nuwaha, 2000; Onah, Ikeako, & Iloabachie, 2006). Fotso et al., (2008) found evidence supporting this in their study in slum areas of Nairobi, Kenya were they established that female slum dwellers were unable to meet transport expenses to seek appropriate maternal health care, and often times waited till serious obstetric complications set in. In addition to this, lack of a steady income and the high costs of dwelling in urban areas affect the urban poor adversely, and women are particularly affected as they are more likely to be involved in informal jobs and commerce preventing them from accessing health care during the business hours (Magadi et al., 2003).

The situation is not different in Ghana where despite the institution of free maternal care services, women in the poorer quintiles still access maternal care at a lower rate than those in the wealthier quintiles due to direct and indirect causes such as distance, lack of drugs and time wasted at the facilities (Arthur, 2012).

Despite efforts made by several countries to decrease or do away with user fees for health care provision, many women are still unable to pay for health care services rendered to them (Africa Progress Panel, 2010). In their study in India, Gupta et al., (2008) found that even though quality health care services were geographically accessible to the slum dwellers, the financial burden of paying for prescriptions was a barrier to health service utilization. More than 50% of women in West Africa named cost as a reason for not accessing health care and in Burkina Faso, Cameroon, Guinea and Niger, 60% of the women gave the same reason (UNICEF, 2009). In addition to direct costs such as facility user fees and costs of medication, there are indirect costs such as transportation expenses and lost earnings from work, that combine to make access to health care services out of reach for economically vulnerable women (Africa Progress Panel, 2010). Although many countries have established some forms of health care plans tailored towards alleviating the financial burden brought about by user fees, the cost of registering for these programmes has turned out to be prohibitive for some individuals.

In Ghana, inasmuch as the National Health Insurance Scheme (NHIS) was able to provide coverage for over 50% of the Ghanaian population within four years, amongst the less

priviledged in the country, this proportion is much less, in part due to the registration fee (UNICEF, 2009). Furthermore, notwithstanding the free maternal health care instituted by the Government of Ghana, poor women were still concerned about transportation costs, in addition to costs attached to items required by the health facilities for the delivery of the baby (Crissman et al., 2013). Similarly, in a study conducted in Bangladesh, Hossain & Hoque (2005) demonstrated that 26% of female slum dwellers found informal costs to health care prohibitive despite the seemingly free medical services.

The considerable poor maternal health outcomes found amongst women in the lowest wealth quintile, or with the poorest education, dwelling in disadvantaged environments highlights the importance of education and financial resources in improving the health outcomes of developing nations (Fotso et al., 2008).

2.9.1.2 Cultural factors

Maternal health choices made by women during pregnancy and delivery directly influence maternal and neonatal morbidity and mortality (Evans, 2013). The process of pregnancy and childbirth is permeated with strong cultural practices and traditional beliefs which have an impact on maternal health care utilization (Houweling et al., 2007; Rice, 2000). There are several cultural practices that can lead to negative maternal outcomes and contribute to maternal mortality. For instance, taboos related to food consumption such as restrictions to meat, eggs, and fish diets may worsen underlying anaemia, placing the pregnant woman at risk of death due to haemorrhage (Zepro, 2015). In Nigeria, the Hausa ethnic group

traditionally offers salt to pregnant women and hot ritual or coal baths which can predispose them to high blood pressure, cardiac failure and burns (Wall, 1998). Other practices that place mothers at risk of disability or death include applying fundal pressure to hasten the labour process, forced vomiting to initiate the placenta expulsion, use of herbal concoctions for treating maternal complications and childbirth in an isolated or unsanitary environment (Fofie & Baffoe, 2010; Maimbolwa, Yamba, Diwan, & Ransjö-Arvidson, 2003). Several times, lack of knowledge of the underlying physiology of pregnancy also contribute to cultural definitions of pregnancy-related symptoms, and thus leads to inaction (Evans, 2013). Studies carried out in Ghana and Nigeria have documented that pregnant women in these countries saw pedal oedema as a sign that a male child or twins will be born, and were not able to make the connection between the oedema and high blood pressure (Okafor & Rizzuto, 1994; Senah, 2003).

In cultures where women are chided for appearing weak, utilisation of maternal health care services will be negatively affected coupled with the fear women may have of being exposed to the possibility of a Caesarean section, or insensitive and unsatisfactory treatment from the health care facilities (Maimbolwa et al., 2003; Okafor, 2000; Sibley et al., 2009). Furthermore, orthodox health care providers are guided by procedures that may be at variance with the cultural inclinations of the pregnant women (Berry, 2006; Deshpande & Oxford, 2012; Rööst, Johnsdotter, Liljestrand, & Essén, 2004). Where TBA practices are found, maternal health services offered to women are often tainted by the antagonistic environment created by health care workers and TBAs leading to a situation

where suspicion, denigration and egotism are propagated to the detriment of the pregnant woman (Berry, 2006; Maimbolwa et al., 2003; Okafor, 2000).

Migrant women coming from rural areas have strong cultural ties (UNFPA, 2011) and their perception of pregnancy and childbirth as a non-illness experience, as well as the lack of tolerance of health care providers for traditional beliefs and practices, may lead them to place little importance on the need for maternal health care (Atekyereza & Mubiru, 2014). Egypt succeeded in increasing the number of women accessing health facility deliveries by improving on the quality of care given at the health care facilities and providing maternal health information at the household levels to aid in appropriate decision-making (De Bernis, Sherratt, AbouZahr, & Van Lerberghe, 2003).

2.9.1.3 Female autonomy and spousal communication

The common measures used in defining women's autonomy include lack of restrictions to movement, ability to earn an income and make economic decisions, lack of domestic violence and coercion, and ability to make health care choices (Al Riyami, Afifi, & Mabry, 2004; Bloom, Wypij, & Das Gupta, 2001; Saleem & Bobak, 2005). The 1994 International Conference on Population and Development (ICPD) and the 1995 Fourth World Conference on Women made a robust acknowledgement of women's right to health including reproductive health (UNFPA, 2014; United Nations, 1996). However, in many African countries, women have limited power with regards to making reproductive and sexual health decisions with such matters left to the men folk and thus producing a negative

influence on utilization of services for maternal and child health care (Greene, 2000). These cultures expect that a woman would obtain permission from her husband or other family member in order to visit the health care facilities. and where there is a lack of concern for the woman's pregnant state, costs of transportation and medical care may become difficult issues to deal with (APP, 2010; Women Deliver, 2010). While a study conducted in Nepal found that women's autonomy did not have any significant association with maternal health care utilization (Furuta & Salway, 2006), another carried out in India established the importance of women's autonomy amongst the urban poor with respect to decision making regarding maternal health care (Bloom et al., 2001). Concerning Antenatal Care visits, women who play a part in decision-making in their households are more likely to attend the clinic four or more times as opposed to women with less decision-making power (Subaiya, 2007). Fotso, Ezeh, & Essendi (2009) also found in their study that maternal health utilisation was boosted by women's autonomy amongst poor slum dwellers in Nairobi, Kenya. In addition, women autonomy has been demonstrated as a determinant of Skilled Birth Attendance at delivery in a study carried out in Nepal (Sreeramareddy, Joshi, Sreekumaran, Giri, & Chuni, 2006).

Several studies have been done on the influence of spousal communication on women's utilisation of health care. Programmes tailored towards empowering women highlight the need for women to have the ability to make health related choices for themselves, while those focused on men underline the need for communication and negotiation between partners when there is a decision to be made (ICPD, 2004). So much of the efforts to involve men in reproductive health issues have been centered on family planning (Prata,

Sreenivas, Vahidnia, & Potts, 2009), abortion (Silverman et al., 2010), sexually transmitted infections (Brewer, 2005), and breast-feeding (Stremler & Lovera, 2004) with relatively less attempts made in involving males in maternal health care issues (Thapa & Niehof, 2013). Ensuring that men take part in health education programs improves spousal communication and encourages positive health-seeking behaviour (Turan, Nalbant, Bulut, & Sahip, 2001).

Many researchers are of the view that female autonomy only thrives under favorable conditions. Several studies have documented that contraceptive use is influenced by female autonomy and education, as well as communication with spouses (Do & Kurimoto, 2012; Klomegah, 2006; Saleem & Bobak, 2005). Furthermore, the fact that women discussed family planning with their spouses has been associated with an increased chance of patronising Antenatal Care and skilled delivery care services (Furuta & Salway, 2006). In situations where the menfolk are relied upon to make decisions concerning mobility and health care expenses, women may not have the ability to seek care by themselves (Simkhada, Van Teijlingen, Porter, & Simkhada, 2006). Women who were able to discuss health issues with their husbands were more likely to have discussed their pregnancy and birth preparedness with him, and the husbands were also more likely to be in attendance during delivery (Thapa & Niehof, 2013). Studies carried out in Pakistan, Bangladesh and India established that men's involvement during pregnancy and ANC, and their knowledge of maternal health issues was associated with delivery at a health care facility (Agha & Carton, 2011; Chattopadhyay, 2012; Story et al., 2012). It is therefore evident that efforts to build up women's ability to wield some influence in the household and enhanced

communication between spouses on reproductive health matters lead to better maternal health outcomes (Asefa, 2014; Furuta & Salway, 2006).

2.9.1.4 Access to quality maternal health care

In addition to socio-cultural barriers, lack of female autonomy and poor education, insufficient provision of health care infrastructure in urban areas leads to the exclusion of the disadvantaged from maternal and newborn care (Matthews et al., 2010). Geographical and financial access to maternal care, as well as the quality of care received are all determinants of women's utilization of maternal health care services (Bartlett et al., 2005; Gupta et al., 2008; Zhao et al., 2012). Ordinarily, health care facilities are supposed to have the ability to provide pregnant women with Basic Emergency Obstetric Care (BEOC) which is comprised of six cardinal procedures: administration of parenteral antibiotics, administration of parenteral oxytocic drugs, administration of parenteral anticonvulsants, manual removal of retained products of conception, manual removal of retained placenta, and assisted vaginal delivery with vacuum extraction (Fotso et al., 2008).

Evidence exists highlighting the fact that where the wealthy and the poor from an urban environment use the same health care facility, the ability of an urban poor woman to pay for health care services has an impact on the quality of services accessed and the time spent at the facilities (Pitchforth et al., 2006). Poor, uneducated women are occasionally treated worse off than their wealthier, educated counterparts by health care providers and this rude or neglectful treatment by health care staff leads to a disinclination of the under-privileged

to use health care services (Bartlett et al., 2005; Hulton, Matthews, & Stones, 2007). Conversely, a good relationship fostered between patients and health care providers ensures better compliance with Antenatal Care visits (Gabrysch & Campbell, 2009; WHO, 2002). In addition to this, the quality of care provided with regards to content of care, determines the satisfactory use of ANC services as well as early initiation of care (Chama-Chiliba & Koch, 2013).

Health care in urban environments is characterised by a large number of private health care facilities, and where there are no public health care facilities nearby, female slum dwellers tend to patronise these private facilities (More, Alcock, et al., 2009; More, Bapat, et al., 2009). However, their utilization of these facilities is often limited to unregulated and poorly qualified providers offering low-priced services, thus leading to dire health consequences (Das & Hammer, 2007; Fernandez, Mondkar, & Mathai, 2003). The wide difference between the health care available to the urban poor and that available to their wealthier, and perhaps rural, counterparts makes it imperative that the definition of access to health care for the less priviledged urban dweller be scrutinised closely (Fotso et al., 2009).

The shortage of health care staff globally has led to the WHO estimating that 334,000 skilled birth attendants need to be trained to acheive not less than 72% coverage of deliveries worldwide (WHO, 2005). Of the fifty-seven countries that fall below the critical shortage threshold of 2.28 health care professionals per 1000 people, thirty-six are sub-

Saharan African nations (WHO, 2006b). This leads to inadequate provision of care as found in sub-Saharan Africa where only 25% of women with the lowest socio-economic status have a skilled attendant during delivery (WHO et al., 2012). In a study in Malawi, less than 15% of clinics were found to be providing 24-hour maternal care due to shortage of health care workers, thus placing women with obstetric complications at high risk of death or disability (McCoy, McPake, & Mwapasa, 2008). This makes it obvious that even though extensive health coverage is important, it is also imperative that the content of the maternal care provided is adequate to avert perinatal misfortunes (WHO & UNICEF, 2010).

2.9.1.5 Access to knowledge and utilisation of maternal health services

Social support rendered from social networks imbue individuals with the ability to access pertinent health care services and imbibe healthy behavioural changes (Uchino, 2004, 2006). People who are migrants are often neglected and misunderstood by health care workers, yet steady social support from family and friends has a positive effect on their health-seeking behaviour leading to enhanced health outcomes (Kim et al., 2015). In addition, many migrant women face language barriers that have a negative influence on access to maternal health care services and quality of care received, resulting in patient dissatisfaction and poor health outcomes (Almeida, Caldas, Ayres-De-Campos, Salcedo-Barrientos, & Dias, 2013). The ability of health care providers to effectively communicate health information to this group of women improves on knowledge and awareness thus leading to improved decision-making and satisfaction with service delivery (Nair et al., 2014).

Studies conducted have shown that women who make more than four Antenatal Care visits are more likely to deliver their baby in a proper healthcare facility than those with a lesser number of visits (APHRC, 2009; Fotso et al., 2009). Furthermore, research carried out in Kenya and India corroborate the fact that health education received during ANC positively influenced women's decisions to deliver in a healthcare facility (Fotso et al., 2009; Sunil, Rajaram, & Zottarelli, 2006). In India, Indonesia and Ethiopia, it was observed that women who utilized ANC services were more likely to access PNC services following child birth (Agarwal, Singh, & Garg, 2007; Tesfahun, Worku, Mazengiya, & Kifle, 2014; Titaley, Hunter, Heywood, & Dibley, 2010) thus the importance of Antenatal Care service provision cannot be overemphasised. It was also highlighted by Fotso et al. (2009) that the women of lowest socio-economic status were more likely to be influenced by this health education. Initiating Antenatal Care attendance at the appropriate time allows for adequate information concerning the full range of services offered to be passed on to the women therefore enabling them to avail themselves of all the benefits of Antenatal Care (Rowe et al., 2008; Zhao et al., 2012). Poor maternal health literacy is a hindrance to women's ability to make informed health decisions, and having the knowledge about where and when to seek health care (APP, 2010).

Antenatal Care attendance and health care facility delivery have proven to have a positive outcome on child survival rates as the mothers are more likely to have better health-seeking behaviours and take their children to the child welfare clinics (Dixit, Dwivedi, & Ram, 2013; Pervin et al., 2012). Childhood mortality in Africa in past years has been as a result of malaria, acute respiratory infections, diarrhoeal diseases, and vaccine preventable

diseases such as measles and neonatal tetanus (Bryce, Boschi-Pinto, Shibuya, & Black, 2005). Locales with low immunization coverage and high population density record childhood mortality due to measles infections, coupled with diarrhoeal infections on account of lack of potable water and poor hygiene and sanitation, conditions characteristic of slum environments (Magadi, 2004). Reaching the pregnant women in these underserved communities with the right information concerning child welfare during Antenatal Care will make the children in these areas less vulnerable to these diseases.

Health initiatives and interventions programmed at the community level have largely been targeted at rural populations despite the fact that rural-urban migration has led to the springing up of underserved communities around the urban areas. There is therefore a need for research in these peri-urban environments to ascertain what initiatives will be of maternal health advantage to the women dwelling in these communities.

CHAPTER THREE

3.0 METHODOLOGY

3.1 Introduction

This chapter is an overview of the methods used in investigating the utilization of maternal healthcare through community-based initiatives within a peri-urban context in Accra. It provides descriptions of the study design, study area, study population, sample size and sampling techniques; tools and procedure for data collection; as well as data analysis procedures.

3.2 Study Design

This research is a cross-sectional descriptive study that was carried out using a mixed method approach involving quantitative and qualitative data collection methods. The quantitative data was collected with the use of a questionnaire (Appendix B) administered to women who had had deliveries in the past eighteen months prior to the time of data collection in the study area. This was to investigate the peri-urban women's utilization of maternal care services through community-based perinatal care initiatives.

The qualitative data collection entailed the use of the phenomenological approach todocument the lived experiences of the postnatal women and healthcare personnel in the study area. In addition to buttressing the quantitative data collected, data thus collected was

used to determine the influence of community-based initiatives on adequate Antenatal Care utilization, skilled birth delivery, and timely Postnatal Care utilization in the peri-urban setting in Ga East Municipal. The data collection plan is outlined in Table 1.

Table 1: Methods and Sources of Study Data

	OBJECTIVES	METHODS	DATA SOURCES	OUTCOME VARIABLES
1	To assess the peri-urban women's utilization of Antenatal Care services offered by the health care providers in their communities	Questionnaire FGD	Women with deliveries in the past 18 months	Adequate ANC attendance
2	To examine the women's utilization of Skilled Birth Attendance services from the health care providers in their communities	Questionnaire FGD	Women with deliveries in the past 18 months	Skilled Birth delivery
3	To explore the women's utilization of Postnatal Care services offered by the health care providers in their communities	Questionnaire FGD	Women with deliveries in the past 18 months	Timely PNC
4	To determine the influence of community-based interventions on adequate ANC, SBA and timely PNC utilization in the peri-urban setting.	Questionnaire FGD IDI	Women with deliveries in the past 18 months; Health care personnel	Adequate ANC attendance; Skilled Birth delivery; Timely PNC

3.3 Study Area

The research was carried out in the Ga East Municipal of Greater Accra Region, Ghana which is one of the fastest growing slum areas in the nation with a population of 172,102

people covering an area of 166 square kilometres (GEMHD, 2015). It is located in the northern part of Greater Accra Region and is bordered on the west by the Ga West Municipal, on the east by La-Nkwantanang-Madina Municipal, on the south by the Adentan Municipal, and on the north by the Akuapim South District of the Eastern Region. There are four sub-municipals in the municipality namely Dome, Taifa, Haatso and Abokobi, a well-known Presbyterian rural community which serves as the capital. Dome, Taifa and Haatso are mainly peri-urban settlements predominantly inhabited by rural-urban migrants who settle in the Ga East Municipal due to its proximity to the country capital, Accra. Many of these migrants come from the three northern regions of Ghana where poverty is prevalent. There are various ethnic groups resident in the municipality such as the Gas, Akans, Ewes and Fantis from the south of Ghana; and Dagombas and Grushie from the north. The sub-municipals have sixteen (16) operational areas that comprise of forty-two (42) communities. Health service delivery in the municipality is coordinated by the Municipal Health Management Team (MHMT) though the municipality lacks public health facilities as there are only six (6) of these out of the thirty-nine (39) health facilities operational in the area, with the rest being private facilities. Presently, there are fifteen (15) Community-based Health Planning and Services (CHPS) zones in the peri-urban settlements of Dome and Taifa, providing basic healthcare services to the community members during home visits and outreach programmes. There are four main economic activities in the municipality which are commerce, agriculture, service provision and industry though a large part of the working force have no employment, highlighting the high poverty level prevailing in the municipal (GEMHD, 2015).

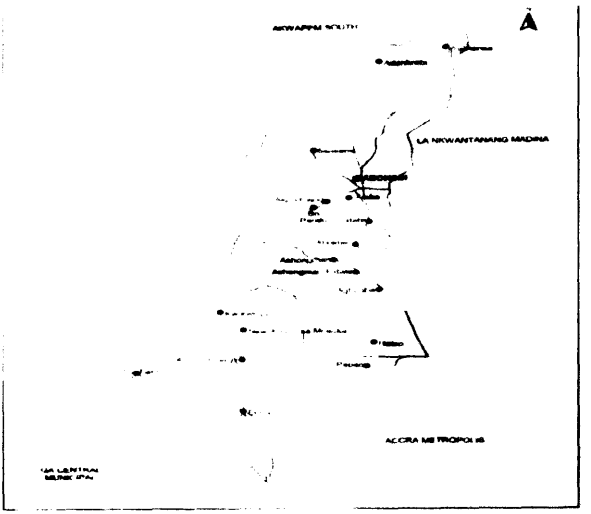

Figure 3: Map of Ga East Municipal

3.4 Quantitative Data Collection

The quantitative data was collected using a structured questionnaire administered by trained interviewers. The study population targeted were peri-urban women living in Ga East Municipal who have had deliveries in the year-and-half prior to the study.

3.4.1 Sample Size Calculation

The study entailed the recruitment of women with deliveries in the past eighteen months residing in the study area until the sample size of 436 (four hundred and thirty six)

respondents was attained. This sample size was calculated using the Yamane formula (Yamane, 1967) at 5% precision, and taking into consideration the population of women in fertility age range (WIFA) (41,304) in Ga East Municipal (Ga East Municipal Health Directorate, 2015), as well as a 10% non-response rate. Furthermore, the Ga East ANC, SBA and PNC 2015 coverage of 78%, 42% and 54% (Ga East Municipal Health Directorate, 2016), were taken into consideration in the formula below:

$$n = \frac{z^2 p(1-p)N}{z^2 p(1-p) + Ne^2}$$

where, n = the minimum sample size,

z = the standard normal variate for population distribution. In this study, a 95% confidence interval was used, therefore a 5% type 1 error was allowed and the level of significance placed at $p < 0.05$. At $p<0.05$, $Z = 1.96$;

p = the proportion of some relevant characteristic. Since this study was measuring three outcome variables, ANC, skilled delivery and PNC, their various proportion were used in computing the sample size after which preference was given to the one that resulted in the highest sample size;

N = the population of women in the fertility age group in Ga East Municipal which is 41,304;

And, e = the degree of precision assumed to be 5%.

Using the Postnatal Care proportion as the outcome with the highest sample size calculation, the sample size arrived at was 416, after including a 10% non-response rate. However, the simplified version of the formula is given as:

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

Thus, in using this to compute the sample size:

$$n = \frac{41304}{1 + 41304 * 0.05^2}$$

n = 396 + 10% non-response rate = 436 respondents.

This higher sample size was used in the study as it has the advantage of lowering the margin of error thereby making the study more reliable (Taherdoost, 2016).

3.4.2 Sampling Procedure

The sampling was done using a random sampling procedure. With the sub-municipal Enumeration Areas serving as a framework, household listings were conducted in two peri-urban sub-municipals in Ga East Municipality: Dome and Taifa. Following this, each household was given a unique identification number and random numbers were generated using the Microsoft Excel random number generator to obtain the sample size. Samples were chosen proportionately from each sub-municipal to reflect the population size in each of the areas. From the household numbers generated, women who had delivered babies in the last year-and-half were chosen to reduce the chances of the study being affected by recall bias (Esena & Sappor, 2013). In cases where more than one woman was found to be eligible in a particular household, only one woman was selected for the study by balloting. The inclusion criteria for the study took into account, women who had had deliveries in the past eighteen months, and were between the ages of 15 to 49 years old. The exclusion

criteria comprised of women with deliveries who were not resident in the Ga East Municipal during their pregnancies, and postnatal women outside the WIFA group range.

The primary outcomes in this study are:

1. Adequate ANC attendance (having 4 or more ANC visits);

2. Skilled birth delivery (childbirth at a healthcare facility attended by a skilled healthcare worker); and

3. Timely Postnatal Care (attendance of PNC clinic within the first 24 hours, and by the 2nd/3rd day after birth).

The independent variables include age, parity, educational level, working status, and female autonomy.

3.5 Qualitative Data Collection

Qualitative research is carried out to explore a phenomenon or a matter of interest so as to understand it from a certain population's point of view, identify measurable variables, or highlight issues that have been hitherto unvoiced (Creswell, 2007). In phenomenology, the common issues of the individuals' experiences are stressed with the researcher using data collected to develop a complex description of all the lived experiences - narrating 'what' was experienced and 'how' it was experienced (Moustakas, 1994). In describing the phenomena being studied, researchers need to bracket their personal knowledge about it. Some research authorities such as van Manen (1990) are of the opinion that an interpretive approach to phenomenology will make it difficult for this to be achievable. LeVasseur

(2003) suggests a reflective approach that entails suspension of personal understandings to encourage inquiry, and this approach was employed during this research.

In phenomenology, interview guides are developed and used as a protocol to conduct the data collection thus the qualitative data for this research was collected using two methods: Focus Group Discussions (FGDs) and In-depth Interviews, employing discussion and interview guides as tools. Focus Group Discussions aid in highlighting group opinions of issues that affect a community or subgroup of people while defining the range of perspectives that exist amongst them (Mack, Woodsong, McQueen, Guest, & Namey, 2005). In-depth Interviews, on the other hand, are used to elicit individual perspectives regarding the structure, processes and outcomes of a given agenda (Boyce & Palena, 2006). These strategies were thus appropriate to aid in extracting detailed information from the study participants towards the formation of desired themes and categories. The guides were designed in English and where discussions or interviews needed to be conducted in a local language, a back-to-back translation of the guide into the local language, Twi, was conducted. This was done by engaging an individual with expertise in English as well as in Twi to do the first translation after which another language expert was required to translate the guide back into English. Any disparities that existed when both translations were compared was settled by a third translator.

Field assistants were recruited and trained using an approach that involved both theoretical sessions and mock interviews carried out in English and Twi. Following the training, the

field assistants were deployed into the field to collect the required data. The discussions and interviews were carried out in environments that were quiet and conducive for the respondents. In addition, proper ethical procedures were followed by obtaining consent from the respondents to take part in the study, as well as to record the discussions or interviews.

All the participants in the discussions and interviews were purposively sampled using maximum variation. Purposive sampling is used in qualitative research to deliberately throw light on a research problem and the phenomenon under study and maximum variation is an approach used in selecting the sites and respondents to ensure that different criteria of sites or individuals are chosen to reflect any dissimilarities in opinions (Creswell, 2007). In this research, women who had delivered babies in the past eighteen months participated in the discussions. They were chosen based on the places of delivery - health care facility or TBA centre - to be able to document the experiences of women based on the different choices they make. CHOs participating in FGDs were chosen from the two sub districts included in the study to elicit any similarities or differences between the two environments. All the interviewees were chosen to reflect the various individuals that make contact with the women in the study area during their pregnancies.

3.5.1 Focus Group Discussions (FGDs)

Three (3) FGDs were held amongst postnatal women representing women who had deliveries in the facilities and women who chose to deliver with a Traditional Birth

Attendant. These women were chosen from those sampled for the quantitative research using information from the questionnaire indicating their choices of place of birth. In addition to these, two (2) FGDs were held amongst CHOs who work in the study area, and who had been employed there for the past two years (Table 2). This was to ensure that the information being obtained from the CHOs is based on valid experiences. The FGDs were comprised of groups of 6 -10 participants interviewed using FGD guides (Appendices D and E) made up of open-ended questions to obtain information regarding Antenatal Care, skilled delivery, and Postnatal Care services available to women in these communities. The discussions also elicited information on the activities of community based initiatives and how they impact on maternal care service utilization in the communities. The participants were required to sit in a semi-circular formation with the interviewer and note-taker seated in the middle and the timing and venue of the discussions were chosen to ensure that they were agreeable to all the participants involved. For each question asked during the discussions, each individual was afforded the opportunity to contribute to the forum and inductive probing was employed to elucidate on issues raised. The notes taken during the discussions were expanded immediately after the sessions. Each discussion lasted for 50 - 60 minutes.

Table 2: Summary of FGD Participants

Discussion Group	Number of FGDs	Number of Participants
Mothers with healthcare facility deliveries	2	15
Mothers with TBA assisted deliveries	1	6
CHOs	2	14
Total	**5**	**35**

3.5.2 In-Depth Interviews (IDIs)

A total of nine (9) In-depth Interviews (IDIs) were also held with key healthcare personnel in charge of ANC at two (2) public health facilities and two (2) private health facilities, two (2) Traditional Birth Attendants, two (2) members of Mother Support Groups, and the urban CHPS coordinator. Interview guides with open-ended questions were used to elicit the information needed such as Antenatal Care, skilled delivery, and Postnatal Care services available to women in these communities and collaborations between the healthcare providers in the communities (Appendix F). The interviews took place at venues and times conducive to the interviewees, with the accompanying voice recording and note taking. Inductive probing was also be used to expound on points raised during the interviews and notes taken were expanded soon after the interviews. The duration of the interviews were between 40 - 45 minutes.

Table 3: Summary of IDI Participants

Type of Participants	Number Interviewed
Public health care providers	2
Private health care providers	2
Urban CHPS Coordinator	1
Mother Support Group volunteers	2
Traditional Birth Attendants	2
Total	**9**

3.6 Data Management and Analysis

Quantitative data were entered into the Stata 13© software. All continuous variables such as age were categorized into ranges as were deemed appropriate. Other variables such as ethnicity, religion, marital status, educational attainment and occupation were collected as categorical variables and were used as such during analysis. A univariable analysis of background characteristics was carried out and outcomes are reported in total numbers and percentages. The chi-square test was used for bivariable analysis to evaluate the association between the outcome and independent variables with a p-value of less than 0.05 considered statistically significant, while multivariable logistic regression and calculated adjusted odd ratios with 95% confidence intervals were used to measure the strength of the association between outcome and independent variables. All the results from the quantitative analysis are presented in tables.

Qualitative data from discussions and interviews were transcribed, coded and analysed using the thematic content analysis approach. An initial read through the transcripts was instrumental in the development of a codebook. The codebook described the various codes and their definitions, outlined what quotes could or could not be categorized under each quote, and provided examples to guide these decisions. This analysis was done using the Nvivo 11© statistical software and the first step towards this consisted of transcribing the data collected into a Microsoft Word document, after which it was imported into the analytical software. The codes from the codebook were used as nodes in the software and transcripts were studied line-by-line to select relevant quotes and code them under

appropriate nodes. Themes and sub-themes emerged during this process while further analysis resulted in the formation of tentative linkages between the concepts and the data. All the information thus gathered were used to write up the narrative supported by illustrative quotes from the respondents.

The results from the quantitative and qualitative analysis were triangulated to produce an end report, and thus led to recommendations being made for the improvement of maternal health care service utilization in peri-urban areas through community-based initiatives.

3.7 Ethical Considerations

3.7.1 Ethical Clearance

Ethical clearance was sought from, and approved by the Ghana Health Service Ethical Review Board via the School of Public Health, College of Health Sciences, University of Ghana after which the study commenced (GHS-ERC 16/11/15, Appendix G).

3.7.2 Informed Consent

Prior to data collection, field assistants explained the purpose of the study to the respondents, including the procedures involved and any potential risks in participating in the study. The respondents were also presented with informed consent forms to obtain their assent to participate in the study. These forms also provided the names and phone numbers

of the principal researcher, the academic supervisors and the secretary to the ethics committee of the Ghana Health Service, in case a respondent had the need to contact any of them. In the event that the respondent could not read, the field assistants read the form out loud and requested that the individual report back her understanding of consent, answered any question raised, and obtained the consent to participate from the respondent. Where required, consent for audio-recording was also obtained. Respondents were free to decline participation in the study at any point during data collection or interviews. There were no health risks to respondents and their confidentiality and privacy were assured.

3.7.3 Privacy and Confidentiality

All data collected from the study were confidential. All respondents interviewed were assigned a unique identification number and no names were attached to any study data. In addition, study personnel stored data in a secure cabinet to which only authorised personnel had access. All digital data were stored in a password protected computer accessible to the study team only.

3.7.4 Risks and Benefits

Though there were no direct benefits to the study participants, their participation will help in making policy recommendations with regards to maternal healthcare service delivery to women living in impoverished urban settlements. There were also no anticipated risks to the participants in the study.

3.7.5 Dissemination of Results

Results from the study will be disseminated through a variety of platforms which will include seminar presentations, policy briefs, peer-reviewed publications in journals and debriefing of participating communities and individuals.

3.7.6 Quality Control

Three graduate research assistants were recruited and trained on all aspects of the study two weeks before commencing on data collection. They were trained by the Principal Investigator at the School of Public Health, and were sensitized on proper ethical guidelines and the need for confidentiality. The discussion and interview guides were also tested by carrying out a pretesting in La-Nkwatanang Municipal - an area with similar characteristics like the study area - after which necessary alterations were made to the data collection tools to improve on them. There was double entry of quantitative data collected after which the data was cleaned to check for errors and outliers. A back-to-back translation of all discussions and interviews conducted in the local language, Twi, was also done by two independent researchers proficient in English and the local language. In the event of any disagreement, a third researcher was invited to iron out inconsistencies.

CHAPTER FOUR

4.0 RESULTS

4.1 Introduction

This chapter presents the quantitative and qualitative results obtained from the study and commences by outlining the socio-demographic data of study participants. The objectives of the study and the conceptual framework were taken into consideration in presenting the results. Account is given of the effect of the community-based interventions on the continuum of perinatal care from Antenatal Care through delivery to Postnatal Care. The success of the perinatal health care services hinges on the fact that a woman is supposed to have adequate ANC care, Skilled Birth Attendance at delivery, and timely Postnatal Care, and this chapter highlights the results from the study addressing these issues.

4.2 Socio-demographic Background of Respondents

The total number of respondents that participated in the study was 441. These study respondents were women in the reproductive age groups and came from varying demographic backgrounds as presented in Table 4 below. The respondents' ages ranged from 15 to 46 years old. With regards to level of education, 41 respondents (9.3%) had no education, 88 (20%) had primary education, and almost half of them were educated up to the Junior Secondary School level. Respondents who had Senior Secondary School and tertiary education were 92 (21.0%) out of the population.

Respondents who were from the Akan ethnic group made up 248 (57.3%) out of the total number of participants; the Ewe ethnic group were 111 (25.6%), the Ga/Dangbe ethnic group were 34 (7.9%), and all other ethnic groups, including those of Northern origin were 40 (9.2%). Majority of respondents were Christians as they made up 411 (93.6%) of the total, while 21 (4.8%) were Muslims and 7 (1.6%) represented those of other religions. Whilst more than half (55.4%) of the respondents were married, 54 (12.3%) were single and 142 (32.3%) were cohabiting.

Respondents who were unemployed made up 138 (31.3%) out of the total. For those that were employed, 244 (81.3%) of them were engaged in their jobs all year round while 56 (18.7%) worked seasonally. Of these employed individuals, 284 (95%) were able to spend their income as they deemed fit while 15 (5%) did not have the same liberty.

With regards to decision making, 80 (18.6%) out of the respondents were the major decision makers in the household, 153 (35.6%) had their husbands or partners as the major decision makers, while 197 (45.8%) out of all respondents made the decisions together with their spouses or partners.

While 43 (9.8%) of the respondents had no access to a cell phone, 396 (90.2%) of them had access to personal cell phones, a phone within the household, or made use of a phone within the compound or community.

Concerning the need for permission from their husbands or partners to move out of the house, 251 (56.9%) respondents had to obtain permission while 181 (41.0%) did not require permission before leaving the house.

A little over half of all respondents had a valid NHIS card as 231 (52.4%) of them were able to produce it on demand, while 207 (46.9%) did not have the card.

Table 4: Socio-demographic Characteristics of Respondents

Socio-demographic characteristics (SDC) of respondents	Frequency (N)	Percentage (%)
Age		
<20	13	3.0
20-24	74	16.8
25-29	166	37.7
30-34	126	28.6
35-39	51	11.6
40+	10	2.3
Highest level of formal education		
None	41	9.3
Primary	88	20.0
JSS/Middle	218	49.7
SSS/Secondary	71	16.2
Tertiary	21	4.8
Ethnicity		
Akan	248	57.3
Ewe	111	25.6
Ga/Dangbe	34	7.9
Others	40	9.2
Religion		
Christian	411	93.6
Muslim	21	4.8
Other	7	1.6
Marital status		
Unmarried	54	12.3
Married	244	55.4
Cohabiting	142	32.3
Occupation		
Unemployed	138	31.3
Prof/Tech/Man	14	3.2
Sales & Services	198	45.0
Skilled/Artisan	84	19.1
Unskilled/Labourer	6	1.4
For the employed		
Work frequency		
Seasonal	56	18.7
All year	244	81.3
Able to spend own income as deemed fit	284	95.0
Major decision maker in household		
Respondent	80	18.6
Husband/Partner	153	35.6
Both	197	45.8
Access to cell phone		
None	43	9.8
Personal phone	343	78.1
Within household	46	10.5
Within compound/community	7	1.6
Needs permission from husband to move out of the house	251	56.9
Have valid 2015-2016 NHIS card	231	52.4

The respondents from the community who participated in the Focus Group Discussions were purposefully selected from the study sample. Their socio-demographic characteristics, as well as those of the CHOs are summarized in Table 5 below.

Table 5: Socio-demographic Characteristics of FGD Participants

SDC of FGD Participants	Number of Participants	
Community Health Officers (CHOs)		
Age (Years)		
<30 years	8	
≥30 years	6	
Religion		
Christianity	13	
Islam	1	
Marital status		
Married	7	
Single	7	
Years of Experience		
1-5	5	
>5	9	
Postnatal Women	**Skilled Delivery**	**Unskilled Delivery**
Age (Years)		
<30 years	10	5
≥30 years	5	1
Religion		
Christianity	13	6
Islam	2	0
Marital status		
Married	14	2
Single	1	4
Parity		
<3	10	6
≥3	5	0

4.3 Reproductive History of Respondents

Of all the women surveyed, 105 (23.8%) had had one pregnancy, 165 (37.4%) had had two pregnancies, 102 (23.1%) had had three pregnancies, and 69 (15.7%) had had four pregnancies or more. The median and mean number of pregnancies were 2 and 2.4 respectively. While 301 (68.3%) of respondents had given birth to up to 2 children, 140 (31.7%) had given birth to 3 or more children. The median and mean number of children given birth to were 2 and 2.2 respectively.

Three hundred and seventy respondents (84.3%) were not taking any measures to delay or prevent pregnancy while 69 (15.7%) were using contraceptives for this purpose. Of these, 34 (49.3%) have used a contraceptive method for less than 6 months while 35 (50.7%) have used the methods for 6 months or more.

For women currently delaying or avoiding pregnancy, the method of contraception employed varied amongst the respondents with the injectables being the most popular choice as 30 (43.5%) women opted for this method. The respondents had learnt about contraceptives from various sources with most getting their information from Antenatal Care clinics, 23 (34.3%), 15 (22.4%) from the media, and 10 (14.9%) from Postnatal Care. These results are presented in Table 6.

Table 6: Reproductive History of Respondents

Reproductive history	Frequency (N)	Percentage (%)
No. of pregnancies ever had		
1	105	23.8
2	165	37.4
3	102	23.1
4+	69	15.7
Median=2, Mean=2.4		
Parity		
1	137	31.0
2	164	37.2
3	89	20.2
4+	51	11.6
Median=2, Mean=2.2		
Currently delaying/avoiding pregnancy	69	15.7
Duration of current contraceptive use		
< 6 months	34	49.3
6+ months	35	50.7
Choice of contraception		
Injectables	30	43.5
Pill	12	17.4
IUD	9	13.0
Male/Female condom	6	8.7
Implants	3	4.3
Lactational amenorrhoea	3	4.3
Foam/jelly/diaphragm	3	4.4
Rhythmic/abstinence method	2	2.9
Other traditional method	1	1.5
Sources of knowledge on contraceptive use		
ANC	23	34.3
Media	15	22.4
PNC	10	14.9
Child Welfare Clinic	8	11.9
CHOs	2	3.0
Other sources	9	13.9

4.4 Antenatal Care

Majority of the women surveyed, 432 (98.6%) had been to the Antenatal Care clinic with only 6 (1.4%) not utilizing ANC services. The healthcare providers that attended to most

of the women were the midwives who catered to 384 (88.9%) of all visits. The government hospitals were the most patronized healthcare facilities by the women with 269 (62.3%) ANC attendees while private clinics and maternity homes had 111 (25.7%) and 5 (1.2%) of the ANC attendees visiting respectively. Two hundred and sixty-seven women (62.4%) attended their first ANC clinic during their first trimester, 152 (35.5%) started in the second trimester and 9 (2.1%) started in the third trimester. Of the women who attended ANC, 337 (78.2%) paid an adequate number of visits to the clinic while 94 (21.8%) did not pay up to the minimum number of four visits required. During their pregnancy, only 298 (69%) of those who attended ANC reported that they were told about the danger signs in pregnancy or where to go in the event of a pregnancy complication (Table 7).

When asked about their satisfaction with services offered at the ANC clinics they attended, 219 (53.4%) respondents were pleased with the range of services offered, 392 (95.6%) were impressed with the attitude of the nurses, while 264 (64.4%) were of the opinion that the level of sanitation was of acceptable standard. The availability of drugs, privacy during examinations, and time spent during examinations were services that 255 (62.2%), 238 (58.1%), and 219 (53.4%) respondents respectively pointed out as satisfactory. However, thirty-one (7.0%) respondents were unhappy with the attitude of nurses at the healthcare facilities, 41 (9.3%) felt the time spent during examination was inadequate and 22 (5.0%) were dissatisfied for other reasons such as high hospital charges, baby not being bathe, tardiness of the health care providers, and early closing time at facilities (Table 7).

Table 7: Antenatal Care Attendance

ANC attendance	Frequency (N)	Percentage (%)
Saw anyone for Antenatal Care during last pregnancy	432	98.6
Persons seen for ANC*		
Doctor	157	36.3
Midwife	384	88.9
Nurse	182	42.1
Facilities where ANC was received*		
Govt. Hospital	269	62.3
Govt. health centre/Community Health Clinic	54	12.5
Private clinic	111	25.7
Maternity home	5	1.2
Age of pregnancy at first ANC		
1st trimester	267	62.4
2nd trimester	152	35.5
3rd trimester	9	2.1
No. of ANC visits		
Inadequate	95	21.8
Adequate	337	78.2
Told pregnancy danger signs at ANC	298	69.0
Told where to go with pregnancy complications	298	69.0
Discussed plans for delivery while pregnant	319	72.3
Satisfied with the ANC received at health care facility	410	93.0
Services satisfied with*		
Range of services offered	219	53.4
Attitude of nurses	392	95.6
Level of sanitation	264	64.4
Availability of drugs	255	62.2
Privacy during examination	238	58.1
Time spent during examination	219	53.4
Good facility	14	3.4
Services not satisfied with*		
Attitude of nurses	31	7.0
Time spent during examination	41	9.3
Other reasons	22	5.0

* Multiple responses allowed

4.4.1 Association between Socio-demographic Characteristics of Respondents and Adequate ANC Attendance

A Chi statistical test was carried out to ascertain whether there was an association or significant difference in distributions of adequate ANC across each independent variable. Where the assumptions underlying the Chi-square test failed, the Fisher's exact test was used. Results show that the differences in age, parity, level of education were not significant for adequate ANC attendance (p=0.827, 0.310 and 0.129 respectively). Conversely, the employment status of the respondents (p=<0.01), decision making in the home (p=<0.001) as well as the need for permission to move out of the home (p=<0.001) all emerged as significant factors in obtaining adequate ANC. The study found out that satisfaction with ANC services provided at the healthcare facilities was a predictor of adequate ANC attendance (p=<0.001) while being visited by a CHO had no significant association with obtaining ANC adequately (p=0.904). These results are presented in Table 8.

Table 8: Adequate ANC attendance by socio-demographic characteristics and community-based initiatives

SDC, reproductive history and ANC attendance	Total N (%)	Adequate ANC (%)	X^2 p-value
Age			0.827
<20	13 (3.0)	76.9	
20-24	74 (16.8)	73.0	
25-29	166 (37.7)	78.9	
30-34	126 (28.6)	74.6	
35-39	51 (11.6)	78.4	
40+	10 (2.3)	90.0	
Parity			0.310
1	137 (31.0)	80.3	
2	164 (37.2)	78.7	
3	89 (20.2)	70.8	
4+	51 (11.6)	72.5	
Highest level of formal education			0.129
None	41 (9.3)	70.7	
Primary	88 (20.0)	68.2	
JSS/Middle School	218 (49.7)	79.4	
Senior Secondary	71 (16.2)	83.1	
Tertiary	21 (4.8)	81.0	
Employment status			<0.01
Unemployed	138 (31.4)	68.8	
Employed	302 (68.6)	80.5	
Major decision makers in household			<0.001
Respondent	80 (18.6)	76.3	
Husband/Partner	153 (35.6)	52.3	
Both	197 (45.8)	94.9	
Need permission from partner to move out of the house	251 (58.1)	69.7	<0.001
ANC facility attended			<0.01
Govt. Hospital	265 (60.9)	72.5	
Govt./Community HC/Clinic	51 (11.7)	86.3	
Private/Maternity Clinic	119 (27.4)	86.6	
Satisfied with ANC services			<0.001
Yes	410 (94.0)	79.3	
Ever visited by CHO			0.904
Yes	266 (60.3)	77.1	
Total	441 (100.0)	76.9	

4.4.2 Logistic Regression between Socio-demographic Factors of Respondents and Adequate ANC Attendance

Binary logistic regression was used to find the relative odds of each outcome variable used in the Chi-square/Fisher's tests after adjusting for the effect of age, parity, educational level and CHO visits. Women who were employed were 20% less likely to attend ANC adequately when compared to the unemployed women (aOR=0.80, 95% CI=0.45-1.41) even though this finding was insignificant. In households where the husbands or partners were the major decision makers, women were 66% less likely to attend ANC the stipulated number of times (aOR=0.34, 95% CI=0.16-0.72) and this was a significant finding. However, in households where decisions were made consensually, women were significantly found to be 5.9 times more likely to attend ANC for the stipulated number of times (aOR=5.89, 95% CI=2.24-15.45). Similarly, women who needed permission to leave the home were 42% less likely to attend ANC clinics (aOR=0.58, 95% CI=0.29-1.14). Women attending ANC clinics in a government or community clinic had 1.7 times the odds of having four or more ANC visits relative to those attending clinics at government hospitals (aOR=1.73, 95% CI=0.68-4.42); while those attending ANC at private, maternity or NGO clinics had 1.5 times the odds relatively (aOR=1.51, 95% CI=0.77-2.98). Satisfaction with ANC services offered increased the chances of utilizing ANC services adequately by 42% (aOR=1.42, 95% CI=0.54-3.72). The summary of these results are presented in Table 9.

Table 9: Relative odds of adequate ANC attendance by socio-demographic factors and community-based initiatives

SDC, reproductive history and ANC attendance	Odds Ratio (95% Confidence Interval)		
	Unadjusted	Adjusted model 1	Adjusted model 2
Age	p=0.762	p=0.992	
<20	Ref	Ref	
20-24	0.81 (0.20, 3.25)	1.14 (0.23, 5.55)	
25-29	1.12 (0.29, 4.30)	1.09 (0.23, 5.22)	-
30-34	0.88 (0.23, 3.40)	0.89 (0.18, 4.51)	
35-39	1.19 (0.26, 4.66)	1.10 (0.18, 6.69)	
40+	2.70 (0.24, 30.85)	0.79 (0.04, 14.83)	
Parity	p=0.320	p=0.376	
1	Ref	Ref	
2	0.90 (0.52, 1.59)	0.77 (0.37, 1.59)	-
3	0.59 (0.32, 1.11)	0.52 (0.22, 1.22)	
4+	0.65 (0.31, 1.37)	0.46 (0.16, 1.32)	
Highest level of formal education	p=0.139	p=0.437	
None	Ref	Ref	
Primary	0.89 (0.40, 1.99)	0.86 (0.32, 2.36)	-
JSS/Middle School	1.59 (0.75, 3.36)	1.42 (0.55, 3.70)	
Senior Secondary	2.03 (0.81, 5.08)	1.53 (0.49, 4.84)	
Tertiary	1.76 (0.49, 6.36)	0.57 (0.11, 3.07)	
Employment status	p<0.01	p=0.677	p=0.438
Unemployed	Ref	Ref	Ref
Employed	1.86 (1.18, 2.95)	0.88 (0.47, 1.62)	0.80 (0.45, 1.41)
Major decision makers in household	p<0.001	p<0.001	p<0.001
Respondent	Ref	Ref	Ref
Husband/Partner	0.34 (0.19, 0.62)	0.38 (0.17, 0.82)	0.34 (0.16, 0.72)
Both	5.82 (2.57, 13.20)	6.75 (2.49, 18.31)	5.89 (2.24, 15.45)
Need permission from partner to move out of the house	p<0.001	p=0.151	p=0.114
	0.37 (0.22, 0.61)	0.60 (0.30, 1.21)	0.58 (0.29, 1.14)
ANC facility attended	p<0.01	p=0.296	p=0.306
Govt. Hospital	Ref	Ref	Ref
Govt./Community HC/Clinic	2.39 (1.03, 5.55)	1.70 (0.63, 4.64)	1.73 (0.68, 4.42)
Private/Maternity Clinic	2.45 (1.35, 4.42)	1.63 (0.80, 3.35)	1.51 (0.77, 2.98)
Satisfied with ANC services	p<0.01	p=0.466	p=0.475
	3.82 (1.71, 8.55)	1.46 (0.53, 3.99)	1.42 (0.54, 3.72)
Ever visited by CHO	p=0.904	p=0.674	-
	0.97 (0.62, 1.53)	1.13 (0.63, 2.03)	

4.5 Antenatal Care Knowledge, Practices and Barriers

Results from the qualitative research show that the respondents have basic knowledge about Antenatal Care services and regardless of their choice of birth place, they described it as care provided for a pregnant woman and her unborn child in a health care facility. Some of the services expected by the women during ANC clinics include blood tests, ultrasound scanning, and professional care in cases that may require surgery. Some respondents alluded to the fact that care of the pregnant woman has been a long standing cultural practice that has now become institutionalised. These opinions are illustrated by the quotes below:

> *"It is how a pregnant woman will go to the hospital to go and see how she and the baby are and then check herself like if you have enough blood and other things."* (38 years, FGD H/F Del, Dome)

> *"What I understand is that maybe you had an operation during the previous childbirth so you have to go for Antenatal Care so that when your time is due the doctor can tell you if you will need to be transferred to a bigger hospital or not."* (24 years, FGD H/F Del, Taifa)

> *"It is when a pregnant woman goes to the hospital to see if the baby is lying down well or not and the scan they do is what will tell that. In addition, the reason why we go for antenatal is that when you have any disease in your blood they can do lab and tell you but the TBA cannot tell you that so that is why we go for the antenatal."* (37 years, FGD TBA Del)

> *"Antenatal is something that has been there for long, in our grandmother and mothers time. When you get pregnant you go to the hospital or even those who deliver people at home they take care of the women during pregnancy but they have not put a name to it so it is the hospital that has named it antenatal and that is how we all know and call it."* (23 years, FGD H/F Del, Taifa)

Even though about two-thirds of the women accessed ANC services in their first trimester, the reasons for which the women went to the hospital varied from feelings of ill health to having a previous complication in a past pregnancy. Women who had no signs of ill health

delayed going for ANC till later in the pregnancy. Some of the women also needed prompting from family members such as the mother-in-law or husband before they started attending ANC. For most women who did not go for ANC clinics early in their pregnancies, financial and time constraints were given as the reasons for the delay. The narratives that follow buttress these points.

> *"It was my in-law who advised me to go in the third month, she did not give me any reason but I started feeling sick and she told me to start going."* (24 years, FGD H/F Del, Dome)
>
> *"As for me because of my previous complication when I saw that I was pregnant I went to the hospital, so I went in the first month."* (37 years, FGD TBA Del)
>
> *"Please I went in my seventh month and it is because there was nothing wrong with me, I had no pain or anything in my body."* (28 years, FGD H/F Del, Taifa)
>
> *"I did not have that much time to go the hospital and I was very strong too so I could have stayed at home till about seventh months before going to the hospital but I got sick in the fourth month and that is why I went."* (22 years, FGD TBA Del)
>
> *"It is because I did not have money, I went when I was two months pregnant but I did not have the money so I went back and started in the fourth month."* (28 years, FGD TBA Del)

Discussions and interviews with health care providers highlighted several other factors that were barriers to accessing ANC services. These include lack of public health care facilities in the community leading to high costs of services offered by private health care institutions, the poor treatment of pregnant women by hospital staff, and fear of Cesarean section. Many of these barriers result in the women relying on TBAs for perinatal care services, being inconsistent with ANC attendance, and non-compliance to obstetric referrals. These points are supported by the following quotes:

"Because Dome has no public facility and only private facilities, some of them charge high prices so the women prefer going to the TBA than going to the private facilities." (28 years, CHO, FGD Dome)

"We the health workers are our own enemies. We are driving the mothers to deliver at home because of the attitude we show them. We are doing a survey and some of the mothers still feel hurt for the way they were treated and disrespected many years back when they had their first child. So if they will deliver at home and the TBA will have time for them, boil water for them and pamper them, so if the person is not educated they will prefer to deliver at home than the hospital. So we the health workers are a big part of the problem, we are causing those things." (27 years, CHO, FGD Dome)

"For me if not for the way I got sick I would not have gone to the hospital for the antenatal because I don't like the way they are always talking about operation and the way they shout at us when we go to the hospital. I am very scared of the operation so if they will not encourage me and they will shout at me it is a very big problem in my life." (22 years, FGD TBA Del)

"Some of them, when you ask them to come back they will not mind you. They wait until they have issues before they come. Some will come for a tetanus injection and when it is time for the next shot they will not show up. She will come when the time is past. Also, when you ask them to go for the lab tests and scan they don't go. Most of them do this because of financial challenges. Some even come empty-handed and you have to use your own money to cater for them. When it is time for them to pay the bill it becomes a problem. So most of them we do it free for them." (IDI Maternity Home, Dome)

"The challenges, hmmm. Number one pertains to some of these antenatal cases. At times you know that this is not your case so you refer. I don't play with them, because I am not after money. I refer any case that has to be taken care of by a specialist. Like threatened abortion, women with one or two still births or women who delivered and lost the baby. They have to find out why. But if you send them away they may not go. They will go to another facility or stay at home and give birth. Yet, you will see them going for traditional medicine. They will tell you the traditional medicine too is helping them so they will be going there." (IDI Maternity Home, Taifa)

The choice of where to go for ANC services was made based on several factors. Many women chose health care facilities where they felt the health care providers were respectful and caring, while others chose facilities based on proximity to their places of residence, and where the waiting time was not too extensive. The capacity of a health care facility to

handle complications in pregnancy was another consideration in choosing a facility for ANC. The narratives that follow illustrate these factors mentioned.

> *"The reason why I attended antenatal at where I did is because when I go there they treat me with respect and they look after me well."* (38 years, FGD H/F Del, Dome)
>
> *"[The] community hospital is closest to me and they treat me well too so that is why I went there."* (24 years, FGD H/F Del, Taifa)
>
> *"That is where I attend hospital so I decided to go there when I got pregnant and that place too is a big hospital so if you have any complications during childbirth they can take care of you without having to refer you to any facility."* (23 years, FGD H/F Del, Dome)
>
> *"As for [the] polyclinic, usually there aren't a lot of people so when you go for the antenatal you return home on time so that is why I attended the ANC there."* (23 years, FGD H/F Del, Taifa)

While some women were satisfied with the ANC service delivery at their health care facility of choice largely because of the sanitary environment and respectful attitude of the health care personnel, others were dissatisfied with the services especially where they were ignored and treated disrespectfully. Other reasons that led to dissatisfaction include long waiting hours, showing some other ANC attendees favoritism, and suggesting Cesarean sections which some of the women deem unnecessary. These factors have also led some women to seek care from TBAs in addition to care being received from the orthodox health care facilities as illustrated below:

> *"I liked the environment, the place was neat and they treat you with respect and patience."* (35 years, FGD H/F Del, Taifa)
>
> *"They shout at us and we keep long there, when you go you will be waiting and waiting and they will ignore you."* (25 years, FGD H/F Del, Dome)
>
> *"Where I went to antenatal, what I did not like was that when you wake up early and go to the hospital, a soldier will sit at home and when she comes in late they*

will attend to her because they say it is their hospital and I don't like that. I think when they come late they should join the queue." (23 years, FGD H/F Del, Dome)

"When you go to the hospital and your date for delivery is past they will schedule you for operation but I don't like that too because I have been operated on once and I know it is not easy because I have lost my strength, I cannot do the things I used to do anymore but I like the fact that when you go they give you medicine if you are not feeling well or cannot eat." (37 years, FGD TBA Del)

"I also just go to the hospital and come to this TBA here - I don't take any herbal medicine but this TBA has been organizing prayers here. She even does all night prayers here and the person who directed me told me, and I have come to see how she pampers the pregnant women who come to deliver here and the doctors in the hospital don't do that. All they do is shout on you and say 'push, push' and they will push their big hands under you (vagina) saying they want to see the baby but this woman does not do that. She is always on me to pray so that is why I came here." (37 years, FGD TBA Del)

Despite the fact that most women felt it was essential to attend ANC at a health care facility, they still saw the need to have added spiritual and/or herbal protection during the pregnancy period. The prayers were offered to prevent unexpected complications, as well as to guard against witchcraft. The herbs are taken to keep the pregnant woman strong and healthy and prevent illnesses such as 'asram' (childhood convulsion) in the unborn child. These points are illustrated by the narratives below:

"I also went for prayers so that I can have safe delivery, have a healthy baby and not have any complications during pregnancy." (24 years, FGD H/F Del, Taifa)

"I used herbs to prevent 'asram'." (32 years, FGD H/F Del, Taifa)

"When you are taking hospital medicine you must not add herbal medicine so I did not take any herbs. But when you get pregnant the witches get very aggressive so I went for prayers." (25 years, FGD TBA Del)

Focus Group Discussions and In-depth Interviews held with health care providers and volunteers elicited that most of them encouraged the women to attend Antenatal Care in the health care facilities. The CHOs and Mother Support Group volunteers engage the

mothers in their homes, and at a personal level to educate them on the benefits of ANC services and proper care during pregnancy. The CHOs and maternity home proprietresses also keep a check on the ANC booklets given to women by the health care facilities to ensure compliance with ANC instructions. The TBAs encourage the women to go for ANC clinics to ascertain that there were no complications hindering them from having a TBA assisted delivery. They go a step further to provide spiritual and traditional support for the women in the form of prayers and herbal medicines. These points are highlighted by the narratives below:

> *"For us the community health nurses, when we go to the community and find pregnant women, we check their ANC book to see whether the she has been going for ANC regularly. And also whether the person has been taking the drugs given to her - routine drugs like folic acid and sp. Most of the mothers don't like to take it so when you go to the ANC clinic the midwife makes sure you take it in front of her. They write it in the book so we check everything. When it is important we also give education."* (31 years, CHO, FGD Taifa)

> *"We look at their folder to see if they are attending antenatal regularly. For some of them, you will realize that they have been to the clinic just once or twice. In that case we rebuke them a little before taking care of them. We also look at the scan, their blood level and other lab results."* (IDI Maternity Home, Dome)

> *"...so when they go to the hospital and everything is ok, then they come for me to deliver them here. I make them go to the hospital to do the scan because maybe the baby might not be lying down well and they have to do the lab too because some of them too, they don't have enough blood. That is why I make them go to the hospital so that they have a safe delivery and a healthy baby too...I only do deliveries and prayers, I don't give them any medicine."* (IDI TBA 2, Dome)

> *"...my mom makes deliveries. But sometimes, some of them do not go to the hospital. I don't know why. Maybe lack of money or something else. Some go to the hospital but taking the pills is difficult so we boil herbs for them. So some people after going to the hospital come to my mom to take this local ones too. That is what we do, but we don't give Antenatal Care, only delivery."* (IDI TBA 1, Dome)

> *"I go round and when I see a pregnant women I get closer to her and greet her and ask her if she has been attending antenatal. Some of them say they attend and some of them say the pregnancy is not yet old so they are waiting till about 6 months before they go. So I talk to them and tell them that they must go for antenatal so that they can check them, even for those who don't go to the hospital, I ask about their way of*

eating and ask if they eat fruits. Some of them say they don't like fruits and if they eat fruits they vomit and others say that they are only able to eat rice so I advise them to eat fruits in addition to their meals so that the baby will be healthy." (IDI, MSG 1)

4.6 Delivery Care

Results from the study show that 409 (92.8%) women had skilled attendance at delivery with 292 (66.2%) of them choosing to give birth in a Government owned hospital while 99 (22.5%) women opted for the services of a private health care facility. Women who had a home delivery, either in their own homes or at the TBA's home, were 32 (7.2%) in number. While 338 (76.6%) respondents had a midwife in attendance at delivery, 20 (4.5%) had the TBA in attendance while 9 (2.0%) birthed their children alone. Complications during birth were experienced by 47 (10.7%) of the participants. Sixty-eight (15.5%) women had a Caesarean section done while 371 (84.5%) women had vaginal deliveries (Table 10).

After the delivery of the baby, 391 (88.7%) respondents had support with exclusive breastfeeding. For 265 (61.6%) of the respondents, the baby was put to the breast within an hour of birth while 138 (32.1%) respondents had the breastfeeding initiated within 24 hours. The support received came from various sources with midwives, nurses and CHOs rendering support to 211 (54.1%), 128 (32.8%) and 20 (5.1%) women respectively. Traditional Birth Attendants were a source of support for 5 (1.3%) women while 4 (1.0%) women were assisted by volunteers from the Mother Support groups. After delivery, 245 (59.9%) women were discharged home within 24 hours (Table 10).

Table 10: Delivery care

Delivery and neonatal care practices	Frequency (N)	Percentage (%)
Place of birth of child		
Govt. Hospital	292	66.2
Govt./Community Health Centre	18	4.1
Private facility	99	22.5
Respondent's/other home/TBA	32	7.2
Assisted in delivery of child*		
Doctor	74	16.8
Midwife	338	76.6
Nurse	150	34.1
TBA	20	4.5
Nobody	9	2.0
Had complications during delivery	47	10.7
Had Caesarean Section	68	15.5
Had vaginal delivery	371	84.5
Time to first breastfeeding of baby after birth		
< 1 hour	265	61.6
< 24 hours	138	32.1
> 24 hours	27	6.3
Had support with exclusive breastfeeding of baby	391	88.7
Sources of support for exclusive breastfeeding		
Doctor	5	1.3
Midwife	211	54.1
Nurse	128	32.8
Community health officer	20	5.1
Relative/friends	17	4.4
TBA	5	1.3
Mother Support Group	4	1.0
Time discharged from facility after birth		
Within 1 hour	34	8.3
Within 1 day	211	51.6
Within 1 week	142	34.7
More than a week	6	1.5
Don't remember	16	3.9
Total	441	100.0

* Multiple responses allowed

4.6.1 Association between Socio-demographic Characteristics of Respondents and Skilled Birth Delivery

To ascertain whether there was an association or significant difference in these distributions of skilled birth delivery across each independent variable, a chi square statistical test was conducted. Results from the study show that even though a large percentage of respondents had skilled attendance at birth, the differences in age were not significant at 95% significance level (p=0.085). A lower proportion of respondents who had 4 or more children had skilled birth delivery but parity did not emerge as a predictor of having skilled birth attendance (p=0.065). The proportion of women with skilled birth delivery increased with higher level of education attained but this was not found to be significant at 95% confidence interval (p=0.296) (Table 11).

Results also show that employment status, decision making in the household, and the need for a partner's permission to move out of the house were not significant for skilled birth delivery (p=0.437, 0.801 and 0.709 respectively). Receiving specific instructions from a health worker to deliver at a health facility and ever been visited by a CHO were not found to be predictors for skilled birth delivery (p=0.732 and p=0.524 respectively) while the choice of place of birth was found to be significant at 95% significance level (p=<0.001) (Table 11).

Table 11: Skilled birth delivery by socio-demographic factors and community-based initiatives

SDC, reproductive history and SBA	Total N (%)	SBA (%)	X^2 p-value
Age			0.085
<20	13 (3.0)	76.9	
20-24	74 (16.8)	87.8	
25-29	166 (37.7)	95.2	
30-34	126 (28.6)	93.7	
35-39	51 (11.6)	94.1	
40+	10 (2.3)	90.0	
Parity			0.065
1	137 (31.0)	92.0	
2	164 (37.2)	95.1	
3	89 (20.2)	94.4	
4+	51 (11.6)	84.3	
Highest level of formal education			0.296
None	41 (9.3)	85.4	
Primary	88 (20.0)	90.9	
JSS/Middle School	218 (49.7)	93.6	
Senior Secondary	71 (16.2)	95.8	
Tertiary	21 (4.8)	95.2	
Employment status			0.437
Unemployed	138 (31.4)	91.3	
Employed	302 (68.6)	93.4	
Major decision makers in household			0.801
Respondent	80 (18.6)	93.8	
Husband/Partner	153 (35.6)	91.5	
Both	197 (45.8)	92.9	
Needs permission from partner to move out of the house	251 (58.1)	92.4	0.709
Given specific instructions by health worker to deliver at health facility	291 (66.0)	92.4	0.732
Place of birth of child			<0.001
Home	27 (6.1)	3.7	
Govt. Hospital	292 (66.4)	98.3	
Govt./Community health centre	18 (4.1)	100.0	
Private/Maternity/NGO facility	103 (23.4)	99.0	
Ever visited by a CHO	266 (60.3)	92.1	0.524
Total	441 (100.0)	92.7	

4.6.2. Delivery Care Practices and Barriers

Results from the qualitative data show that while many women perceived the need to give birth in a health care facility, others had cause to make different choices. The health care providers and women were able to proffer some of the reasons to include the desire to birth in the squatting position, as well as delivery skills and low cost of services provided by TBAs. The spiritual protection also offered by the TBAs played a big role in women's choice of the TBA centre as a birthing option. The quotes below illustrate these points:

> *"Sometimes the position is a barrier. Some want to squat but when they go to the hospital they always want them to lie down. Most of the mothers don't like that, they want to squat so that they will feel comfortable. So those who want to squat will deliver by the help of the TBA or a family member."* (30 years, CHO, FGD Taifa)

> *"...The bill they will pay at the hospital will be about twice what they will pay at the TBA. The TBAs don't normally charge. Formerly they were taking soap and other things but now they take something small... Yes, they have time for them. They cook herbal medicine for them and at the end of the day the women pay something small. That is why our women like them."* (30 years, CHO, FGD Dome)

> *"And this woman [TBA] too, when she helps you deliver you don't feel any pain after delivery. I just delivered yesterday but I don't feel like I just delivered. I feel very strong but if it had been the hospital I could not feel like this. My first child I delivered him in the hospital but when I finished I could not sit straight, I had to sit on one side of my buttocks. They inserted their hands so much into me that the whole place was sore but this woman does not do that."* (25 years, FGD TBA Del)

> *"Most of the TBAs are also spiritual prophetesses so they like to go there. They believe the TBA will break every spiritual barrier. Yes, the TBAs pray with them and do deliverance for them. Some even allow you to go to the hospital for a C/S."* (29 years, CHO, FGD Dome)

Some women also made their choice to avoid being disrespected by hospital staff or having a Caesarean section at the health care facility. The outcomes have however not been entirely successful as they would have one believe. Birth complications such as the

umbilical cord around the neck, physical deformity and still births have arisen in such birthing centres. These points are buttresses by the narratives that follow:

> *"I want to say that the nurses should talk to us with respect. When we come they talk to us rudely so they should talk to them to stop that. Also the way they are quick to say we should do operation- they should stop it because not all of us can give birth at exactly the nine months. Some people exceed so they should relax on the operation because we are scared of it so when you say that, we will not even come."* (37 years, FGD TBA Del)

> *"The woman here has patience and she has been pampering us. I have seen a woman who has had two operations previously and the hospital said they will do an operation for her but when she came here the woman helped her deliver the baby and my own sister had an operation for her previous child but this woman helped her deliver normally so that is why I came here."* (37 years, FGD TBA Del)

> *"The complication I had was that I did not get my baby, it was born dead. She [TBA] said the baby was already dead in my stomach because the cord was around the baby's neck."* (23 years, FGD TBA Del)

While most of the women who gave birth in health care facilities were discharged within forty-eight hours of delivery, some of the women who opted for delivery at the TBA centres recounted how the TBA went extra miles in their provision of services. This included providing accommodation, cooking and catering to the needs of the new mother, as well as care of the newborn as highlighted by the quotes below:

> *"I have been here for the past two weeks after delivery, I don't have anyone to bath the baby for me so I stay here for aunty [TBA] to bath the baby for me until my mother comes and then I will leave."* (18 years, FGD TBA Del)

> *"I have been here for the past three months after I had my baby and it is because when I sleep I forget and sometimes sleep on the baby so I have been asked to stay here so that I can be monitored not to sleep on my baby."* (22 years, FGD TBA Del)

Following delivery, women are expected to initiate exclusive breastfeeding of their infants within an hour of birth per the WHO regulation. The study elicited that the health care

providers and community volunteers educated the women on the importance of exclusive breastfeeding and provided support to them in the initial stages. Family members are also solicited to support the mothers with the breastfeeding process as illustrated below:

> *"During ANC they educate them on the importance of it and when we also go to the community we educate them on it. Those who deliver at the facility are initiated into it immediately after delivery. But those who do not deliver at the facility, we educate them when we meet them in the community. We also educate them at CWC on exclusive breastfeeding."* (28 years, CHO, FGD Dome)

> *"In my community they have mother support groups, some of which are hairdressers. So when they are pregnant and/or deliver and they go to fix their hair, they tell them about exclusive breastfeeding. Most of them too are in the communities so they go their homes and talk to them about exclusive breastfeeding."* (29 years, CHO, FGD Dome)

> *"We always educate them that there are benefits of breastfeeding so a lot of them are interested and they do it. So we educate them on diet and we inform their husbands and family to support them because some of the women don't have the helping hand and you know it comes from the brain. If the woman always has to stress up she will be unable to produce enough milk so we ask their husbands to support them."* (Midwife, IDI H/F, Taifa)

> *"We go from house to house educating the women on the need to go for ANC when they are pregnant and to also go for weighing. We also teach them how to hold their newborn babies and even how to breast feed them."* (IDI, MSG 2)

Discussions with the women however highlighted the fact that despite efforts by the health care workers, the opinion of the mothers and mothers-in-law took precedence in the households, and more often than not, these matriarchs were not in support of feeding the babies solely on breast milk and offered other supplementary feeds such as water and baby formula. This was based on the premise that breast milk alone was not sufficient to sustain the child and that exclusively breastfed infants grew up to be picky eaters. In addition, the need to go back to the place of work was another reason why mothers did not continue with exclusive breastfeeding. These are illustrated by the following quotes:

"As for me, when I got home my mother in law gave the baby water and she said she will not do that thing of not giving the child water." (24 years, FGD H/F Del, Dome)

"I have observed that when you do the exclusive breastfeeding for the baby and now you want to give them food after six months they don't like to eat so I think it is not good to do it." (38 years, FGD H/F Del, Dome)

"I usually breastfeed my children exclusively for six months but as for this baby, I had to go to work so I started giving her food in the third month." (39 years, FGD H/F Del, Dome)

4.7 Postnatal Care

Of all the women interviewed, 437 (99.1%) were advised to go to a health care facility for Postnatal Care and 415 (94.1%) attended Postnatal Care clinics. One hundred and twelve (24.1%) women received the advice to attend Postnatal Care from nurses and CHOs. Only 15 (3.6%) respondents attended the first PNC clinic within the first 24 hours after birth, 70 (16.9%) attended within 1-3 days and 24 (5.8%) attended within 4-6 days. Forty-seven (10.7%) of the women had a complicated delivery during childbirth. Over a six-week period, 123 (30.6%) women had had only one visit to the PNC clinic, 222 (55.2%) had had two visits while 57 (14.2%) had had three visits or more. One hundred and eighty-five (42.0%) respondents were visited at home by health care personnel after delivery; of the women that received these visits, 175 (94.6%) were visited by CHOs while 10 (5.4%) were visited by other health care personnel such as nurses, and community health volunteers (Table 12).

Table 12: Postnatal Care

Postnatal Care	Frequency (N)	Percentage (%)
Advised to go for PNC after delivery	437	99.1
Who advised PNC*		
Doctor	36	7.8
Midwife	295	63.6
Nurse/CHO	112	24.1
Family and friends	21	4.5
Went to a facility for PNC	415	94.1
Time after birth before first PNC		
<24 hours	15	3.6
1-3 days	70	16.9
4-6 days	24	5.8
7-14 days	284	68.4
>14 days	22	5.3
Had complications during delivery	47	10.7
No. of check-ups within 6 weeks after birth		
1	123	30.6
2	222	55.2
3+	57	14.2
Ever visited at home by a health worker	185	42.0
Type of health worker who visited		
CHO	175	94.6
Other	10	5.4
Total	441	100.0

* Multiple responses allowed

4.7.1 Association between Socio-demographic Characteristics of Respondents and Timely Postnatal Care

To identify the categories of women who were more likely to attend Postnatal Care in a timely manner, a Chi square test was conducted. Results from the study show that differences in age, number of children birthed, and educational qualifications are not significantly associated with attending Postnatal Care in a timely manner (p=0.085,

0.568 and 0.837 respectively). However, being employed and being part of the decision making process in the household emerged as significant factors with regards to timely PNC attendance (p=<0.05 and <0.001), while needing permission to leave the house was not found to be significant (p=0.706). The place of choice for attending ANC or for child delivery, as well as having skilled attendance at birth had no significant association with attending PNC in a timely manner (p=0.284, 0.966 and 0.656 respectively) whereas having a complicated birthing experience and being visited at home by a CHO both showed a difference at 95% significant level (p=<0.001 and <0.01) (Table 13).

Table 13: Timely Postnatal Care by socio-demographic factors and community-based initiatives

SDC, reproductive history and PNC	Frequency N (%)	Timely PNC (%)	X^2 p-value
Age			0.085
<20	13 (3.0)	61.5	
20-24	74 (16.8)	25.7	
25-29	166 (37.6)	37.4	
30-34	126 (28.6)	40.5	
35-39	51 (11.6)	41.2	
40+	10 (2.3)	20.0	
Parity			0.568
1	137 (31.1)	36.5	
2	164 (37.2)	36.0	
3	89 (20.2)	42.7	
4+	51 (11.6)	31.4	
Highest level of formal education			0.837
None	41 (9.3)	29.3	
Primary	88 (20.0)	36.4	
JSS/Middle School	218 (49.4)	37.6	
Senior Secondary	71 (16.1)	38.0	
Tertiary	21 (4.8)	42.9	
Employment status			<0.05
Unemployed	138 (31.3)	44.2	
Employed	302 (68.5)	33.8	
Major decision makers in household			<0.001
Respondent	80 (18.1)	38.8	
Husband/Partner	153 (34.7)	47.7	
Both	197 (44.7)	27.4	
Needs permission from partner to move out of the house	251 (56.9)	38.3	0.706
ANC facility attended			0.284
Govt. Hospital	265 (60.1)	35.5	
Govt./Community HC/Clinic	51 (11.6)	47.1	
Private/Maternity Clinic/NGO	119 (27.0)	36.1	
Place of birth of child			0.966
Home	27 (6.1)	37.0	
Govt. Hospital	292 (66.2)	37.7	
Govt./Community health centre	18 (4.1)	38.9	
Private/Maternity/NGO facility	103 (23.4)	35.0	
Skilled birth delivery	409 (92.7)	36.7	0.656
Had a complicated delivery	47 (10.7)	63.8	<0.001
Ever visited by a CHO	175 (39.7)	29.1	<0.01
Total	441 (100.0)	20.5	

4.7.2 Logistic Regression between Socio-demographic Factors of Respondents and Timely Postnatal Care

A multivariable analysis was conducted to determine the association between attending Postnatal Care in a timely manner and the demographic characteristics of the respondents, after adjusting for age, parity, education, autonomy, as well as ANC and SBA utilization. Results show that respondents who were employed were 18% less likely to attend timely PNC than those who were unemployed (aOR=0.82, 95% CI=0.52-1.29) but this finding was not significant. Where decision making in the home was concerned, women whose husbands were the sole decision makers were 1.5 times more likely to attend PNC on time (aOR=1.51, 95% CI=0.85-2.67) while those who made decisions together with their spouses were 41% less likely to do the same (aOR=0.59, 95% CI=0.33-1.04).

Women who had a complicated delivery were 3.9 times more likely to attend PNC on time (aOR=3.94, 95% CI=2.01-7.71) and this finding was significant. With regards to being visited by a CHO, it emerged that women who were visited were 38% less likely to attend PNC on time relative to those who were not visited (aOR=0.62, 95% CI=0.40-0.95). These results are presented in Table 14.

Table 14: Relative odds of timely PNC by socio-demographic factors and community-based initiatives

SDC, reproductive history and PNC	Odds Ratio (95% Confidence Interval)		
	Unadjusted	Adjusted model 1	Adjusted model 2
Age	p=0.078	p=0.093	
<20	Ref	Ref	
20-24	0.22 (0.06, 0.74)	0.36 (0.09, 1.45)	
25-29	0.37 (0.12, 1.19)	0.79 (0.20, 3.11)	-
30-34	0.43 (0.13, 1.37)	0.92 (0.23, 3.78)	
35-39	0.44 (0.13, 1.53)	1.27 (0.27, 5.93)	
40+	0.16 (0.02, 1.06)	0.33 (0.04, 3.04)	
Parity	p=0.569	p=0.284	
1	Ref	Ref	
2	0.98 (0.61, 1.57)	1.10 (0.62, 1.97)	-
3	1.30 (0.75, 2.24)	1.42 (0.71, 2.84)	
4+	0.80 (0.40, 1.58)	0.63 (0.26, 1.53)	
Highest level of formal education	p=0.832	p=0.694	
None	Ref	Ref	
Primary	1.38 (0.62, 3.08)	1.36 (0.56, 3.31)	-
JSS/Middle School	1.46 (0.70, 3.01)	1.74 (0.77, 3.94)	
Senior Secondary	1.48 (0.65, 3.39)	1.36 (0.53, 3.46)	
Tertiary	1.81 (0.61, 5.42)	1.39 (0.35, 5.62)	
Employment status	p<0.05	p=0.073	p=0.395
Unemployed	Ref	Ref	Ref
Employed	0.64 (0.43, 0.97)	0.62 (0.37, 1.04)	0.82 (0.52, 1.29)
Major decision makers in household	p<0.001	p<0.01	p<0.001
Respondent	Ref	Ref	Ref
Husband/Partner	1.44 (0.83, 2.50)	1.63 (0.82, 3.25)	1.51 (0.85, 2.67)
Both	0.60 (0.35, 1.03)	0.59 (0.31, 1.15)	0.59 (0.33, 1.04)
Need permission from partner to move out of the house	p=0.706	p=0.583	
	1.08 (0.73, 1.60)	0.87 (0.52, 1.45)	-
ANC facility attended	p=0.293	p=0.305	
Govt. Hospital	Ref	Ref	-
Govt./Community HC/Clinic	1.62 (0.88, 2.96)	1.75 (0.75, 4.09)	
Private/Maternity Clinic	1.03 (0.66, 1.62)	1.60 (0.73, 3.51)	
Had skilled birth delivery	p=0.658	p=0.446	
	0.85 (0.41, 1.76)	0.52 (0.09, 2.83)	-
Had a complicated delivery	p<0.001	p<0.001	p<0.001
	3.46 (1.84, 6.51)	4.17 (1.98, 8.80)	3.94 (2.01, 7.71)
Ever visited by CHO	p<0.01	p<0.05	p<0.05
	0.57 (0.38, 0.85)	0.56 (0.34, 0.90)	0.62 (0.40, 0.95)

Ref: Reference category

4.7.3 Postnatal Care Practices and Barriers

Results elicited from the study show that women are offered Postnatal Care services both at the community and facility levels. Services offered at the community level by the CHOs are not intended to preclude the facility-based care, but are there to serve as an encouragement to the post paturient women to seek Postnatal Care in the facilities, and in a timely manner. Women who had given birth at the TBA centres are not excluded from the care offered by the CHOs and are also advised to avail themselves of the services offered at the health care facilities. Various institutions have stipulated intervals between the Postnatal Care visits and the mothers are expected to attend all these appointments to ensure a positive outcome during the puerperal period.

> *"...Now we are recording first postnatal within 24 hours when mothers deliver at the clinic. When a woman is discharged and goes home, we encourage the CHOs to do their home visits. So they are to visit the woman, do physical examination for mother and baby and then refer if possible or counsel the mother. So they are doing postnatal now. And then we have some TBAs also in the community who also deliver babies. So visiting such women will be referred to as first postnatal since they have not even been to the hospital. So you do the postnatal for them and if they are coming from the community you register the second postnatal."* (CHPS coordinator IDI)

> *"We render postnatal services on Fridays. All mothers that deliver either [here] or outside when they come we ask them to do routine lab tests like blood level (Hb) to know whether they're anaemic or not. We also do urine check to find out if there were any infection in the course of delivery and then we treat them. So basically, these are the two common things that we do in addition to the physical assessment of mother and baby. They come during the first five days, ten, two weeks and then six weeks."* (Midwife, IDI H/F Dome)

> *"I give postnatal services to those who deliver here. They come after they've delivered. You know postnatal is just after delivery. First 24 hours is a postnatal, 48 hours is also a postnatal case. So, after they've delivered they come one week, which is 7 days. Then I let them come after 2 weeks, then after that they come 6 weeks."* (IDI Maternity Home, Taifa)

In as much as women in these communities are encouraged to access Postnatal Care, there are challenges that are faced by some of them that may prevent them from attending the clinics in a timely manner, or even hinder them from attending at all. Financial considerations have been found to be a big challenge for some of the women as they have to factor in the cost of transportation to the health facility. In cases where the women feel that they and their babies are in good health, they see no need to undertake the expenditure. In addition, where the women have been visited by a CHO, they also tend to feel that the trip to the health care facility has become unnecessary. Fear of being treated badly by health care personnel is another reason why women may avoid attending Postnatal Care clinics, especially if the child delivery was outside of a health care facility. Cultural barriers in the form of timing for bringing a baby out in public, and the need to display new apparels in the face of economic downturn also lead to poor attendance at Postnatal Care clinics. All these points are buttressed by the quotes below:

> *"And some of the mothers too, they think that they have delivered so there is no need going back to the hospital. Financial problems let them think that once they have delivered, they are healthy and the baby is healthy there is no need going back to the hospital to check all those things. They will tell you that, whatever care will be given to them at the hospital we [CHOs] can also give it to her so there is no need going there."* (31 years, CHO, FGD Taifa)

> *"It is because they did not deliver at the hospital. So they fear that since they did not deliver at the hospital when they go there and they are asked why, they will not know what to say. So they are afraid of what they will face when they go to the hospital for postnatal services."* (28 years, CHO, FGD Dome)

> *"Hmmm, number one is 'I have delivered and I'm not supposed to go out until after seven days' or 'my baby has not been brought out (outdooring) so I wouldn't come'. That is why we want the nurses to go in and visit them and do it for them. There is also ignorance, they don't know that it's important to go for the second postnatal. Finance is also an issue in the sense that they cannot afford the transportation fares to the facility."* (CHPS coordinator, IDI)

> *"Some of them also, maybe after delivery they were not able to get new cloth to go for postnatal. So even that alone can stop them from going because they need to*

look good. So if their husband is not able to provide that they feel reluctant to go. This is because the community will laugh at them that they have just delivered but can't even afford to buy a new cloth to wear to postnatal." (30 years, CHO, FGD Dome)

4.8 Community-based Initiatives and Maternal Health Care Utilization

Results showed that age, parity, and educational level were not significantly associated with the women's likelihood to utilize adequate ANC, SBA and timely PNC services offered at the health care facilities (p=0.221, 0.775, 0.299 respectively). Likewise, employment status, autonomy and satisfaction with ANC services were not found to be significant variables (p=0.123, 0.595, 0.516 respectively). However, the type of facility chosen for ANC services (p=<0.01), and being visited by a CHO (p=<0.001) had significant associations with meeting all three perinatal care requirements. These results are outlined in Table 15 below.

Although women in the communities acknowledged the activities of the CHOs during home visits, they did not readily identify with the role of the Mother Support Group volunteers in the community.

Table 15: Mothers who had adequate ANC, skilled delivery and timely PNC by community initiatives and other factors

SDC, ANC, SBA and PNC	Total N (%)	Adequate and timely Perinatal Care (%)	X^2 p-value
Age			0.221
<20	13 (3.0)	38.5	
20-24	74 (16.8)	14.9	
25-29	166 (37.6)	24.7	
30-34	126 (28.6)	25.4	
35-39	51 (11.6)	31.4	
40+	10 (2.3)	20.0	
Parity			0.775
1	137 (31.1)	26.3	
2	164 (37.2)	25.0	
3	89 (20.2)	22.5	
4+	51 (11.6)	19.6	
Highest level of formal education			0.299
None	41 (9.3)	14.6	
Primary	88 (20.0)	20.5	
JSS/Middle School	218 (49.4)	25.2	
Senior Secondary	71 (16.1)	29.6	
Tertiary	21 (4.8)	33.3	
Employment status			0.123
Unemployed	138 (31.3)	29.0	
Employed	302 (68.5)	22.2	
Major decision makers in household			0.595
Respondent	80 (18.1)	25.0	
Husband/Partner	153 (34.7)	20.9	
Both	197 (44.7)	25.4	
Need permission from partner to move out of the house	251 (56.9)	21.5	0.086
ANC facility attended			<0.01
Govt. Hospital	265 (60.1)	19.6	
Govt./Community HC/Clinic	51 (11.6)	35.3	
Private/Maternity Clinic/NGO	119 (27.0)	31.1	
Satisfied with ANC services	410 (93.0)	24.9	0.516
Ever visited by CHO	175 (39.7)	15.4	<0.001
Total	441 (100.0)	24.3	

Results of the logistic regression done show that attending ANC clinics in a government/community clinic increased the chances of meeting all the requirements of perinatal care by 74% (aOR=1.74, 95% CI=0.89-3.39) while private clinic attendance did the same by 80% (aOR=1.80, 95% CI=1.09-2.97). Women who were visited at home by a

CHO were 54% less likely to have availed themselves of all the perinatal care services (p=0.45, 95% CI=0.27-0.74) (Table 16).

Table 16: Relative odds of having adequate ANC, skilled delivery and timely PNC by community initiatives and other factors

SDC, ANC, SBA and PNC	Odds Ratio (95% Confidence Interval)		
	Unadjusted	Adjusted model 1	Adjusted model 2
Age	p=0.238	p=0.066	
<20	Ref	Ref	
20-24	0.28 (0.08, 1.01)	0.55 (0.12, 2.51)	-
25-29	0.52 (0.16, 1.69)	1.45 (0.33, 6.31)	
30-34	0.54 (0.17, 1.79)	1.74 (0.39, 7.89)	
35-39	0.73 (0.21, 2.59)	3.02 (0.58, 15.56)	
40+	0.4 (0.06, 2.7)	1.18 (0.12, 11.18)	
Parity	p=0.769	p=0.332	
1	Ref	Ref	
2	0.94 (0.56, 1.57)	0.86 (0.46, 1.6)	-
3	0.81 (0.43, 1.52)	0.69 (0.32, 1.48)	
4+	0.68 (0.31, 1.51)	0.41 (0.16, 1.09)	
Highest level of formal education	p=0.282	p=0.586	
None	Ref	Ref	
Primary	1.5 (0.55, 4.11)	1.44 (0.49, 4.25)	-
JSS/Middle School	1.97 (0.79, 4.93)	2.03 (0.75, 5.46)	
Senior Secondary	2.45 (0.9, 6.69)	1.97 (0.66, 5.85)	
Tertiary	2.92 (0.83, 10.22)	2.37 (0.56, 10.14)	
Employment status	p=0.127	p<0.01	
Unemployed	Ref	Ref	-
Employed	0.70 (0.44, 1.10)	0.45 (0.25, 0.8)	
Major decision makers in household	p=0.591	p=0.860	
Respondent	Ref	Ref	-
Husband/Partner	0.79 (0.42, 1.5)	0.88 (0.4, 1.93)	
Both	1.02 (0.56, 1.86)	1.05 (0.52, 2.11)	
Need permission from partner to move out of the house	p=0.087	p=0.135	-
	0.68 (0.44, 1.06)	0.66 (0.38, 1.14)	
ANC facility attended	p<0.05	p<0.05	p<0.05
Govt. Hospital	Ref	Ref	Ref
Govt./Community HC/Clinic	2.23 (1.17, 4.28)	1.58 (0.76, 3.26)	1.74 (0.89, 3.39)
Private/Maternity Clinic/NGO	1.85 (1.13, 3.02)	1.97 (1.13, 3.43)	1.80 (1.09, 2.97)
Satisfied with ANC services	p=0.506	p=0.990	-
	1.39 (0.51, 3.78)	0.99 (0.31, 3.13)	
Ever visited by CHO	p<0.001	p<0.001	p<0.05
	0.42 (0.26, 0.69)	0.36 (0.21, 0.63)	0.45 (0.27, 0.74)

During discussions and interviews, the health care providers were able to elaborate on the influence their activities have had on the women's attitude towards perinatal care. They expounded on the fact that women who had special circumstances, such as pregnant teenagers, would ordinarily not have gone for ANC clinics but felt encouraged enough to finally attend due to the education and support provided by the CHOs during home visits. The study also highlighted the fact that women who had received adequate attention in their homes were more adept at caring for their babies than those who did not have that opportunity. The quotes that follow buttress these points.

> *"The talks and health education we give them helps. We had a client who was a teenager and felt shy to come out with the pregnancy because her mates will see her. So she had not been to the ANC and the pregnancy was about six months. After much talking and follow up, she finally went so it helps."* (28 years, CHO, FGD Dome)

> *"For the women who have been visited by the nurses they do their things well because the nurses tell them not to give the babies any water and breastfeed them for 6 months and they do it. All the women who come to deliver here, the nurses come to talk to them and they follow them to their homes to visit them."* (IDI TBA 2, Dome)

> *"For some of the women, when you go they don't even know how to breastfeed their babies and when you ask them why they will say that it is because they don't know and they have never been visited by any nurse but for those who are visited by the nurses they have been taught how to hold the babies and not to give them water till 6 months and they do it. They say that when they do it, it makes the children healthy."* (IDI MSG 1)

Despite the fact that the activities of Mother Support Groups were voluntary in nature, some of the volunteers alluded to the fact that some colleagues who had left had done so because they were not being paid for their services. They also pointed out that the time spent doing the voluntary activities was detrimental to their income generating activities. In addition, they opined that they were in need of some financial backing to be able to carry

out their activities such as paying for transport for financially constrained women who needed to be referred to a hospital.

> *"It is the money, they say there is no money, we are not paid. [The women] say they can't do a job where you go for a training and they give you some small money and that is the end. You can't put your income generating money aside and go to people's houses and talk to them, so that is what I hear some people saying."* (IDI, MSG 2)

> *"The main concern is the money. We need the money to work with because if we have some money we, those doing the work, will be motivated because you know you can get something small from there. There are times, when the nurse comes around I just tell her to go because I may be sitting down thinking of how to get money to buy books for my children but I do it jokingly."* (IDI, MSG 1)

> *"We need a little money too in this our work – this is because there are some of the women when you go to visit them you will notice that the money to go for ANC, they do not have it so it makes it difficult. Let's say if we are given some money and we meet such a situation you can give the person some 20 cedis to enable her go to the hospital."* (IDI, MSG 2)

4.8.1 Private-Public Healthcare Collaborations in the Peri-urban Communities

There was a paucity of public healthcare facilities in the communities, and as such most women had to go outside their communities to access perinatal care services from the government hospitals. Some women patronized the private hospitals or clinics, and maternity homes within the communities while others opted for the TBA centres in their communities as illustrated by the quotes below:

> *"They go to the private facilities...since we don't have a government hospital around here, most of them go to [the private clinic]."* (32 years, CHO, FGD Dome)

> *"Some go to the hospital outside the community. We don't have government facilities here and there is only one maternity. So it is either that woman or that hospital."* (28 years, CHO, FGD Dome)

"We don't have a facility in our community so they go to hospitals outside the community. Some also go to the TBA." (30 years, CHO, FGD Taifa)

The various stakeholders in the perinatal care delivery at the community level make efforts to collaborate with the Municipal Health Directorate (MHD). The Mother Support Groups are linked directly to the Community Health Officers who report back to the MHD. The maternity homes, private and public health care facilities also report to the MHD. In addition to reporting to the MHD, the TBAs liaise with the CHOs while providing care for their clients. The MHD provides the health care facilities in the communities with essential drugs such as vaccines and malarial prophylaxis, as well as training for proper service delivery. In cases where the women have delivered babies in maternity homes or TBA centres, the CHOs collaborate with them to ensure that the newborn babies are immunized. These points are elaborated by the quotes below:

"Since at the [municipal] we don't have a lot of public [facilities], most of our returns come from the private. So we collect returns from them and they in turn receive vaccines, SP for malaria among other things. When we are having workshops we give them slots, we don't just focus on the public. So we collaborate in everything. Our half year review is in the first week of July and they will all do a presentation. We collaborate in everything." (CHO coordinator, IDI)

"Dome has three TBAs so the In-Charge at Dome visits them and then we have returns from there too. So they supervise them and visit them once in a while, give some gloves and some spirits. Sometimes deliveries come from people who are not even trained TBAs. From enquiries we've found one at Taifa, Abom area and we're doing some informal something for her. Ministry of Health said we shouldn't train them again so we are going to look at her place. She even delivers more than the facility so why would we leave her? So we are going to train her a little and then give her something small. Because if you tell the women not to go there, they will still go. So we collaborate with them." (CHO coordinator, IDI)

"Where they [CHOs] do the weighing is for us. We have given it to them free of charge. So they give us the family planning injections. That is all they give us. They also educate us on new ways of caring for the women and new medicines and injections. So we have good collaboration with them." (IDI Maternity Home, Dome)

> *"We have community health nurses on secondment to this facility. They handle the Child Welfare Clinic on Mondays and Wednesdays. So whenever we identify a problem we call one of them and handover then they will do the follow up of cases till we get results."* (Midwife, IDI H/F, Dome)

> *"The nurses come here to visit me and when I help deliver the babies too they come to inject the babies on their shoulder and put some medicines in their mouth. They also give the mothers the weighing card and they weigh the children here and give the mothers the next date to take the child to a hospital."* (IDI TBA 2, Dome)

> *"Sometimes, when I go to some of the homes I see that the babies have rashes all over their bodies so I tell the nurse about it and when she comes we go to those homes for her to look at it. So the nurse calls the man who does rashes in their office [Disease Control Officer] and he comes to look at it."* (IDI MSG 1)

Findings from the study highlight that even though these various sources of perinatal care exist in the communities, and collaborate at different levels, the lack of cohesion between their activities pose challenges that hinder effective service delivery. These challenges include lack of a proper feedback mechanism and non-recognition of maternity homes and TBA centres by the orthodox health care practitioners. In addition, despite the fact that the health care facilities lack the workforce to follow up on the ANC attendees in keeping with the tenets of FANC, they still do not fully involve the CHOs in the continuum of care for ANC attendees at the community level. These points are buttressed by the narratives below.

> *"Yes we have CHOs from Ga East district so they go to visit women who have problems...but they report directly to the Ga East district."* (Midwife, IDI H/F, Taifa)

> *"Another challenge we have is that if there is a delay in labor and you refer them to another facility, at times there will be insults, insults from our other counterparts. Our colleagues from the bigger facilities will just be insulting us the private people. They will be insulting us, as if we don't know our left from our right."* (IDI Maternity Home, Taifa)

> *"The challenge we have with focused [ANC] is the midwifery. We don't have enough midwives, the technical people to handle it. The midwives who conduct delivery are the same group who are assigned to antenatal and we don't have*

enough midwives so in case of illness or when the unexpected happens, there is always crisis." (Midwife, IDI H/F, Dome)

"No, we don't talk to them until we have a problem client. About 70% of the clients who come here are educated, they know what they are about. And we give them a hotline to call so not until we identify a client as having problems we don't involve the community health nurses. If per chance they go on home visit and get to know those who are pregnant and not coming to clinic they bring them. But until we identify problems we don't involve them." (Midwife, IDI H/F, Dome)

CHAPTER FIVE

5.0 DISCUSSION

5.1 Introduction

This chapter examines the results of the study in relation to existing literature from similar studies. It begins by discussing the experience of peri-urban women with Antenatal Care, Skilled Birth Delivery and Postnatal Care and how socio-demographic characteristics affect utilization of maternal health care. It then goes on to highlight the influence of community-based interventions on perinatal care. The discussions are based on the premises set by the theories and conceptual framework that were pivotal in carrying out the research study.

5.2 Antenatal Care Utilization in a Peri-urban Settlement

This section is dedicated to discussing utilization of Antenatal Care services amongst the women living in peri-urban settlements in Ga East Municipal, Greater Accra Region, Ghana. It covers how socio-demographic factors, satisfaction with service provision, and ANC knowledge, practices and barriers affect the attendance of ANC clinics in an adequate manner.

5.2.1 Antenatal Care Knowledge, Practices and Utilization

One of the advantages of ANC is the opportunity it provides to offer health information appropriate for the parturient and postnatal periods to pregnant women and their families, leading to positive health outcomes for the mother and the child (PMNCH, 2006). Results from the study show that the majority of women sampled had a basic knowledge about ANC and had received counselling from a health care provider at the ANC clinics. They alluded to the fact that they attended ANC clinics to keep healthy and check on the progression of the fetus. This correlates with findings in a study done by Pell et al., (2013) in Ghana, Kenya and Malawi where women at all the study sites attended ANC clinics to keep tabs on the advancement of the pregnancy and on the fetal position. In this study, it was however elicited that though about two-thirds of the women initiated ANC in their first trimester, many of them did so because they were feeling ill. Pregnancy is largely regarded as a normal physiological state and respondents in a study conducted in Pakistan were of the opinion that it should be allowed to progress naturally and was not to be tampered with by attending ANC clinics (Mumtaz & Salway, 2007). In Papua New Guinea, Andrew et al., (2014) elicited that the pregnant women perceived orthodox medicine as curative instead of preventive, and did not see the need to attend ANC clinics if they and their fetuses were in good health. Women in the study who had had previous complications in their past pregnancies were however likely to initiate ANC utilization on time. This correlates with findings in a study done in Uganda where it was observed that women who had experienced an obstetric complication in a previous pregnancy were more likely to use ANC services and in an adequate manner (Bbaale, 2011). Many pregnant women seem to consider ANC services relevant only when ill health occurs and there is a need to dispel

this notion amongst them and provide targeted health information on the benefits of early initiation of ANC utilization.

Many of the women interviewed also reported that they availed themselves of ANC services at the behest of their mothers-in-law or husbands. A study carried out in Turkey pointed out that patriarchal cultures see childbearing as the gender role of women and so seeking health care during pregnancy is not necessary unless there was a considerable health concern (Ay et al., 2009). Additionally, it was the responsibility of older women in the family to ascertain if the pregnant woman needed medical care or not. It has also been demonstrated that the opinion of husbands and older women in the family regarding pregnancy care have a big impact on utilization of perinatal health care by pregnant women (Simkhada et al., 2008). In Pakistan, a study found that women from households in which men were the final authority had underutilized maternal health care services perhaps due to the fact that the men had poor opinions of ANC provision (Hou & Ma, 2013). Furthermore, in a study done in Nepal, it was established that for the most part, mothers-in-law had a negative influence on ANC utilization for reasons such as expecting the daughters-in-law to carry out their domestic chores, poor perception of ANC, financial considerations and power play between the women (Simkhada, Porter, & van Teijlingen, 2010). On the other hand, interspousal communication has been found to be protective where utilization of ANC services is concerned (Furuta & Salway, 2006; Thapa & Niehof, 2013). These observations lend credence to the importance of interventions targeted at family members especially with regards to older women and husbands.

The influence of traditional practices and spirituality on pregnancy care was also highlighted in the study. Despite the fact that the women had availed themselves of bio-medical care, they still saw the need for spiritual and/or herbal fortification during the gestation period. This occasionally resulted in women seeking care from the health care facilities and the TBAs or spiritual homes, concurrently. Attributing complications in pregnancy to supernatural forces predispose women to seeking for care from culturally acceptable avenues (Evans, 2013). In this study, it became evident that many of the women sought care from Traditional Birth Attendants and spiritual homes because of the prayers offered on their behalf and herbal preparations administered to prevent complications, facilitate childbirth and ensure a healthy infant. A study conducted in Bangladeshi slums elicited the fact that female dwellers tend to hold on to the traditions and beliefs from their rural environments despite the fact that they now had access to orthodox medical care (Choudhury et al., 2012). A report by UNFPA (2011) calls for an understanding of the socio-cultural underpinnings that guide a people's way of viewing sexual and reproductive health issues and tailoring health care delivery around these traditions such that vulnerable female migrants are not unduly marginalized.

Results from the study show that though the number of women who attended ANC clinics were in the majority 432 (98.6%), only 337 (78.2%) attended the four times stipulated by the World Health Organisation. This is comparable to the national statistics that highlight the fact that about 13% of pregnant women have less than four ANC visits even though 97% of them utilize ANC services (GSS/GHS/ICF International, 2015). Furthermore, the statistics for adequate ANC utilization are worse than the national rural coverage of 82%,

and falls far below the urban coverage of 93%. In addition, only 267 (62.4%) of the ANC attendees in the study started the ANC clinics early in the first trimester of the pregnancy. Thus, despite the fact that majority of the women initiate ANC utilization, there are several who do not start early enough in the pregnancy, and who do not attain the requisite four visits. As the 2015 Millennium Development Goals landmark approached, sixty-nine countries were monitored for progress in maternal health care and it was established that on the average, 88% of women attended ANC clinic at least once, while 55% attended four times or more (Requejo, Bryce, & Victora, 2012). In Sub-Saharan Africa, ANC coverage has been on the rise over the past twenty years but the same cannot be said of the number of women who attain the stipulated number of four ANC visits as this has remained static at 44% over the same period (United Nations, 2011). A study carried out in a slum in Ethiopia showed that almost 82% of the ANC attendees had utilized the ANC services four or more times while only about half initiated the first visit during the first trimester (Bayou et al., 2016). Similarly, results from another study done in an Indian slum show that about 96% of the slum dwellers received ANC services with 64% of them initiating ANC visits within the first trimester (Hazarika, 2009). Community education of women in the fertility age range needs to highlight on the importance of initiating ANC early, and adequately. Utilizing ANC services has been shown to have positive effects on women's willingness to go through the whole continuum of perinatal care as women who have had at least one ANC visit are more likely to have skilled attendance at birth and attend Postnatal Care clinics (Jacobs, Moshabela, Maswenyeho, Lambo, & Michelo, 2017; PMNCH, 2006). This retention in the maternal continuum of care may lead to a decrease in maternal

mortality which normally is heightened during child delivery and the puerperal period (Chukwuma, Wosu, Mbachu, & Weze, 2017; Ronsmans & Graham, 2006).

Majority of the countries with poor statistics are in the developing world where maternal mortality continues to be of catastrophic dimensions despite the fact that many of them have embraced ANC services as a means of ameliorating the poor maternal and neonatal health outcomes being recorded (Chama-Chiliba & Koch, 2013). Socio-demographic characteristics influence the use of ANC services to a large extent and may lead to late ANC registration and inadequate attendance resulting in missed opportunities for detection of conditions that require timely intervention (Chama-Chiliba & Koch, 2013).

Most of the respondents in this study were in the 25-29 years old age range (37.7%). The Ghana 2010 Population and Housing Census reports that maximum fertility amongst women of fertility age is attained in this age group (GSS, 2013a). Age is an important factor in this study as several studies have highlighted the relationship between increasing age and poor utilization of maternal health care services (Amano, Gebeyehu, & Birhanu, 2012; Khanal, Adhikari, Karkee, & Gavidia, 2014; Nzioki, Onyango, & Ombaka, 2015). In a study carried out in Kenya, it was established that women who were younger than 31 years, and those who had less than three children, were more likely to utilize ANC services in the recommended manner (Nzioki et al., 2015). Similarly, a study carried out in the slums of Bangladesh found that women who were less than 25 years old, were more likely to seek ANC services than those who were 25 years and older (Kabir & Khan, 2013). In Kenyan

slums, women with three or more children were seen to initiate ANC services late in pregnancy whilst also not attending the recommended number of visits (Muindi, Mberu, Elung, & Oyolola, 2016).

The risk of maternal mortality increases with age as older parturient women are more likely to rely on experiences garnered from previous pregnancies rather than seeking ANC services, initiate early ANC visits, or attend clinics the requisite number of times (Illah, Mbaruku, Masanja, & Kahn, 2013; Nzioki et al., 2015). Conversely, younger women, are more likely to be primiparous or have fewer children, thus they tend to be more cautious and seek proper maternal health care due to their lack of experience (Birmeta, Dibaba, & Woldeyohannes, 2013; Sharma, Sawangdee, & Sirirassamee, 2007). Other studies have also laid claim to the fact that as older women are likely to have more children, this increases their chances of having ever had a negative experience in the past, while putting financial and time constraints on their ability to utilize ANC adequately (Jayaraman, Chandrasekhar, & Gebreselassie, 2008; Bibha Simkhada et al., 2008). Several studies have shown parity to be a determinant of maternal health care utilization highlighting the association between increasing parity and poor utilization of available perinatal care (Ononokpono & Odimegwu, 2014; Sonneveldt, DeCormier Plosky, & Stover, 2013; Tarekegn, Lieberman, & Giedraitis, 2014). Health care is commonly sought when the mother or newborn falls seriously ill and is in need of critical medical intervention, thereby heightening the risk for maternal and newborn mortality (Nzioki et al., 2015). Conversely, Bayou, Mashalla and Thupayagale-Tshwencagae (2016) found out in their study in Ethiopia, that women between 15 and 24 years old were more unlikely than older women

to have the recommended number of four ANC visits. This was because many of the women in this age category were unmarried or had unintended pregnancies, thus discouraging them from seeking ANC services in a bid to avoid castigation from service providers.

Respondents in this study have had different levels of education with about half of them being educated up to the Junior Secondary level (49.7%). Attainment of educational level has been identified as an indication of an individual's social position, and the higher the level of education, the better the health and longer the lifespan of people (Morrisson & Jütting, 2005). Poor education has been recognized as a factor that makes pregnant women vulnerable while predisposing them to negative perinatal outcomes (Filippi et al., 2006). Muindi et al. (2016) observed in their study that women with poor education seek ANC services late, and do not attend up to four times throughout the pregnancy. Likewise, among Bangladeshi female slum dwellers, the higher the level of education attained, the higher the chances of ANC service utilization (Kabir & Khan, 2013). The women who are educated are more informed about the need for proper care during pregnancy. In addition, they are also more likely to be employed and are therefore in a better financial position to access maternal health care. Being educated has also been shown to increase women's autonomy, and hence strengthen their decision making position in the household which invariably has positive effects on their ability to make proper health care choices for themselves (Karlsen et al., 2011). Furthermore, it has been established in studies that educating women led to better ANC attendance as well as making the choice of skilled birth delivery (Dutamo, Assefa, & Egata, 2015; Weitzman, 2017). Poor ANC attendance

by educated women in the study area was most likely due to the fact that these cadre of women where employed and therefore faced time constraints that impeded their ability to utilize ANC services.

While 302 (68.7%) women in the study were employed, 138 (31.3%) were unemployed. Of the women who were employed, majority (95%) were able to spend their money as they deemed fit. Women's access to health care services is inhibited by poor financial power and restrictions in decision making, leading to delays in seeking for health care (Ahmed, Creanga, Gillespie, & Tsui, 2010). In addition, even though economically disadvantaged women are most likely to die during the perinatal period, their socio-economic status predisposes them to second-rate health care at the health care facilities. However, results from the study highlighted that the women with employment were less likely to have adequate ANC visits than their unemployed counterparts (aOR=0.80, 95% CI=0.45-1.41). This is comparable to results from a study done in slums in Bangladesh which indicated that women who were working underutilized the maternal health care services when compared to their non-working peers (Kamal, 2012). In Nepal, Furuta and Salway (2006) indicated in their study that with regards to ANC utilization, there was no clear distinction between women who were employed and those who were not. Another study was conducted among poor female urban dwellers in India which found that employment had no statistically significant association with ANC utilization (Bloom et al., 2001). These results are however at variance with those from a review of twenty-eight papers from research done in developing countries where female employment was seen to be a positive predictor of ANC utilization and early initiation of prenatal care (Simkhada et al., 2008).

Similarly, studies carried out in Nigeria and India elicited that women who were employed were more likely to seek and receive adequate ANC services than their unemployed counterparts (Babalola, 2014; Bayou et al., 2016). Results from this study can be explained by the fact that migrants to urban areas are more likely to have limited opportunities to attend ANC clinics as they are mostly low income earners with time constraints and thus find the waiting periods in the health facilities discouraging.

The study also determined that though many women made decisions together with their partners (45.8%), there were those whose husbands were the sole decision makers in the home (35.6%) and women who were the decision makers themselves (18.6%). Bloom, Wypij and Das Gupta (2001) found in their study that female autonomy with regards to freedom of movement positively influenced maternal health care utilization. In concordance, results from this study indicate that women who did not take part in decision making in the household, and those who needed permission to leave the home were unlikely to attend ANC adequately (aOR=0.34, 95% CI=0.16-0.72; aOR=0.58, 95% CI=0.29-1.14, respectively). On the other hand, couples who made decisions together had increased odds of attending the stipulated four ANC visits or more (aOR=5.89, 95% CI=2.24-15.45). Comparatively, a study carried out in a slum area in India demonstrated that financial control, freedom to make decisions and ability to leave the home at will were all positive predictors of ANC utilization (Bloom et al., 2001). In Pakistan, Hou and Ma (2013) found that women who had the power to make decisions in their households were more likely to utilize maternal health care services. Additionally, women in households that had the male partners as the major decision makers were less likely to access maternal

health care services. However, in a study conducted in Nepal, results suggest that there is no statistical difference between the women who partook in decision making in the household and those who did not with regards to uptake of ANC services (Furuta & Salway, 2006).

The study elicited that even though more than 60% of the women attended ANC clinics at the Government Hospitals, those who attended clinics at government/community clinics and private/maternity clinics were more likely to have attended the stipulated number of times (aOR=1.73, 95% CI=0.68-4.42; aOR=1.51, 95% CI=0.77-2.98, respectively). Results from a study carried out in a slum in Ethiopia resonate with this finding as it was observed that ANC attendees who chose to attend clinics in private health care facilities were twice as likely to have received adequate ANC services than their counterparts who went to public facilities (Bayou et al., 2016). Results from this study also revealed that satisfaction with the place of ANC attendance was a predictor of adequate ANC attendance. Ninety-three per cent of the sampled women were satisfied with the services they received from the health care facilities leading to an increase in the chances of utilizing ANC services adequately (aOR=1.42, 95% CI=0.54-3.72). Respondents were satisfied with the range of services offered, as well as attitude of nurses, level of sanitation, availability of drugs, privacy and time spent during examination. Those who were unsatisfied with their health facilities of choice complained mostly about the attitude of the nurses and time spent during examination. In an Indian slum, Mehnaz et al., (2016) elicited the fact that ANC services were poorly utilized as a result of treatment of the ANC attendees with indignity and lack of privacy. A review of literature from developing countries also established that

even though parturient women expected good health care services such as timely and competent consultation, availability of drugs and a clean environment, being treated with respect was of utmost importance to them (Srivastava, Avan, Rajbangshi, & Bhattacharyya, 2015). The quality of services offered to ANC attendees is extremely important as evidence has been found that retention of women in the maternal continuum of care is dependent on how satisfied the women are with the services they receive (Berhan & Berhan, 2014; Chukwuma et al., 2017).

5.2.2 Barriers to Antenatal Care Utilization

Results from the study elicited several reasons why women may not register for ANC services on time, or attend the clinics for the stipulated number of times. These barriers include financial and time constraints, as well as lack of public health care facilities in the communities resulting in the use of costly private health care providers. Studies done by Simkhada et al., (2008) and Asundep et al., (2013) pointed out the fact that financial constraints were a valid reason why women did not attend ANC clinics. Even in cases where ANC services were free, other expenditures such as travel cost and auxiliary medical costs (such as laboratory fees) acted as a deterrent to utilization of the services (Finlayson & Downe, 2013). In Kenya, a study done among poor female urban dwellers found out that perinatal care services were deemed unaffordable because most of the health care facilities that were in proximity were private-owned, which are mostly profit-oriented (Fotso & Mukiira, 2012). Considerations with regards to time are also found to impede ANC utilization due to the fact that many less privileged women do not have the liberty of taking

time off work or might have other children to cater for (Simkhada et al., 2008; Singh, Kumar, Rai, & Singh, 2013). The rigidity of the working hours in the health care facilities seems to be detrimental to the maternal health of the pregnant women and the provision of perinatal health care may be revamped by rescheduling ANC clinic hours to suit different cadres of women in these communities.

In this study, health facility-related barriers to adequate utilization of ANC services were well highlighted. From collective and individual accounts given by the women and the health care providers, it was evident that disrespect of the pregnant women, long waiting time, favouritism and lack of competence were factors adversely affecting ANC utilization by the women in the communities. The importance of good interpersonal relationship between health care providers and their clients has been documented severally. In studies carried out in Kenya and India, it was established that women who felt that they were treated with indignity and disregard were less likely to adequately utilize ANC services (Izugbara, Ezeh, & Fotso, 2009; Mehnaz et al., 2016). Another research done in a slum in Bangladesh elicited the fact that pregnant women made poor use of maternal health services due to harsh treatment meted out by health care providers, extensive waiting periods at the facilities, class disparities between clients and providers and favouritism shown towards clients with higher socio-economic status (Caldwell, Rashid, & Murthy, 2014). Clearly, there is a need to improve on client-provider relationships in our health care institutions if we are to expect women to utilize perinatal care in an adequate manner.

5.3 Skilled Birth Attendance in a Peri-urban Settlement

This section is devoted to discussing Skilled Birth Attendance amongst the women living in peri-urban settlements in Ga East Municipal, Greater Accra Region, Ghana. It covers how socio-demographic factors, SBA knowledge, practices and barriers affect the utilization of skilled attendance at birth.

5.3.1 Knowledge, Practices and Utilization of Skilled Birth Attendance

Results from the study show that 92.8% of the participating women had skilled attendance at birth. This is in keeping with findings from the national survey that indicate that 93% of pregnant women in the Greater Accra Region of Ghana gave birth to their child in a health care facility (GSS et al., 2015). In addition, most of the women who used skilled care during delivery chose a government hospital, private health care facility or community health centre, in order of preference. This result is similar to findings in studies conducted in slums in India, where the women showed an inclination towards giving birth in government hospitals followed by private hospitals (Angadi, Hiremath, & Sorganvi, 2013; Hazarika, 2009). WHO promotes skilled birth attendance as the 'single most important factor in preventing maternal deaths' (WHO/UNFPA/UNICEF/World Bank, 1999), and it has also been shown to avert stillbirth incidents and improve the survival chances of newborn children (Lawn et al., 2005).

Even though majority of the women in the study opted to have a facility-based delivery, about 7% of them chose to patronize the TBAs. Several reasons were proffered for this decision and these include their preference for the TBAs traditional birthing skills, as well as spiritual protection and social support offered by the TBAs. Some of the women harbour the desire to give birth in the traditional squatting position instead of the conventional lithotomy position favoured by the orthodox health providers. Even though birthing in the squatting position has its benefits as it makes for a shorter first and second stage of labour, inadequate perineal support while using this method has been known to lead to a high incidence of perinatal injuries such as perineal tears (Elvander, Ahlberg, Thies-Lagergren, Cnattingius, & Stephansson, 2015; Z Khan, Mehnaz, Ansari, Khalique, & Siddiqui, 2009). Contrariwise, in their study, Nasir, Korejo and Noorani (2007) found that this birthing position was associated with fewer perineal tears and less need for instrumentation during delivery. The women were appreciative of the TBAs birthing skills during the delivery which were said to be less painful as well as less invasive than what pertains in the health care facilities. In addition, the TBAs prepared herbal concoctions and offered up prayers on the women's behalf. In another study carried out in Ghana, observations by Anafi et al., (2016) are corroborated by that from this study as the women were seen to patronize TBAs who also doubled as spiritualists. A study conducted in Nigeria noted that the study participants preferred to patronize the TBAs due to their special therapeutic birthing services and concoctions offered (Okafor et al., 2014).

TBAs are able to provide social support during and immediately after childbirth. While 60% of women in this study who had facility-based deliveries were discharged within 24

hours, women who patronised the TBAs reported being able to stay several weeks or months in the TBA centres to receive care for themselves and their babies whenever they lacked the necessary support at home. Female urban migrants do not have the social support needed after child birth that is existent in rural settings (Moran et al., 2009). In a Kenyan study, the researchers pointed out that the TBAs went beyond delivery of the baby, and catered to other social and domestic needs of the women (Izugbara et al., 2009).

Findings from the study indicate that the age differences between the respondents was not significantly associated with their utilization of skilled attendance at birth (p=0.085). In addition, the proportion of women in this study who had skilled attendance at birth decreased as the number of children increased, but this association was found to be insignificant (p=0.065). Conversely, in a study done in a slum in Kenya, it was observed that younger women between 20 and 34 years old were more likely to use skilled care at birth than their older counterparts (Okang & Henry, 2017). Bhanderi and Srinivasan (2015) carried out a study in Indian slums and established that the likelihood of having Skilled Birth Attendance decreases with the increasing number of children born as they found that 90% of women with first pregnancies had facility-based deliveries while only two-thirds of those who had had four or more pregnancies did the same. Comparably, a study conducted in Nigeria demonstrated that the chances of having skilled attendance at birth reduced as the number of children birthed by a woman increased (Ononokpono & Odimegwu, 2014). It has been postulated that older women are likely to have more children, and depend on their cumulative experience with childbirth, thus opting for home or TBA assisted births (Gabrysch & Campbell, 2009).

In this study, the effect of education on the utilization of SBA was found to be insignificant even though women who were more educated were proportionately more inclined to deliver their babies with skilled assistance (p=0.296). This was similar to results from a study conducted in Bangladesh where it was found that with regards to utilizing skilled care at birth, being educated was not protective (Islam, Islam, & Yoshimura, 2014). Contrary to these findings, in a study carried out in Rwanda, it was established that being educated was significantly associated with having skilled attendance at birth (Jayaraman et al., 2008). Likewise, in Indian slums Bhanderi and Srinivasan (2015) and Hazarika (2009) established that slum dwellers who were more educated were more likely to deliver their babies at the health care facilities when compared to their lesser educated counterparts. This trend has been explained by the fact that education provides women with the opportunity to make informed health choices and also makes the provider-client relationship easier to navigate as the women are able to engage the health care providers with more confidence than their poorly educated peers.

The study did not find being employed to be protective with regards to seeking the help of a professional during childbirth (p=0.437). This finding is similar to that from a study conducted in Nepal where it was found that women with a job and some degree of control over their finances did not have an advantage over women who were unemployed with regards to skilled birth attendance (Furuta & Salway, 2006). However, a study conducted in Bangladeshi slums pointed out that the women who were working were more likely to have skilled attendance at birth when compare to their unemployed counterparts (Kamal, 2012). The phenomenon of working women not utilizing skilled birth attendance despite

their seemingly better financial status can be explained by the fact that this set of women are wont to experience time constraints and may have a lot of financial commitments that take precedence over their health needs.

Women in the study who had freedom of movement or who were involved in decision making in their households were not found to be any more likely to have skilled attendance at birth than their less autonomous peers (p=0.709, p=0.801, respectively). In Kenyan slums, evidence was found that unrestricted female autonomy did not improve maternal health care utilization during childbirth (Fotso et al., 2009). Contrariwise, in their analysis of 33 developing countries, Ahmed et al., (2010) established that women who were empowered to make decisions in their households were more likely to have skilled attendance at their deliveries than those who were not autonomous. This study also elicited that being instructed to deliver the baby in a health care facility was not significantly associated with utilization of SBA (p=0.732). This is at variance with findings from Kenyan slums where it was observed that receiving advice from health care providers during ANC clinics increased the chances of women choosing to have a facility based delivery (Fotso et al., 2009).

Following childbirth, 97.5% of all respondents were able to establish breastfeeding, with 88.7% doing so with support from health care personnel (midwives, nurses, doctors and Community Health Officers), relatives and friends. WHO recommends that breastfeeding should be initiated within an hour after birthing a child

(WHO/UNICEF/IFPRI/UCDavis/FANTA/AED/USAID, 2010) and only about three-fifths of the women did so within this stipulated time frame. This is similar to findings from a study done in an Indian slum where almost 60% of the women initiated breastfeeding in the first hour after birth (Varshney, Kumar, Patel, & Singh, 2012). In slums in Bangladesh, only half of the women in the study started breastfeeding their babies within an hour of birth (Moran et al., 2009). Having received counselling on the importance of breastfeeding during ANC visits has been found to yield favourable results (Varshney et al., 2012) while early initiation of breastfeeding has been shown to lead to increased commitment to breastfeeding of infants optimally (Liben & Yesuf, 2016). These facts underline how essential it is to ensure that women receive adequate health education when they attend ANC clinics, and ample support to initiate early breastfeeding following delivery.

Socio-cultural factors affect the choices that women make regarding how to breastfeed their babies (Rollins et al., 2016). In this study, the opinion of the older women in the families had a profound effect on the ability of the young mothers to exclusively breastfeed their babies. There was also a widespread belief that babies needed more than breastmilk to be properly nourished, and that breastfed babies were difficult to wean at six months. In their study conducted in Nigeria, Agunbiade and Ogunleye (2012) recognized the influence of mothers, mothers-in-law and grandmothers on breastfeeding practices. While some supported the new mothers with their wealth of experience, others were of the opinion that breastmilk was not adequate nutrition for the infant, and also made it difficult to introduce complimentary feeds to the children. These findings are further collaborated by that from a study carried out in a slum in Kenya which highlighted the view of respondents that some

women had insufficient milk supply to satisfy their babies, and that introducing complimentary feeds was more difficult to achieve amongst children who had been exclusively breastfed (Wanjohi et al., 2016). These results buttress the importance of including mothers and mothers-in-law in community education strategies to ensure that the women are able to continue with breastfeeding practices initiated at the health facility when they return home after delivery. The need for some women to go back to work was another factor that necessitated initiation of pre-lacteal feeds to the babies. In their study in a slum in Kenya, Kimani-Murage et al., (2015) observed that mothers had to go back to work soon after child birth and thus the need to earn an income negatively impacted on the breastfeeding practices. Being employed has been shown to be a determinant for initiation, continuation and termination of breastfeeding (Mirkovic, Perrine, Scanlon, & Grummer-Strawn, 2015; Rollins et al., 2016). Taking the child to work is not an option for many mothers as the workplace is largely an unconducive environment for childcare in general, and breastfeeding in particular.

5.3.2 Barriers to Utilization of Skilled Birth Attendance

Barriers to SBA that were highlighted by women in the study include lack of finances, disrespect by health care providers and fear of having a Caesarean operation. Results from the study revealed that the financial implication of having a facility-based delivery was a deterrent to SBA, turning women towards TBA assisted births where the birth charges were much lower. Furthermore, long waiting time and harsh treatment experienced at public health care facilities steer pregnant women towards more expensive private hospitals and

clinics. Even though perinatal care is free in Ghana through the NHIS scheme, many private hospitals do not subscribe to the programme (Asundep et al., 2013) thus leaving the poor pregnant women with no choice but to seek the affordable services of the TBAs. In this study, more than half of the participants had a valid NHIS card. Some studies have established that enrollment into the NHIS programme in Ghana has a positive effect on utilization of maternal care services (Dixon, Tenkorang, Luginaah, Kuuire, & Boateng, 2014; Dzakpasu et al., 2012; Mensah, Oppung, & Schmidt, 2010). An evaluation done by the Ghana Health Service points out the fact that women who were insured were more likely to give birth in a health care facility, have skilled attendance at birth, and have a Caesarean section done (Health Systems 20/20 Project & GHS, 2009). In addition, insured women who did not give birth in the health care facility were more often than not, financially disadvantaged and multiparous showcasing barriers that still remain as opportunity costs. Okafor et al., (2014) found out in their study carried out in Nigeria that financial constraints were a determinant of TBA services patronage. Likewise, in a study done in Indonesia, it was highlighted that in addition to charging much lower fees than the health care facilities, the TBAs gave the women the option of paying in instalments or in kind (Agus & Horiuchi, 2012).

Poor treatment meted out to pregnant women by health care providers during child delivery is yet another reason why the women in the study chose to utilize TBA services. Equally, other studies conducted in urban poor areas discovered that pregnant women patronized private health care facilities and TBAs for fear of being treated with disregard or even physically abused in the public health care facilities (Bhanderi & Srinivasan, 2015; Khan

et al., 2009; Okang & Kaseje, 2015). Women in the study also expressed the apprehension that health care facilities were quick to book pregnant women for Caesarean Sections, thus making them to opt for care at the TBA centres during child birth. Similarly, other studies have observed that women avoided facility-based deliveries to evade the possibility of having an episiotomy or a Caesarean Section (Mrisho et al., 2009; Okafor et al., 2014). Despite acclamations of preferable birthing experiences at the TBA centres, birth complications arise which could have been averted if early intervention at an appropriate health care facility had been initiated. In this study, complications such as cord around the neck, physical deformity of the baby, and still births were reported amongst deliveries that took place in TBA centres.

5.4 Postnatal Care Utilization in a Peri-urban Settlement

This section is dedicated to discussing utilization of Postnatal Care services amongst the women living in peri-urban settlements in Ga East Municipal, Greater Accra Region, Ghana. It covers how socio-demographic factors, and PNC knowledge, practices and barriers affect the utilization of Postnatal Care in a timely manner.

5.4.1 Postnatal Care Knowledge, Practices and Utilization

Study results show that even though 94.1% of the women attended PNC clinics, only a fifth of them did so within the first three days following child birth. In addition, by the end of the puerperal period, only 14.2% of women had had up to three PNC visits. In another

study carried out in an Indian slum, it was found that while a little over 40% of women had availed themselves of PNC services within the first seven days following child birth, only 6% of them had up to 3 PNC visits in total (Patel, Desai, Modi, & Bansal, 2014). However, observations from a study conducted in a slum in Bangladesh yielded better results as two-thirds of the women utilized PNC services within two days postpartum (Srivastava, Kishore, & Padda, 2015). The benefits of timely utilization of Postnatal Care within 48 hours has been widely documented as a means of alleviating maternal and newborn mortality. In their study, Ronsmans and Graham (2006) observed that there were a lot of maternal deaths during the postpartum period, and that these could be averted by providing timely Postnatal Care, and for an adequate duration of time. In addition, Baqui et al., (2009) established in their study that PNC visits on the first and second days following birth led to a decrease in neonatal mortality of 67% and 64%, respectively.

This study revealed that the use of PNC services increases consistently with age till the age of 40, when there is a decline with only 20% of women in this age group attending PNC in a timely manner when compared to 61.5% of women less than 20 years old. In Nepal, Khanal et al., (2014) also noted that as the age of the women increased, there was a correlate decrease in the utilization of PNC services. This is similar to observations made by Rwabufigiri et al., (2016) in Rwanda where findings were that older women used less PNC services than younger ones. Contrarily, in a Nepalese study, women who were 35 years old and above utilized PNC services more adequately than those less than 35 years old even though they had poorer ANC clinic attendance (Sharma et al., 2007). This was largely due to the fact that older women skipped ANC visits and depended on their cumulative

pregnancy experience during later pregnancies, predisposing themselves to obstetric complications that require skilled care during and after birth. Very often, the age of the mothers is found to be collinear with the number of children borne. From study results, even though women who had two or three children were seen to be more likely to receive PNC services than women with only one child, those who had four or more children were less likely to do so. In Ethiopia, it was observed that women with four or more children were less likely to access PNC services when compared to women who had just one child (Workineh & Hailu, 2014). Similarly, Titaley, Dibley and Roberts (2009) noted that in Indonesia, mothers with high order births were less likely to attend PNC visits than those with less number of children. With a large sized family, increased financial responsibilities and time constraints due to child care become deterrents to utilization of PNC services.

Being educated was also found to be positively associated with PNC service utilization as women who had any education were seen to be more likely than their uneducated peers to utilize PNC services. Similarly, findings from a study in Indian slums found that as educational attainment of the women increased, the chances of them accessing PNC services, and on time also increased (Awasthi, Chaturvedi, Nandan, Jha, & Mehrotra, 2012). In addition, a study conducted in Nepal noted that better educated women had higher odds of attending PNC clinics than less educated women (Khanal et al., 2014). These findings may be because these group of women are also better informed about health issues, make beneficial health choices as a result, and are confident enough to interact with health care personnel at the facilities. In addition, many educated women enjoy unrestricted autonomy and do not need permission to leave the house.

Women who were employed had lesser odds of accessing PNC services than their unemployed counterparts (aOR=0.82, 95% CI=0.52-1.29). Similarly, in Nepal, Sharma, Sawangdee and Sirirassamee (2007) found that women who were working were less likely to access PNC services than their non-working counterparts. This may be explained by the fact that in addition to time constraints experienced by working women, financial constraints in the household makes it a necessity for them to be employed thus their non-working peers may be women who have better financially stable households and can afford the time and money required for utilization of PNC services. Furthermore, women who work in particular sectors of the economy such as agriculture, may find that the time schedules for hospital visits and long waiting times at the clinics may be unfavourable, leading to loss of income for the family (Khanal et al., 2014; Titaley et al., 2010).

The study found that males being the sole decision makers in the household had a protective effect on utilization of PNC services (aOR=1.51, 95% CI=0.85-2.67) while spouses making decisions together led to a higher likelihood of underutilization of PNC services (aOR=0.59, 95% CI=0.33-1.04). In their study, Sharma, Sawangdee and Sirirassamee (2007) found that spousal communication led to increased utilization of Postnatal Care in Nepal. However, in Rwanda, Rwabufigiri et al., (2016) discovered that autonomous women were less likely to utilize PNC services than their non-autonomous counterparts. They posited that male-headed households had better social and economic advantages than households headed by females and thus are in a position to provide maternal health care

for the women in their families. Contrary to these submissions, it was discovered in a study carried out in Ethiopia that the more decision making power a woman had, the higher the likelihood of her utilizing PNC services (Workineh & Hailu, 2014). In general, improving on knowledge by involving men in maternal health care education will go a long way in increasing PNC utilization.

Surprisingly, only 37% of women who had skilled attendance at birth attended PNC in a timely manner. This correlates to a study done in a slum in Bangladesh which found that utilizing skilled attendance at birth and facility based deliveries were not significantly associated with utilization of PNC services (Kamal, 2012). The explanation for these findings may be that mothers who had babies in health care facilities do not see the need to return especially if they and their babies were healthy. On the other hand, women who did not have skilled attendance at birth may see the need to have a postnatal checkup to certify themselves and their babies as healthy. Contrariwise, in their study conducted in Indian slums, Awasthi et al., (2012) observed that having facility based deliveries increased the likelihood of mothers seeking PNC services on time. This observation stresses the importance of the content of the information given to mothers concerning the need for timely PNC utilization. Findings from this study also allude to the fact that having had complications during child birth increased the chances of accessing PNC services four-fold (aOR=3.94, 95% CI=2.01-7.71). Limenih, Endale and Dachew (2016) found evidence in their study carried out in Ethiopia, that women who had undergone Caesarean section, and those who experienced obstetric complications were more likely to attend PNC clinics than their counterparts who had no complications during delivery. This observation can be

explained by the fact that in addition to these women feeling concern for their health, the health care providers also lay strong emphasis on the need for them to return for PNC visits to ensure that they and their babies remain in good health.

5.4.2 Barriers to Postnatal Care Utilization

Several reasons were propounded by the study participants for which women did not attend PNC clinics at all, or in a timely manner and these include financial constraints and fear of poor treatment meted out by health care personnel.

A number of studies have shown that limited resources impede access to maternal health care (Onah et al., 2006; Simkhada et al., 2008; Titaley et al., 2009). In their research carried out in Indonesia, Titaley et al., (2010) observed that financial constraints were a major challenge faced by women in need of PNC services in their study area. To add to the financial burden faced by women in this research, social expectations dictate that a mother should be clothe in new apparel when she goes to the facility for PNC visits and the shame that some women face if their husbands are not able to meet this obligation discourages them from attending the PNC clinics.

Study participants also alluded to the fact that some women avoided PNC clinics because of their negative experiences with health care provision in the past. Findings from the study conducted by Tesfahun et al., (2014) support this observation as the women gave poor care

received from health care personnel as a reason for avoiding PNC services. In the same vein, women in a study carried out in Uganda also gave poor treatment received from the health care professionals as a reason for not utilizing the PNC services (Nankwanga & Phllips, 2008). Some of the complaints made by the women include being ignored, shouted at, and spoken to rudely. More women in this study who attended ANC in health centres/community clinics and in private/maternity clinics were seen to have received timely PNC when compared to women who had been to government hospitals for ANC. During the discussions, the women pointed out the fact that they preferred accessing health care from private providers because they were treated with more dignity than in public health care facilities. It has been documented in several studies that despite the high costs of health care service provision in private facilities, women found it more satisfactory than services available in public facilities (Bayou et al., 2016; Gabrysch & Campbell, 2009; Muindi et al., 2016; Muriithi, 2013).

Culturally, child birth is deemed a normal experience in life and as such many communities do not see the need for medical intervention in a typical life process (Achadi et al., 2007). Results from this study show that the mother and baby being in good health deterred the women from attending PNC clinics as they did not see the need to return to the clinics for further health checks. Similarly, in a study conducted in Indian slums, it was observed that a quarter of the women did not feel the need to patronize PNC services because they were in good health (Revathi, Ade, Kv, & Hiremath, 2013). In another study carried out in Indonesia, study participants alluded to the fact that a healthy mother had no need to go to the hospital for a checkup especially if she had had an uncomplicated delivery (Titaley et

al., 2010). The cultural practice of keeping the mother and baby indoors till the traditional outdooring ceremony has been done, as noted in this study, also acts as a barrier to timely PNC utilization. In Ethiopian slums, Kaba, Taye, Gizaw, & Mitiku (2017) observed that the women were reluctant to go out of their homes too soon after birth. There were cultural, religious or social restrictions keeping them and their babies indoors for 40-80 days. Similarly, in Nepal, postpartum women are forbidden to have any interactions with other people till they were 11 days post-delivery (Karkee, 2012) and in India, these segregations from society have led to underutilization of PNC services (Bandyopadhyay, 2009). There is therefore a need for proper education at ANC clinics, following facility based deliveries, and during home visits to ensure that the mothers and their families understand the importance of utilizing PNC services in a timely manner. This also underlines the need for community-based interventions that provide women with the support and information that will encourage them to access much needed maternal health services.

5.5 The Influence of Community–based Initiatives on Maternal Health Care Service Utilization in a Peri-urban Settlement

This section is devoted to discussing the influence of community-based interventions on the utilization of perinatal care amongst the women living in peri-urban settlements in Ga East Municipal, Greater Accra Region, Ghana. It covers how community-based interventions affect the adequacy of Antenatal Care attendance, utilization of skilled attendance at birth, and initiation of Postnatal Care in a timely manner. It also discusses

the dynamics and challenges of partnerships between private and public health facilities in the study area.

5.5.1 The Community-based Initiatives and Maternal Health Care Utilization

Community–based interventions identified in the study area include Community Health Officers from the CHPS programme, Mother Support Groups, and public-private health care facility partnerships. About two-fifths of the women in the study were visited at home by a CHO and these visits were shown to have no effect on the likelihood of attending ANC clinics or on utilization of skilled attendance at birth. Community based interventions in resource poor areas involving Community Health Workers, and aimed at providing basic health care, health promotion and education, including ANC and Skilled Birth Attendance, have been documented as successful in several studies. A community intervention involving Village Health Teams and health workers led to an increase in ANC attendance and improved male partner involvement in ANC visits in Northern Uganda (Ediau et al., 2013). In Bangladesh, pregnant women who were supported by Community Health Workers of the Manoshi Programme were found to have increased odds of having skilled attendance at birth, accessing PNC, and feeding their babies the colostrum (Adams, Nababan, & Hanifi, 2015).

Furthermore, findings from the study show that these home visits had a negative effect on PNC utilization as the women who were visited at home had 38% less likelihood of attending PNC than those who were not visited (aOR=0.62, 95% CI=0.40-0.95). Focus

Group Discussions with the CHOs also highlighted the fact that after the women had been paid home visits by the CHOs, they were less inclined to attend PNC clinics. Contrarily, in a study conducted in Ethiopia, it was suggested that contact with community health care workers led to an increased chance of attending PNC clinics due to increased awareness from health education (Tesfahun et al., 2014). Sharma, Sawangdee and Sirirassamee (2007) also observed that health worker home visits were positively associated with utilization of PNC services in Nepal. Contrary findings from this study are due to the fact that women in the community considered the home visit a proxy for PNC services, and thus did not deem it necessary to make additional trips to the hospital.

Quantitative results from the study did not indicate that the activities of the Mother Support Groups had any effect on the utilization of ANC, SBA or PNC services. However, from the interviews and discussions, it was evident that the CHOs collaborated with the Mother Support Groups in providing care for pregnant women and newly delivered mothers and their babies in the communities. Members of the MSGs help in identifying pregnant women, and mothers and babies who are in need of medical attention, as well as providing support for breastfeeding mothers. Mother Support Groups are voluntary in nature and are likened to peer counsellors who aim to provide psychological support, counsel and distinct health information (Morrell, Spiby, Stewart, Walters, & Morgan, 2000). In their meta-analysis of community based interventions, Rollins et al., (2016) established that such interventions comprising of home visits by Community Health Workers and peer counsellors were able to have positive effects on breastfeeding practices. In Nepal, the Morang Innovative Neonatal Intervention (MINI) programme trained female volunteers to

carry out home visits soon after birth leading to a reduction in neonatal mortality due to early detection and treatment of infections (Khanal et al., 2011). Volunteer health workers in Kenya were able to improve overall health knowledge of the women in the communities, as well as skilled attendance at birth and facility based deliveries (Adam et al., 2014). In addition, Safe Motherhood promoters functioning in rural Tanzania were able to improve on timing for ANC registration, skilled attendance at birth and male involvement in maternal health issues (Mushi, Mpembeni, & Jahn, 2010). There is a need to harness the potentials of the Mother Support Groups in the study area to the maternal health advantage of the women living in these underserved communities.

Results from the study show that there was a significant level of collaboration between the public and private health care providers in the study area. Reports were shared between them, and they were able to narrate the improvements in maternal care utilization as seen in the communities as a result of their collaborative activities. The proliferation of private hospitals in urban areas due to paucity of public health care institutions, has contributed to an increase in facility based delivery care, and the urban poor are not left out in their patronage (Kamal et al., 2016). However, in countries such as Nigeria, Ghana, South Africa, Sri Lanka and Spain, where payments for health care services rendered at private institutions are made out-of-pocket, this proliferation of private health care facilities leads to high costs and invariably to poor access to these services (Asogwa & Odoziobodo, 2016; Asundep et al., 2013). To improve on services rendered to the public and mitigate some of the socio-economic challenges they face, governments worldwide have made efforts to collaborate with the private sector (Asogwa & Odoziobodo, 2016). Interventions tailored

towards collaborations between the public and the private health care providers have been shown to be successful in improving health care outcomes. In India for example, a literature review on improving tuberculosis control through public-private collaboration noted an increase in case notification rate (Dewan et al., 2006). With regards to maternal health, the People's Primary Health Care Initiative (PPHI) was a public-private partnership in Pakistan that led to an increase in family planning, ANC and PNC services utilization, as well as immunization of mothers and babies (Imtiaz, Farooq, Haq, Ahmed, & Anwar, 2017). The urban slum health care project in India is another public-private partnership that was able to significantly increase facility based deliveries, and reduce maternal and neonatal mortality (WHO, 2007). Even though findings from this study suggest that the public-private partnerships being forged in the study area are weak, as the community women seemed oblivious of their existence and health care providers did not have any clear cut collaborative protocol, there remains a potential in these collaborations that can be harnessed to the benefit of maternal health in these communities.

5.5.2 Challenges Faced by Community-based Health Care Collaborations in a Peri-urban Setting

The efforts made by the public and private health care providers in the study area to collaborate and coordinate their activities met with a number of challenges. These included lack of a proper feedback mechanism, lack of synchronism at various levels of care, non-recognition of informal health care providers by their biomedical care counterparts, and high attrition rate of Mother Support Group volunteers. The health care professionals were

of the opinion that the lack of information flow between the different cadres of providers was an impediment to proper provision of perinatal care services, and continuum of care offered to the women. To ensure that there is continuity in the health care service provided to a patient, coordination of care between all care providers is of paramount importance (Bodenheimer, 2008). This coordination is lacking in the study area due to the informal nature of the collaboration between the various cadres of care providers. In their paper, Baru and Nundy (2008) noted that government institutions were the principal drivers of the health care programmes and policies, thus resulting in the diminishing of the roles played by the private sector. A concerted effort needs to be made to improve the flow of information within the levels of health care service delivery in the public sector; and between the public and the private health care sectors.

Results from the group discussions also highlight that CHOs felt that this lack of care coordination between the community level care and the facility-based care makes it difficult for them to keep track of the health status of the women needing follow-up maternal care. The training and orientation of formal health care providers make it difficult for them to view Community Health Workers as an essential arm of health care delivery (Lehmann & Sanders, 2007). CHW activities are however, an important aspect of health care delivery as they aim to ensure that health care services reach individuals living in underserved communities (WHO & Global Health Workforce Alliance, 2010). The facility-based health care providers in the study area need to be sensitized to the important role played by the CHOs at the community level.

Furthermore, opinions elicited from the discussions and interviews suggest that the proprietors of maternity homes and TBAs felt that the institutional health care providers treated them with some level of disregard. Orthodox health care professionals need to recognize other care providers that impact health care delivery in their communities, and form an alliance with them (WHO, 2004). In their study, Izugbara et al., (2009) highlighted on health care professionals' general lack of respect for TBAs but several studies have documented positive results emanating from collaborations between the biomedical care providers and the TBAs. In an intervention carried out in Pakistan, training TBAs to carry out appropriate and hygienic perinatal care was shown to have resulted in a decrease in neonatal and maternal mortality (Jokhio et al., 2005). In Somaliland, TBAs were linked to the formal health care providers and trained to make timely obstetric referrals resulting in an increase in Skilled Birth Attendance (Pyone et al., 2014). Furthermore, efforts made by public health care providers to collaborate with the various levels of care within the health system, such as the CHOs and private/maternity clinics, and those outside, such as the Mother Support Groups and TBAs, can aid in ensuring that women comply with the recommended continuum of care, and are provided with psychosocial support where needed.

Despite having the knowledge that their activities were voluntary, members of the Mother Support Groups were sometimes dissatisfied with the fact that they were not receiving any compensation for work done resulting in a high attrition rate amongst them. Many

individuals who have migrated to the urban areas did so in search of greener pastures, and are less inclined than their rural counterparts to offer their time voluntarily (Adongo et al., 2014). Studies carried out in urban slums of Bangladesh and India had similar results as volunteer female health workers were found to have a high attrition rate on account of poor or non-existent pay for services rendered (Alam, Tasneem, & Oliveras, 2012; George, Pant, Devasenapathy, Ghosh-jerath, & Zodpey, 2017). Other studies have suggested non-monetary incentives such as community recognition and periodic training for such volunteers (Amare, 2009; Haile, Yemane, & Gebreslassie, 2014). However with both monetary and non-monetary incentives, the question of sustainability remains, especially in these resource-poor environments (Lehmann & Sanders, 2007). The activities of the volunteers add value to the work done by the CHOs and there needs to be a reward system put in place to ensure that they feel validated for the services they provide.

This study has been able to establish that maternal health care utilization is influenced by information garnered at the community level from CHOs and Mother Support Group volunteers, as well as the experiences of the women at the Traditional Birth Centres and health care facilities. Even where the information offered within the communities was received wholeheartedly, a negative experience at the health system level still tended to lead to poor utilization of MHC services, especially in situations where Traditional Birth Centres are readily available. A positive experience at health care facilities led to a higher likelihood of utilizing the continuum of care in a proper manner.

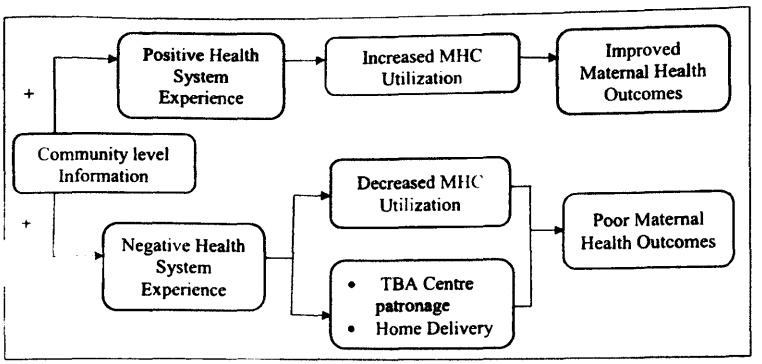

Figure 4: Contextual representation of influence of community-based initiatives on maternal health care utilization

This goes to buttress the point that utilization of maternal health care in underserved environments can be positively influenced by a synergetic relationship between community level and health system level care providers.

CHAPTER SIX

6.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

In this chapter, a synopsis of the study results and discussion is presented, guided by the study objectives, and pertinent conclusions drawn. The contributions of the study to public health knowledge have been outlined and recommendations that have arisen as a consequence of the study proffered. Areas of interest for future research have also been proposed.

6.2 Summary

This research was carried out using quantitative and qualitative methods to assess maternal health care utilization through community based initiatives in a peri-urban area of Accra. The key findings of the study are as follows:

1. Although 98.6% of women surveyed accessed ANC services, only 78% of them utilized these services adequately having had up to 4 ANC visits. About 93% of the women had skilled attendance at birth, while only 20% attended PNC clinics within the first three days following childbirth. At the end of the 42-days puerperal period, less than 15% of all women surveyed had had up to three PNC visits.
2. The study identified several barriers to maternal health care utilization which included financial and time constraints, lack of public health care facilities in the communities, disrespect of pregnant women by health care providers, long waiting

time, favouritism, fear of Caesarean Section, and lack of competence at the health care facilities. Dissatisfaction with services rendered at the public health care facilities drove the women to seek for care at the private clinics despite the higher costs, as well as from TBAs.

3. The study revealed that the services of TBAs are still widely utilized by women because of culture, traditional beliefs and practices; and spirituality surrounding pregnancy and the birth process influence the women's care seeking behavior for maternal health needs.
4. Women from households in which men were major decision makers were more likely to utilize PNC services.
5. There was no significant effect on utilization of ANC and SBA services due to CHO home visits found. These home visits were also found to have a negative effect on PNC utilization as the women in the community considered them a proxy for PNC, and so did not deem it necessary to make the trip to the hospital. Mother Support Group activities had no significant effect on utilization of ANC, SBA or PNC services. However, it was evident from the discussions that members of the groups collaborated with the CHOs in the provision of care and support for the pregnant women and new mothers in the communities.
6. Even where the information offered at the community level was received wholeheartedly, a negative experience at the health system level still resulted in poor utilization of MHC services, while a positive experience increased the chances of utilizing the continuum of care in a proper manner.

7. Challenges dodging community-based health care collaborations include lack of a proper feedback mechanism, lack of synchronism at the various levels of care, non-recognition of informal health care providers by their biomedical counterparts, and high attrition rate of Mother Support Group volunteers. Although some improvements were seen in maternal health care utilization in the communities due to collaborations that exist between the various cadres of health care providers, these partnerships were weak and there is a need for a clear cut collaborative protocol.

6.3 Conclusions

Although majority of women in these peri-urban communities availed themselves of ANC, SBA and PNC services, a substantial number of them utilized these services inadequately, and in an untimely manner. Many of the women also patronised informal sources of maternal health care such as prayer houses and TBA centres while attending clinics at the health care facilities. Barriers to formal maternal health care utilization include financial and time constraints, lack of public health care facilities within the communities, poor treatment meted out by health care providers, long waiting time, fear of having a Caesarean section, and cultural practices. These invariably led to women accessing care from private facilities, despite the high cost involved, as well as from TBA centres. In addition, the activities of formal and informal health care providers in the communities had a mixed effect on maternal health care utilization. Whilst CHO home visits had no effect on ANC and SBA utilization, it was found to result in a decrease in PNC utilization. Mother Support Groups had no effect on ANC, SBA or PNC utilization but served as an integral support to

the CHO activities. Collaborations between the formal and informal health care providers in the communities face challenges that include lack of synchronism at the various levels of care and high attrition rate of Mother Support Group volunteers. Utilization of maternal health care in underserved communities can be improved if measures are put in place to consolidate collaborations between community level and health system level care providers.

6.4 Contributions of the Study to Knowledge

1. This research found that home visits by health workers were detrimental to PNC visits as women who were visited at home felt that attending PNC clinics was needless.
2. The study also elicited that women from households in which men were the decision makers were more likely to attend PNC clinics when compared to more autonomous women.
3. A link was made between information received at the community level from CHOs and Mother Support Group volunteers and the experiences the women had at the health care facilities, and their influence on MHC utilization. Where the information was backed by positive experiences at the facilities, there was an improvement in MHC utilization, whereas negative experiences led to poor MHC utilization.

6.5 Recommendations

6.5.1 Recommendations for practice

1. For public health care facility collaborations to be effective, the Ministry of Health needs to put a formal protocol in place that also involves an operational feedback mechanism. Reliable technical support should be made available to private health care facilities functioning in underserved areas, and this should include proper regulation and insurance coverage for clients.
2. TBAs operating in the communities should be involved in the collaborative efforts as they can offer invaluable support to women with regards to care compliance.
3. The Municipal Health Management also needs to address provider-client relationships in the public health care facilities by providing workshops tailored towards the acquisition of the necessary skills required by health care personnel to deal with their clients.
4. Special considerations need to be made for unique cases such as pregnant teenagers and working women. Pregnant teenagers are particularly vulnerable as they are prone to stigmatisation and so avoid being seen in public places. The Municipal Health Management can put in measures to ensure privacy and dignified treatment at the health care facilities to encourage them to seek for care in a timely manner. Employed mothers also need to be taken into consideration when fixing the timing for perinatal care clinics. Staggering the days and time frames for clinic visits will provide them with opportunities to avail themselves of the maternal care that they need.

5. Civil Society Organisations can also provide special education targeted at older mothers and women with high parity as utilization of ANC, SBA and PNC showed a decline amongst these groups of women. Community education involving male partners and elderly women in the communities is also of paramount importance as it was elicited in the study that they were influential in decision making regarding maternal health care utilization.

6.5.2 Recommendations for future research

1. Research can be carried out to test the framework showing the contextual representation of influence of community-based initiatives on maternal health care utilization, and to establish its relevance in other contexts.
2. Many studies have been done on male involvement in maternal health. However, there is a need to carry out an implementation research targeted at male involvement in community-based maternal health care initiatives in peri-urban areas. Involving males in the initiatives will lead to more men in underserved environments encouraging their partners to utilize available maternal healthcare.
3. There should be an implementation research on the use of mHealth via mobile phone technology to foster collaborations between formal and informal health care providers in peri-urban communities, thus improving utilization of maternal health care services.

REFERENCES

Abouzahr, C. (1998). Improving access to quality maternal health services. *Planned Parenthood Challenges / International Planned Parenthood Federation*, (1), 6–9.

AbouZahr, C. (2003a). Global burden of maternal death and disability. *British Medical Bulletin*, *67*, 1–11. AbouZahr, C. (2003b). Safe Motherhood: A brief history of the global movement 1947-2002. *British Medical Bulletin*, *67*, 13–25.

AbouZahr, C., & Wardlaw, T. (2001). Maternal mortality at the end of a decade: Signs of progress? *Bulletin of the World Health Organization*.

ACCESS. (2007). Focused Antenatal Care: Providing integrated, individualized care during pregnancy. Retrieved October 20, 2015, from www.accesstohealth.org

Achadi, E., Scott, S., Pambudi, E. S., Makowiecka, K., Marshall, T., Adisasmita, A., … Ronsmans, C. (2007). Midwifery provision and uptake of maternity care in Indonesia. *Tropical Medicine and International Health*, *12*(12), 1490–1497.

Adam, M. B., Dillmann, M., Chen, M., Mbugua, S., Ndung'u, J., Mumbi, P., … Meissner, P. (2014). Improving maternal and newborn health: Effectiveness of a community health worker program in rural Kenya. *PloS One*, *9*(8), e104027.

Adams, A. M., Nababan, H. Y., & Hanifi, S. M. M. A. (2015). Building social networks for maternal and newborn health in poor urban settlements: A cross-sectional study in Bangladesh. *PLoS ONE*, *10*(4), 1–17.

Adegoke, A. A., & Van Den Broek, N. (2009). Skilled birth attendance-lessons learnt. *BJOG: An International Journal of Obstetrics and Gynaecology*, *116*(SUPPL. 1), 33–40.

Adongo, P. B., Phillips, J. F., Aikins, M., Arhin, D. A., Schmitt, M., Nwameme, A. U., … Binka, F. N. (2014). Does the design and implementation of proven innovations for delivering basic primary health care services in rural communities fit the urban setting: the case of Ghana's Community-based Health Planning and Services (CHPS). *Health Research Policy and Systems*, *12*(1), 16.

Africa Progress Panel. (2010). *Maternal Health: Investing in the lifeline of healthy societies and economies*. Geneva, Switzerland.

Agarwal, P., Singh, M., & Garg, S. (2007). Maternal health-care utilization among women in an urban slum in Delhi. *Indian Journal of Community Medicine*, *32*(3), 203–205.

Agha, S., & Carton, T. W. (2011). Determinants of institutional delivery in rural Jhang, Pakistan. *International Journal for Equity in Health*, *10*(1), 31.

Agunbiade, O., & Ogunleye, O. (2012). Constraints to exclusive breastfeeding practice among breastfeeding mothers in Southwest Nigeria : implications for scaling up. *International Breastfeeding Joiurnal*, *7*(5), 1–10.

Agus, Y., & Horiuchi, S. (2012). Factors influencing the use of Antenatal Care in rural West Sumatra, Indonesia. *BMC Pregnancy and Childbirth*, *12*(1), 9.

Ahmed, S., Creanga, A. A., Gillespie, D. G., & Tsui, A. O. (2010). Economic status, education and empowerment: Implications for maternal health service utilization in developing countries. *PLoS ONE*, *5*(6).

Al-Gailani, S. (2009). Teratology and the clinic: John William Ballantyne and the making of antenatal life. *Wellcome History, 42*, 2-4.

Alam, K., Tasneem, S., & Oliveras, E. (2012). Retention of female volunteer community health workers in Dhaka urban slums: A case-control study. *Health Policy and Planning*, *27*(6), 477–486.

Al Riyami, A., Afifi, M., & Mabry, R. M. (2004). Women's autonomy, education and employment in Oman and their influence on contraceptive use. *Reproductive Health Matters, 12*(23), 144-154.

Almeida, L. M., Caldas, J., Ayres-De-Campos, D., Salcedo-Barrientos, D., & Dias, S. (2013). Maternal healthcare in migrants: A systematic review. *Maternal and Child Health Journal*, *17*(8), 1346–1354.

Amano, A., Gebeyehu, A., & Birhanu, Z. (2012). Institutional delivery service utilization in Munisa Woreda, South East Ethiopia: a community based cross-sectional study. *BMC Pregnancy and Childbirth*, *12*(1), 105.

Amare, Y. (2009). *Non-financial incentives for voluntary Community Health Workers: A qualitative study. The Last Ten Kilometers Project Working Paper No. 1.* Addis Ababa, Ethiopia.

Amooti-Kaguna, B., & Nuwaha, F. (2000). Factors influencing choice of delivery sites in Rakai district of Uganda. *Social Science and Medicine*, *50*(2), 203–213.

Anafi, P., Mprah, W. K., Buchanan, D. R., Gubrium, A. C., Faulkingham, R., & Barton-Burke, M. (2016). Motivations for Non-Formal Maternal Health Care in Low-Income Communities in Urban Ghana. *International Journal of Health Sciences*, *4*(1), 1–10.

Andrew, E. V. W., Pell, C., Angwin, A., Auwun, A., Daniels, J., Mueller, I., ... Pool, R. (2014). Factors affecting attendance at and timing of formal Antenatal Care: Results from a qualitative study in Madang, Papua New Guinea. *PLoS ONE*, *9*(5).

APHRC. (2009). *The maternal health challenge in poor urban communities in Kenya.* Policy Brief 12.

Arthur, E. (2012). Wealth and Antenatal Care use: Implications for maternal health care utilisation in Ghana. *Health Economics Review*, *2*(1), 14.

Asamoah, B. O., Agardh, A., Pettersson, K. O., & Östergren, P. (2014). Magnitude and trends of inequalities in Antenatal Care and delivery under skilled care among different socio-demographic groups in Ghana from 1988 – 2008. *BMC Pregnancy and Childbirth*, *14*(295).

Asefa, F. (2014). Male partners involvement in maternal ANC Care: The view of women attending ANC in Harari public health institutions, Eastern Ethiopia. *Science Journal of Public Health*, *2*(3), 182.

Asogwa, M. N. O., & Odoziobodo, S. I. (2016). Public Private Partnership in the provision of health services for the Millennium Development Goals: The imperative need for optimizing the public-private mix. *European Scientific Journal*, *12*(29), 1857–7881.

Asundep, N. N., Carson, A. P., Turpin, C. A., Tameru, B., Agidi, A. T., Zhang, K., & Jolly, P. E. (2013). Determinants of access to Antenatal Care and birth outcomes in Kumasi, Ghana. *Journal of Epidemiology and Global Health*, *3*(4).

Atekyereza, P. R., & Mubiru, K. (2014). Influence of pregnancy perceptions on patterns of seeking Antenatal Care among women in reproductive age of Masaka District, Uganda. *Tanzania Journal of Health Research*, *16*(4), 1–12.

Awasthi, S., Chaturvedi, M., Nandan, D., Jha, S. K., & Mehrotra, A. K. (2012). Assessment of quality maternity care in urban slums of district Agra: Population based study. *Indian Journal of Public Health Research and Development*, *3*(4), 2–7.

Ay, P., Hayran, O., Topuzoglu, A., Hidiroglu, S., Coskun, A., Save, D., … Eker, L. (2009). The influence of gender roles on health seeking behaviour during pregnancy in Turkey. *European Journal of Contraception and Reproductive Health Care*, *14*(4), 1–11.

Babalola, B. I. (2014). Determinants of urban-rural differentials of Antenatal Care utilization in Nigeria. *African Population Studies*, *28*(3), 1263–1273.

Bailey, P. E., Szászdi, J. A., & Glover, L. (2002). Obstetric complications: Does training traditional birth attendants make a difference? *Pan American Journal of Public Health*, *11*(1), 15–23.

Bandyopadhyay, M. (2009). Impact of ritual pollution on lactation and breastfeeding practices in rural West Bengal, India. *International Breastfeeding Journal*, *4*(2), 1–8.

Banks, E., Meirik, O., Farley, T., Akande, O., Bathija, H., & Ali, M. (2006). Female genital mutilation and obstetric outcome: WHO collaborative prospective study in six African countries. *Lancet*, *367*(9525), 1835–1841.

Baqui, A. H., Ahmed, S., Arifeen, S. El, Darmstadt, G. L., Rosecrans, A. M., Mannan, I., … Black, R. E. (2009). Effect of timing of first Postnatal Care home visit on neonatal mortality in Bangladesh : a observational cohort study. *BMJ*, *339*(2826), 1–6.

Bartlett, L. A., Mawji, S., Whitehead, S., Crouse, C., Dalil, S., Ionete, D., & Salama, P. (2005). Where giving birth is a forecast of death: Maternal mortality in four districts of Afghanistan, 1999-2002. *Lancet*, *365*(9462), 864–870.

Baru, R., & Nundy, M. (2008). Blurring of boundaries: Public-private partnerships in health services in India. *Economic and Political Weekly*, *43*(4), 62–71.

Basu, S., Andrews, J., Kishore, S., Panjabi, R., & Stuckler, D. (2012). Comparative performance of private and public healthcare systems in low- and middle-income countries: A systematic review. *PLoS Medicine*, *9*(6), 19.

Bayou, Y. T., Mashalla, Y. S., & Thupayagale-Tshweneagae, G. (2016). The adequacy of Antenatal Care services among slum residents in Addis Ababa, Ethiopia. *BMC Pregnancy and Childbirth*, *16*(1), 142.

Bazzano, A. N., Kirkwood, B., Tawiah-Agyemang, C., Owusu-Agyei, S., & Adongo, P. (2008). Social costs of skilled attendance at birth in rural Ghana. *International Journal of Gynecology and Obstetrics*, *102*(1), 91–94.

Bbaale, E. (2011). Factors influencing the utilisation of Antenatal Care content in Uganda. *Australasian Medical Journal*, *4*(9), 516–526.

Bergström, S., & Goodburn, E. (2001). The role of Traditional Birth Attendants in the reduction of maternal mortality. *Studies in HSO & P*, *17*, 77–97.

Berhan, Y., & Berhan, A. (2014). Antenatal Care as a means of increasing birth in the health facility and reducing maternal mortality : A systematic review. *Ethiopian Journal of Health Science*, (6), 93–104.

Berry, N. S. (2006). Kaqchikel midwives, home births, and emergency obstetric referrals in Guatemala: Contextualizing the choice to stay at home. *Social Science and Medicine*, *62*(8), 1958–1969.

Bhanderi, M. N., & Srinivasan, K. (2015). Utilization of maternal health services and determinants of skilled care during delivery in slums of Gujarat , India. *Obstetrics and Gynaecology: An International Journal*, *2015*(2015), 1-9.

Bhutta, Z. A, Chopra, M., Axelson, H., Berman, P., Boerma, T., Bryce, J., … Wardlaw, T. (2010). Countdown to 2015 decade report (2000 – 10): Taking stock of maternal, newborn, and child survival. *Lancet*, *375*(9730), 2032–44.

Bhuyan, K. K. (2004). Health promotion through self-care and community participation: Elements of a proposed programme in the developing countries. *BMC Public Health*, *4*(11), 1–12.

Bingham, D., Strauss, N., & Coeytaux, F. (2011). Maternal mortality in the United States: A human rights failure. *Contraception*, *83*(3), 189–193.

Binka, F. N., Nazzar, A., & Phillips, J. F. (1995). The Navrongo Community Health and Family Planning Project. *Studies in Family Planning*, *26*, 121–139.

Biritwum, R. (2006). Promoting and monitoring safe motherhood in Ghana. *Ghana Medical Journal*, *40*(3), 78–79.

Birmeta, K., Dibaba, Y., & Woldeyohannes, D. (2013). Determinants of maternal health care utilization in Holeta town, central Ethiopia. *BMC Health Services Research*, *13*(1), 256.

Bloom, S. S., Wypij, D., & Das Gupta, M. (2001). Dimensions of women's autonomy and the influence on maternal health care utilization in a north Indian city. *Demography*, *38*(1), 67-78.

Bodenheimer, T. (2008). Coordinating care — A perilous journey through the health care system. *New England Journal of Medicine*, *358*(10), 1064–1071.

Boyce, C., & Palena, N. (2006). *Conducting In-Depth Interviews: A guide for designing and conducting In-Depth Interviews*. Pathfinder International Tool Series: Monitoring And Evaluation – 2. Massachusetts, USA.

Brewer, D. D. (2005). Case-finding effectiveness of partner notification and cluster investigation for sexually transmitted diseases/HIV. *Sexually Transmitted Diseases*, *32*(2), 78–83.

Bryce, J., Boschi-Pinto, C., Shibuya, K., & Black, R. E. (2005). WHO estimates of the causes of death in children. *Lancet*, *365*(9465), 1147–1152.

Bullough, C., Meda, N., Makowiecka, K., Ronsmans, C., Achadi, E. L., & Hussein, J. (2005). Current strategies for the reduction of maternal mortality. *BJOG: An International Journal of Obstetrics and Gynaecology*, *112*(September), 1180–1188.

Caldwell, B. K., Rashid, S. F., & Murthy, S. (2014). The informal health sector and health care-seeking behaviour of mothers in urban Dhaka slums. *Journal of Population Research*, *31*(2), 111–129.

Centre for Maternal and Child Enquiries (CMACE). (2011). Saving mothers' lives: Reviewing maternal deaths to make motherhood safer: 2006-2008. The eighth report of the Confidential Enquiries into Maternal Deaths in the United Kingdom. *BJOG : An International Journal of Obstetrics and Gynaecology*, *118 Suppl*(March), 1–203.

Chama-Chiliba, C. M., & Koch, S. F. (2013). Utilization of focused Antenatal Care in Zambia: Examining individual- and community-level factors using a multilevel analysis. *Health Policy and Planning*, (December 2013), 78–87.

Chattopadhyay, A. (2012). Men in maternal care: evidence from India. *Journal of Biosocial Science*, *44*(2), 129–153.

Choguya, N. Z. (2015). Traditional and Skilled Birth Attendants in Zimbabwe: A situational analysis and some policy considerations. *Journal of Anthropology*, *2015*, 1–11.

Choi, Y., & Robinson, C. (2009). Internal migration and utilization of maternal and child health services. Presentation at the 2009 Population Association of America Annual Meeting, Detroit, Michigan, USA.

Choudhury, N., Moran, A. C., Alam, M. A., Ahsan, K. Z., Rashid, S. F., & Streatfield, P. K. (2012). Beliefs and practices during pregnancy and childbirth in urban slums of Dhaka , Bangladesh. *BMC Public Health*, *12*, 791.

Chukwuma, A., Wosu, A. C., Mbachu, C., & Weze, K. (2017). Quality of Antenatal Care predicts retention in skilled birth attendance : a multilevel analysis of 28 African countries. *BMC Pregnancy and Childbirth*, *17*(152), 1–10.

Coeytaux, F., Bingham, D., & Langer, A. (2011). Reducing maternal mortality: A global imperative. *Contraception*, *83*(2), 95-98.

Creswell, J. W. (2007). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches*. Los Angeles: SAGE Publications.

Crissman, H. P., Engmann, C. E., Adanu, R. M., Nimako, D., Crespo, K., & Moyer, C. A. (2013). Shifting norms: pregnant women's perspectives on skilled birth attendance and facility-based delivery in rural Ghana. *African Journal of Reproductive Health*, *17*(1), 15–26.

Das, J., & Hammer, J. (2007). Money for nothing: The dire straits of medical practice in Delhi, India. *Journal of Development Economics*, *83*(1), 1–36.

De Bernis, L., Dumont, A., Bouillion, D., Gueye, A., Dompnier, J., & Bouvier-Colle, M. (2000). Maternal morbidity and mortality in two different populations of Senegal: A prospective study (MOMA survey). *British Journal Of Obstetrics And Gynaecology*, *107*(1), 68–74.

De Bernis, L., Sherratt, D. R., AbouZahr, C., & Van Lerberghe, W. (2003). Skilled attendants for pregnancy, childbirth and Postnatal Care. *British Medical Bulletin*, *67*, 39–57.

De Brouwere, V., Tonglet, R., & Van Lerberghe, W. (1998). Strategies for reducing maternal mortality in developing countries: What can we learn from the history of the industrialized West? *Tropical Medicine and International Health*, *3*(10), 771-782.

Der, E. M., Moyer, C., Gyasi, R. K., Akosa, A. B., Tettey, Y., Akakpo, P. K., ... Anim, J. T. (2013). Pregnancy related causes of deaths in Ghana: a 5-year retrospective study. *Ghana Medical Journal*, *47*(4), 158–63.

Deshpande, N. A., & Oxford, C. M. (2012). Management of pregnant patients who refuse medically indicated cesarean delivery. *Reviews in Obstetrics & Gynecology*, *5*(3–4), e144-50.

Dewan, P. K., Lal, S. S., Lonnroth, K., Wares, F., Uplekar, M., Sahu, S., ... Pai, M. (2006). Improving tuberculosis control through public-private collaboration in India: Literature review. *BMJ (Clinical Research Ed.)*, *332*(7541), 574–8.

Dixit, P., Dwivedi, L. K., & Ram, F. (2013). Strategies to improve child immunization via Antenatal Care visits in India: A propensity score matching analysis. *PLoS ONE*, *8*(6).

Dixon, J., Tenkorang, E. Y., Luginaah, I. N., Kuuire, V. Z., & Boateng, G. O. (2014). National Health Insurance Scheme enrolment and Antenatal Care among women in Ghana: Is there any relationship? *Tropical Medicine and International Health*, *19*(1), 98–106.

Do, M., & Kurimoto, N. (2012). Women's empowerment and choice of contraceptive methods in selected African countries. *International Perspectives on Sexual and Reproductive Health*, *38*(1), 23–33.

Donabedian, A. (1997). The quality of care. How can it be assessed? *Archives of Pathology & Laboratory Medicine*, *121*(11), 1145–1150.

Dutamo, Z., Assefa, N., & Egata, G. (2015). Maternal health care use among married women in Hossaina, Ethiopia. *BMC Health Services Research*, *15*(365), 1–9.

Dye, C. (2008). Health and urban living. *Science*, *319*(5864), 766–769.

Dzakpasu, S., Soremekun, S., Manu, A., ten Asbroek, G., Tawiah, C., Hurt, L., ... Kirkwood, B. R. (2012). Impact of free delivery care on health facility delivery and insurance coverage in Ghana's Brong Ahafo Region. *PLoS ONE*, *7*(11).

Eades, C. A, Brace, C., Osei, L., & LaGuardia, K. D. (1993). Traditional birth attendants

and maternal mortality in Ghana. *Social Science & Medicine (1982)*, *36*(11), 1503–7.

Ediau, M., Wanyenze, R. K., Machingaidze, S., Otim, G., Olwedo, A., Iriso, R., & Tumwesigye, N. M. (2013). Trends in Antenatal Care attendance and health facility delivery following community and health facility systems strengthening interventions in Northern Uganda. *BMC Pregnancy and Childbirth*, *13*(1), 189.

Edouard, L. (2012). Challenges for reproductive health in the attainment of the Millennium Development Goals. *Journal of Obstetrics and Gynaecology Canada*, *34*(10), 909–912.

Elvander, C., Ahlberg, M., Thies-Lagergren, L., Cnattingius, S., & Stephansson, O. (2015). Birth position and obstetric anal sphincter injury: A population-based study of 113 000 spontaneous births. *BMC Pregnancy and Childbirth*, *15*(1), 252.

Ensor, T. (2004). Overcoming barriers to health service access: influencing the demand side. *Health Policy and Planning*, *19*(2), 69–79.

Esena, R. K., & Sappor, M. (2013). Factors associated with the utilization of skilled delivery services in the Ga East Municipality Of Ghana Part 2: Barriers to skilled delivery. *International Journal of Scientific&Technology Research*, *2*(8), 195–207.

Ethiopian Society of Population Studies. (2008). *Maternal Health Care Seeking Behaviour in Ethiopia : Findings from EDHS 2005*. Addis Ababa, Ethiopia.

Etuk, S. J., Itam, I. H., & Asuquo, E. E. J. (2000). Morbidity and mortality in booked women who deliver outside orthodox health facilities in Calabar, Nigeria. *Acta Tropica*, *75*(3), 309–313.

Evans, E. C. (2013). A review of cultural influence on maternal mortality in the developing world. *Midwifery*, *29*(5), 490–496.

Fagbamigbe, A. F., & Idemudia, E. S. (2015). Barriers to Antenatal Care use in Nigeria: Evidences from non-users and implications for maternal health programming. *BMC Pregnancy and Childbirth*, *15*(1), 95.

Fendall, N. R. (1978). Declaration of Alma-Ata. *Lancet*, *2*(8103), 1308.

Fernandez, A., Mondkar, J., & Mathai, S. (2003). Urban slum-specific issues in neonatal survival. *Indian Pediatrics*, *40*(12), 1161–1166.

FIG. (2007). *Rapid Urbanization and Mega Cities: The Need for Spatial Information Management*. Copenhagen, Denmark.

Filippi, V., Ronsmans, C., Campbell, O. M. R., Graham, W. J. W., Mills, A., Borghi, J., … Osrin, D. (2006). Maternal health in poor countries: the broader context and a call for action. *Lancet*, *368*(9546), 1535–1541.

Finlayson, K., & Downe, S. (2013). Why do women not use antenatal services in Low- and Middle-Income Countries? A meta-synthesis of qualitative studies. *PLoS Medicine*, *10*(1), 1-12.

Fobil, J. N., Levers, C., Lakes, T., Loag, W., Kraemer, A., & May, J. (2012). Mapping urban malaria and diarrhea mortality in Accra, Ghana: Evidence of vulnerabilities and

implications for urban health policy. *Journal of Urban Health*, *89*(6), 977–991.

Fofie, C., & Baffoe, P. (2010). A two-year review of uterine rupture in a regional hospital. *Ghana Medical Journal*, *44*(3), 98–102.

Fotso, J. C. (2006). Child health inequities in developing countries: Differences across urban and rural areas. *International Journal for Equity in Health*, *5*, 9.

Fotso, J. C., Ezeh, A. C., & Essendi, H. (2009). Maternal health in resource-poor urban settings: How does women's autonomy influence the utilization of obstetric care services? *Reproductive Health*, *6*, 9.

Fotso, J. C., Ezeh, A., Madise, N., Ziraba, A., & Ogollah, R. (2009). What does access to maternal care mean among the urban poor? Factors associated with use of appropriate maternal health services in the slum settlements of Nairobi, Kenya. *Maternal and Child Health Journal*, *13*(1), 130–137.

Fotso, J. C., Ezeh, A., & Oronje, R. (2008). Provision and use of maternal health services among urban poor women in Kenya: What do we know and what can we do? *Journal of Urban Health*, *85*(3), 428–442.

Fotso, J. C., & Mukiira, C. (2012). Perceived quality of and access to care among poor urban women in Kenya and their utilization of delivery care: Harnessing the potential of private clinics? *Health Policy and Planning*, *27*, 505–515.

Furuta, M., & Salway, S. (2006). Women's position within the household as a determinant of maternal health care use in Nepal. *International Family Planning Perspectives*, *32*(1), 17–27.

Ga East Municipal Health Directorate. (2015). *Ga East Municipal Health Directorate 2015 Population Report.* Ga East, Greater Accra Region, Ghana.

Ga East Municipal Health Directorate. (2016). *Reproductive and Child Health Report 2016.* Ga East, Greater Accra Region, Ghana.

Gabrysch, S., & Campbell, O. M. R. (2009). Still too far to walk: Literature review of the determinants of delivery service use. *BMC Pregnancy and Childbirth*, *9*, 34.

Gage, A. J. (2007). Barriers to the utilization of maternal health care in rural Mali. *Social Science and Medicine*, *65*(8), 1666–1682.

Galea, S., Freudenberg, N., & Vlahov, D. (2005). Cities and population health. *Social Science and Medicine*, *60*(5), 1017–1033.

GBD 2015 Maternal Mortality Collaborators. (2016). Global, regional, and national levels of maternal mortality, 1990-2015: a systematic analysis for the Global Burden of Disease Study 2015. *Lancet*, *388*(10053), 1775–1812.

George, M. S., Pant, S., Devasenapathy, N., Ghosh-jerath, S., & Zodpey, S. P. (2017). Motivating and demotivating factors for community health workers: A qualitative study in urban slums of Delhi, India. *WHO South-East Asia Journal of Public Health*, *6*(1), 82–89.

Ghana Health Service (GHS). (2009a). *2008 Review of sector performance.* Accra, Ghana.

Ghana Health Service (GHS). (2009b). *The Health Sector in Ghana. Facts and Figures 2009*. Accra, Ghana.

Ghana Health Service. (2013). *2013 Annual Reproductive and Child Health Report*. Accra, Ghana.

Ghana Health Service (GHS). (2015). *Maternal Health | Ghana Health Service*. Retrieved August 13, 2015, from http://www.ghanahealthservice.org/maternal-health.php

Ghana Statistical Service. (2013a). *2010 Population & Housing Census: National Analytical Report. Ghana Statistical Service*. Accra, Ghana.

Ghana Statistical Service. (2013b). *2010 Population and Housing Census Report: Millennium Development Goals in Ghana*. Accra, Ghana.

Ghana Statisical Service. (2014). *Ghana Living Standards Survey Round 6 (GLSS 6): Main Report*. Accra, Ghana.

Ghana Statisical Service, Ghana Health Service, & ICF Macro. (2009). *Ghana Demographic and Health Survey 2008*. Accra, Ghana.

Ghana Statistical Service, Ghana Health Service, & ICF International. (2015). *Ghana Demographic and Health Survey 2014: Key Indicators*. Accra, Ghana.

Gilmore, B., & McAuliffe, E. (2013). Effectiveness of community health workers delivering preventive interventions for maternal and child health in low- and middle-income countries: A systematic review. *BMC Public Health*, *13*(1), 847.

Goldenberg, R. L., McClure, E. M., MacGuire, E. R., Kamath, B. D., & Jobe, A. H. (2011). Lessons for low-income regions following the reduction in hypertension-related maternal mortality in high-income countries. *International Journal of Gynecology & Obstetrics*, *113*(2), 91–95.

Grant, C., & Osanloo, A. (2014). Understanding, selecting, and integrating a theoretical framework in dissertation research: Creating the blueprint for your "house." *Administrative Issues Journal Education Practice and Research, 4*(2), 12–26.

Greene, M. E. (2000). Changing women and avoiding men: Gender stereotypes and reproductive health programmes. *IDS Bulletin*, *31*(2), 49–59.

Gupta, M., Thakur, J. S., & Kumar, R. (2008). Reproductive and child health inequities in Chandigarh Union Territory of India. *Journal of Urban Health*, *85*(2), 291–299.

Gwatkin, D. (2000). *Health inequalities and the health of the poor: What do we know? What can we do?* (Vol. 78). Geneva, Switzerland.

Haile, F., Yemane, D., & Gebreslassie, A. (2014). Assessment of non-financial incentives for volunteer community health workers - the case of Wukro district, Tigray, Ethiopia. *Human Resources for Health*, *12*(54), 1–7.

Harding, A. (2009). *Partnerships with the private sector in health: What the international community can do to strengthen health systems in developing countries*. Center for Global Development. Washington DC, USA.

Hazarika, I. (2009). Women's reproductive health in slum populations in India: Evidence from NFHS-3. *Journal of Urban Health, 87*(2), 264–277.

Health Systems 20/20 Project, & Ghana Health Service. (2009). *An Evaluation of the Effects of the National Health Insurance Scheme in Ghana*. Bethesda, MD, USA.

Hill, K., Thomas, K., AbouZahr, C., Walker, N., Say, L., Inoue, M., & Suzuki, E. (2007). Estimates of maternal mortality worldwide between 1990 and 2005: An assessment of available data. *Lancet, 370*(9595), 1311–1319.

Hogan, M. C., Foreman, K. J., Naghavi, M., Ahn, S. Y., Wang, M., Makela, S. M., … Murray, C. J. (2010). Maternal mortality for 181 countries, 1980-2008: A systematic analysis of progress towards Millennium Development Goal 5. *The Lancet, 375*(9726), 1609–1623.

Hossain, I., & Hoque, M. M. (2005). Determinants of choices of delivery care in some urban slums of Dhaka city. *Pakistan Journal of Social Sciences, 3*(3), 469–475.

Hou, X., & Ma, N. (2013). The effect of women's decision-making power on maternal health services uptake: Evidence from Pakistan. *Health Policy and Planning, 28*(2).

Houweling, T. A. J., Ronsmans, C., Campbell, O. M. R., & Kunst, A. E. (2007). Huge poor-rich inequalities in maternity care: An international comparative study of maternity and child care in developing countries. *Bulletin of the World Health Organization, 85*(10), 745–754.

Hulton, L. A., Matthews, Z., & Stones, R. W. (2007). Applying a framework for assessing the quality of maternal health services in urban India. *Social Science & Medicine (1982), 64*(10), 2083–95.

Hunt, P., & Bueno de Mesquita, J. (2011). *Reducing maternal mortality: The contribution of the right to the highest attainable standard of health*. Essex, UK.

Hussein, J., Bell, J., Nazzar, A., Abbey, M., Adjei, S., & Graham, W. (2004). The skilled attendance index: Proposal for a new measure of skilled attendance at delivery. *Reproductive Health Matters, 12*(24), 160–170.

ICPD. (2004). *Investing in people: National Progress in Implementing the ICPD Programme of Action 1994-2004*. New York, USA.

Illah, E., Mbaruku, G., Masanja, H., & Kahn, K. (2013). Causes and risk factors for maternal mortality in rural Tanzania - case of Rufiji Health and Demographic Surveillance Site (HDSS). *African Journal of Reproductive Health, 17*(3), 119–130.

Imtiaz, A., Farooq, G., Haq, Z. U., Ahmed, A., & Anwar, S. (2017). Public Private Partnership and utilization of Maternal and Child Health Services in District Abbottabad, Pakistan. *J Ayub Med Coll Abbottabad, 29*(2), 275–279.

Islam, N., Islam, M. T., & Yoshimura, Y. (2014). Practices and determinants of delivery by skilled birth attendants in Bangladesh. *Reproductive Health, 11*(1), 86.

Izugbara, C., Ezeh, A., & Fotso, J. C. (2009). The persistence and challenges of homebirths: Perspectives of traditional birth attendants in urban Kenya. *Health Policy*

and Planning, 24(1), 36–45.

Jacobs, C., Moshabela, M., Maswenyeho, S., Lambo, N., & Michelo, C. (2017). Predictors of Antenatal Care, Skilled Birth Attendance, and Postnatal Care utilization among the remote and poorest rural communities of Zambia: A multilevel analysis. *Frontiers in Public Health, 5*(11).

Jansen, I. (2006). Decision making in childbirth: The influence of traditional structures in a Ghanaian village. *International Nursing Review, 53*(1), 41–46.

Jayaraman, A., Chandrasekhar, S., & Gebreselassie, T. (2008). *Factors Affecting Maternal Health Care Seeking Behavior in Rwanda*. Maryland, USA.

JHPIEGO. (2004). *Basic Maternal and Newborn Care: Basic Antenatal Care. Course Handbook for Participants*. Maryland, USA.

Jokhio, A. H., Winter, H. R., & Cheng, K. K. (2005). An intervention involving traditional birth attendants in Pakistan. *The New England Journal of Medicine, 352*(20), 2091–9.

Kaba, M., Taye, G., Gizaw, M., & Mitiku, I. (2017). Maternal health service utilization in urban slums of selected towns in Ethiopia: Qualitative study. *Ethiop. J. Health Dev., 31*(2), 96–102.

Kabir, R., & Khan, H. T. A. (2013). Utilization of Antenatal Care among pregnant women of urban slums of Dhaka City, Bangladesh. *IOSR Journal of Nursing and Health Science, 2*(2), 15–19.

Kamal, N., Curtis, S., Hasan, M. S., Jamil, K., Gill, Z., Ahmed, J., … Streatfield, P. (2016). Trends in equity in use of maternal health services in urban and rural Bangladesh. *International Journal for Equity in Health, 15*(1), 27.

Kamal, S. M. M. (2012). Safe Motherhood Practices among women of urban slums in Bangladesh. *Health Care for Women International, 33*(8), 719–738.

Karkee, R. (2012). How did Nepal reduce the maternal mortality? A result from analysing the determinants of maternal mortality. *J Nepal Med Assoc, 52*(186), 88–94.

Karlsen, S., Say, L., Souza, J.-P., Hogue, C. J., Calles, D. L., Gülmezoglu, A. M., … Rochat, R. (2011). The relationship between maternal education and mortality among women giving birth in health care institutions: Analysis of the cross sectional WHO Global Survey on Maternal and Perinatal Health. *BMC Public Health, 11*(1), 606.

Kearns, A., Hurst, T., Caglia, J., & Langer, A. (2014). *Focused Antenatal Care in Tanzania: Delivering individualised, targeted, high-quality care*. Massachusetts, USA.

Khan, Z., Mehnaz, S., Ansari, M. A., Khalique, N., & Siddiqui, A. R. (2009). Existing practices and barriers to avail of materal healthcare services in two slums of Aligarh. *Health and Population: Perspectives and Issues, 32*(3), 113–123.

Khan, Z., Siddiqui, A., Khalil, S., Mehnaz, S., Ansari, A., & Sachdeva, S. (2012). All slums are not equal: maternal health conditions among two urban slum dwellers. *Indian*

Journal of Community Medicine, *37*(1), 50.

Khanal, S., Sharma, J., GC, V. S., Dawson, P., Houston, R., Khadka, N., & Yengden, B. (2011). Community health workers can identify and manage possible infections in neonates and young infants: Mini-A model from Nepal. *Journal of Health, Population and Nutrition*, *29*(3), 255–264.

Khanal, V., Adhikari, M., Karkee, R., & Gavidia, T. (2014). Factors associated with the utilisation of postnatal care services among the mothers of Nepal: analysis of Nepal Demographic and Health Survey 2011. *BMC Women's Health*, *14*(1), 19.

Kim, W., Kreps, G. L., & Shin, C.-N. (2015). The role of social support and social networks in health information–seeking behavior among Korean Americans: a qualitative study. *International Journal for Equity in Health*, *14*(1), 40.

Kimani-Murage, E. W., Wekesah, F., Wanjohi, M., Kyobutungi, C., Ezeh, A. C., Musoke, R. N., … Griffiths, P. (2015). Factors affecting actualisation of the WHO breastfeeding recommendations in urban poor settings in Kenya. *Maternal and Child Nutrition*, *11*, 314–332.

Kinney, M. V., Kerber, K. J., Black, R. E., Cohen, B., Nkrumah, F., Coovadia, H., … Lawn, J. E. (2010). Sub-Saharan Africa's mothers, newborns, and children: Where and why do they die? *PLoS Medicine*, *7*(6).

Klomegah, R. (2006). Spousal communication, power, and contraceptive use in Burkina Faso, West Africa. *Marriage & Family Review*, *40*(2–3), 89–105.

Knippenberg, R., Lawn, J. E., Darmstadt, G. L., Begkoyian, G., Fogstad, H., Waleligh, N., & Paul, V. K. (2005). Systematic scaling up of neonatal care in countries. *Lancet*, *365*(9464), 1087–98.

Koblinsky, M. A., Campbell, O., & Heichelheim, J. (1999). Organizing delivery care: What works for safe motherhood? *Bulletin of the World Health Organization*, *77*(5).

Koblinsky, M., Matthews, Z., Hussein, J., Mavalankar, D., Mridha, M. K., Anwar, I., … van Lerberghe, W. (2006). Going to scale with professional skilled care. *Lancet*, *368*(9544), 1377-1386.

Kusuma, Y. S., Kumari, R., & Kaushal, S. (2013). Migration and access to maternal healthcare: Determinants of adequate Antenatal Care and institutional delivery among socio-economically disadvantaged migrants in Delhi, India. *Tropical Medicine and International Health*, *18*(10), 1202–1210.

Kvåle, G., Olsen, B. E., Hinderaker, S. G., Ulstein, M., & Bergsjø, P. (2005). Maternal deaths in developing countries: A preventable tragedy. *Norsk Epidemiologi*, *15*(2), 141-149.

Lassi, Z. S., Das, J. K., Salam, R. a, & Bhutta, Z. A. (2014). Evidence from community level inputs to improve quality of care for maternal and newborn health: interventions and findings. *Reproductive Health*, *11*(Suppl 2), S2.

Lawn, J. E., Blencowe, H., Oza, S., You, D., Lee, A. C. C., Waiswa, P., … Cousens, S. N. (2014). Every newborn: Progress, priorities, and potential beyond survival. *The*

Lancet, 384(9938), 189-205.

Lawn, J. E., Cousens, S., & Zupan, J. (2005). 4 Million neonatal deaths: When? Where? Why? *Lancet*, *365*(9462), 891–900.

Lehmann, U., & Sanders, D. (2007). ***Community health workers: What do we know about them? The state of the evidence on programmes, activities, costs and impact on health outcomes of using community health workers***. Geneva, Switzerland.

Lema, I. A., Sando, D., Magesa, L., Machumi, L., Mungure, E., Mwanyika Sando, M., … Bärnighausen, T. (2014). Community health workers to improve antenatal care and PMTCT uptake in Dar es Salaam, Tanzania: A quantitative performance evaluation. *Journal of Acquired Immune Deficiency Syndromes*, *67 Suppl 4*, S195-201.

LeVasseur, J. J. (2003). The problem of bracketing in phenomenology. *Qualitative Health Research*, *13*(3), 408–420.

Lewycka, S., Mwansambo, C., Kazembe, P., Phiri, T., Mganga, A., Rosato, M., … Costello, A. (2010). A cluster randomised controlled trial of the community effectiveness of two interventions in rural Malawi to improve health care and to reduce maternal, newborn and infant mortality. *Trials*, *11*, 88.

Liben, M. L., & Yesuf, E. M. (2016). Determinants of early initiation of breastfeeding in Amibara district , Northeastern Ethiopia: A community based cross-sectional study. *International Breastfeeding Journal*, *11*(7), 1–7.

Limenih, M. A., Endale, Z. M., & Dachew, B. A. (2016). Postnatal Care service utilization and associated factors among women who gave birth in the last 12 months prior to the study in Debre Markos Town, Northwestern Ethiopia: A community-based cross-sectional study. *International Journal of Reproductive Medicine*, *2016*, 1-7.

Mack, N., Woodsong, C., McQueen, K. M., Guest, G., & Namey, E. (2005). *Qualitative Research Methods: A data collector's field guide*. fhi360. North Carolina, USA.

Mackian, S. (2003). *A review of health seeking behaviour : problems and prospects*. University of Manchester Health Systems Development Programme. Manchester, UK.

Mackian, S., Bedri, N., & Lovel, H. (2004). Up the garden path and over the edge: Where might health-seeking behaviour take us? *Health Policy and Planning*, *19*(3), 137–146.

Madhiwalla, N. (2007). Health care in urban slums in India. *The National Medical Journal of India*, *20*(3), 113–114.

Magadi, M. A., Zulu, E. M., & Brockerhoff, M. (2003). The inequality of maternal health care in urban sub-Saharan Africa in the 1990s. *Population Studies*, *57*(3), 347–366.

Magadi, N. (2004). Maternal and child health among the urban poor in Nairobi, Kenya. *African Population Studies*, *19*, 179–98.

Mahler, H. (1987). The Safe Motherhood Initiative: A call to action. *The Lancet*, *1*(8534), 668–70.

Maimbolwa, M. C., Yamba, B., Diwan, V., & Ransjö-Arvidson, A. B. (2003). Cultural

childbirth practices and beliefs in Zambia. *Journal of Advanced Nursing, 43*(3), 263–274.

Maine, D. (1991). *Safe Motherhood Programs: Options and Issues* (2nd ed.). Center for Population and Family Health, Columbia University

Maine, D., & Rosenfield, A. (2001). The AMDD program: History, focus and structure. *International Journal of Gynecology and Obstetrics, 74*(2), 99–103.

Manandhar, D., Osrin, D., Shrestha, B., Mesko, N., Morrison, J., Tumbahangphe, K., ... Mira Makwanpur Trial Team (2004). Effect of a participatory intervention with women's groups on birth outcomes in Nepal: Cluster-randomised controlled trial. *Lancet, 364*, 970-979.

Matthews, Z., Channon, A., Neal, S., Osrin, D., Madise, N., & Stones, W. (2010). Examining the "Urban advantage" in maternal health care in developing countries. *PLoS Medicine, 7*(9).

McAlister, C., & Baskett, T. F. (2006). Female education and maternal mortality: A worldwide survey. *Journal of Obstetrics and Gynaecology Canada: JOGC, 28*(11), 983–990.

McCoy, D., McPake, B., & Mwapasa, V. (2008). The double burden of human resource and HIV crises: A case study of Malawi. *Human Resources for Health, 6*, 16.

Mehnaz, S., Abedi, A. J., Fazli, S. F., Khan, Z., & Ansari, M. A. (2016). Quality of care : Predictor for utilization of ANC services in slums of Aligarh. *International Journal of Medical Science and Public Health, 5*(9), 1869–1873.

Menon, J., Musonda, V., & Glazebrook, C. (2010). Perception of care in Zambian women attending community antenatal clinics. *Educational Research, 1*(9), 356–362.

Mensah, J., Oppung, J. R., & Schmidt, C. M. (2010). Ghana's National Health Insurance Scheme in the context of the health MDGs: An empirical evaluation using propensity score matching. *Health Economy, 19*(1), 95–106.

Ministry of Health Ghana. (2008). *National Consultative Meeting on the Reduction of Maternal Mortality in Ghana : Partnership for Action.* Accra, Ghana.

Mirkovic, K. R., Perrine, C. G., Scanlon, K. S., & Grummer-Strawn, L. (2015). In the United States, a mother's plans for infant feeding are associated with her plans for employment. *Journal of Human Lactation, 30*(3), 292–297.

Molzan Turan, J., Nalbant, H., Bulut, A., & Sahip, Y. (2001). Including expectant fathers in antenatal education programmes in Istanbul, Turkey. *Reproductive Health Matters, 9*(18), 114–125.

Moran, A. C., Choudhury, N., Uz, N., Khan, Z., Karar, Z. A., Wahed, T., ... Alam, A. (2009). Newborn care practices among slum dwellers in Dhaka, Bangladesh: A quantitative and qualitative exploratory study. *BMC Pregnancy and Childbirth, 9*(54), 1–8.

More, N. S., Alcock, G., Bapat, U., Das, S., Joshi, W., & Osrin, D. (2009). Tracing

pathways from antenatal to delivery care for women in Mumbai, India: Cross-sectional study of maternity in low-income areas. *International Health*, *1*(1), 71–77.

More, N. S., Bapat, U., Das, S., Barnett, S., Costello, A., Fernandez, A., & Osrin, D. (2009). Inequalities in maternity care and newborn outcomes: One-year surveillance of births in vulnerable slum communities in Mumbai. *International Journal for Equity in Health*, *8*, 21.

Morrell, C. J., Spiby, H., Stewart, P., Walters, S., & Morgan, A. (2000). Costs and effectiveness of community postnatal support workers: A randomised controlled trial. *Health Technology Assessment*, *4*(6), 593–598.

Morrisson, C., & Jütting, J. (2005). Women's discrimination in developing countries: A new data set for better policies. *World Development*, *33*(7), 1065–1081.

Moustakas, C. (1994). *Phenomenological research methods*. Thousand Oaks, Calif.: Sage.

Moyer, C. A., Adongo, P. B., Aborigo, R. A., Hodgson, A., Engmann, C. M., & Devries, R. (2014). "It's up to the woman's people": How social factors influence facility-based delivery in rural Northern Ghana. *Maternal and Child Health Journal*, *18*(1), 109–119.

Mrisho, M., Obrist, B., Schellenberg, J. A., Haws, R. A, Mushi, A. K., Mshinda, H., ... Schellenberg, D. (2009). The use of Antenatal and Postnatal Care: Perspectives and experiences of women and health care providers in rural southern Tanzania. *BMC Pregnancy and Childbirth*, *9*, 10.

Muindi, K., Mberu, B., Elung, P., & Oyolola, M. (2016). Timing and frequency of Antenatal Care utilization in slums: Assessing determinants over time. *African Population Studies*, *30*(3), 3085–3093.

Mumtaz, Z., & Salway, S. M. (2007). Gender, pregnancy and the uptake of Antenatal Care services in Pakistan. *Sociology of Health and Illness*, *29*(1), 1–26.

Muriithi, M. K. (2013). The determinants of health seeking behaviour in a Nairobi slum, Kenya. *European Scientific Journal*, *9*(8), 151–164.

Mushi, D., Mpembeni, R., & Jahn, A. (2010). Effectiveness of community based Safe Motherhood promoters in improving the utilization of obstetric care. The case of Mtwara Rural District in Tanzania. *BMC Pregnancy and Childbirth*, *10*, 14.

Nair, M., Yoshida, S., Lambrechts, T., Boschi-Pinto, C., Bose, K., Mason, E. M., & Mathai, M. (2014). Facilitators and barriers to quality of care in maternal, newborn and child health: A global situational analysis through metareview. *BMJ Open*, *4*(5), e004749.

Nankwanga, A., & Phllips, J. (2008). Factors influencing utilisation of postnatal services in Kampala, Uganda. *Journal of Community & Health Sciences*, *3*(1), 1–9.

Nasir, A., Korejo, R., & Noorani, K. J. (2007). Child birth in squatting position. *Journal of the Pakistan Medical Association*, *57*(1), 19–22.

National Council for Population and Development, Central Bureau of Statistics, & Macro International. (1999). *Kenya Demographic and Health Survey 1998*. Nairobi, Kenya.

Nessa, S. (1995). Training of traditional birth attendants: Success and failure in Bangladesh. *International Journal of Gynecology and Obstetrics*, 50(Supp2), 135-139.

Nikolic, I. A., & Maikisch, H. (2006). *Public-Private Partnerships and Collaboration in the Health Sector An Overview with Case Studies from Recent European Experience*. HNP Discussion paper series. World Bank. Washington DC, USA.

Nour, N. M. (2008). An introduction to maternal mortality. *Reviews in Obstetrics and Gynecology*, *1*(2), 77–81.

Novignon, J., Nonvignon, J., Mussa, R., & Chiwaula, L. S. (2012). Health and vulnerability to poverty in Ghana: Evidence from the Ghana Living Standards Survey Round 5. *Health Economics Review*, *2*, 11.

Nyarko, P., Birungi, H., Armar-Klemesu, M., Arhinful, D., Deganus, S., & Odoi-Agyarko, H., Brew, G. (2006). Acceptability and feasibility of introducing the WHO Focused Antenatal Care package in Ghana. Ghana Health Service Reproductive and Child Health Unit. Accra, Ghana.

Nyonator, F. K., Awoonor-Williams, J. K., Phillips, J. F., Jones, T. C., & Miller, R. A. (2005). The Ghana Community-based Health Planning and Services Initiative for scaling up service delivery innovation. *Health Policy and Planning*, *20*(1), 25–34.

Nyonator, F., Jones, T. C., Miller, R. A., Phillips, J. F., & Awoonor-Williams, J. K. (2005). Guiding the Ghana Community-based Health Planning and Services approach to scaling up with qualitative systems appraisal. *The International Quarterly of Community Health Education*, *23*(3), 189-213.

Nzioki, J. M., Onyango, R. O., & Ombaka, J. H. (2015). Socio-demographic factors influencing maternal and child health service utilization in Mwingi, a rural semi-arid District in Kenya. *American Journal of Public Health Research*, *3*(1), 21–30.

O'Rourke, K., Howard-Grabman, L., & Seoane, G. (1998). Impact of community organization of women on perinatal outcomes in rural Bolivia. *Pan American Journal of Public Health*, *3*(1), 9–14.

Oakley, A. (1986). *The Captured Womb: A History of the Medical Care of Pregnant Women*. Oxford: Basil Blackwell Publisher Ltd. New York, USA.

Okafor, C. B. (2000). Folklore linked to pregnancy and birth in Nigeria. *Western Journal of Nursing Research*, *22*(2), 189–202.

Okafor, C. B., & Rizzuto, R. R. (1994). Women's and health-care providers' views of maternal practices and services in rural Nigeria. *Studies in Family Planning*, *25*(6 Pt 1), 353–61.

Okafor, I. P., Sekoni, A. O., Ezeiru, S. S., Ugboaja, J. O., & Inem, V. (2014). Orthodox versus unorthodox care: A qualitative study on where rural women seek healthcare during pregnancy and childbirth in Southwest, Nigeria. *Malawi Medical Journal : The Journal of Medical Association of Malawi*, *26*(2), 45–9.

Okang, C. A., & Henry, O. (2017). Characteristic of households with women using

unskilled birth attendants in urban slum of Kisumu East District Nyalenda Community Unit. *Universal Journal of Public Health, 5*(4), 135–140.

Okang, C. A., & Kaseje, D. (2015). The pull and push factors influencing choice of place and delivery attendant in the urban slums of Nyalenda, Kisumu East District, Kenya. *International Journal of Humanities and Social Science, 5*(8), 133–140.

Onah, H. E., Ikeako, L. C., & Iloabachie, G. C. (2006). Factors associated with the use of maternity services in Enugu, southeastern Nigeria. *Social Science & Medicine, 63*(7), 1870–1878.

Ononokpono, D. N., & Odimegwu, C. O. (2014). Determinants of maternal health care utilization in Nigeria: A multilevel approach. *The Pan African Medical Journal, 17*(Supp 1), 2.

Patel, P., Desai, K., Modi, B., & Bansal, R. (2014). Urban slums are new and important areas for inequalities in maternal and newborn health in many areas. *TAF Preventive Medicine Bulletin, 13*(3), 217–224.

Pathmanathan, I., Liljestrand, J., Martins, J. M., Rajapaksa, L. C., Lissner, C., de Silva, A., … Singh, P. J. (2003). *Investing in Maternal Health: Learning from Malaysia and Sri Lanka*. The World Bank. Washington DC, USA.

Pehr, J. L. (2010). Health Care and Infrastructure in Accra, Ghana. *Advanced Issues in Urban Planning*, (April), 1–21.

Pell, C., Meñaca, A., Were, F., Afrah, N. A., Chatio, S., Manda-Taylor, L., … Pool, R. (2013). Factors affecting Antenatal Care attendance: Results from qualitative studies in Ghana, Kenya and Malawi. *PLoS ONE, 8*(1).

Pence, B. W., Nyarko, P., Phillips, J. F., & Debpuur, C. (2007). The effect of community nurses and health volunteers on child mortality: The Navrongo Community Health and Family Planning Project. *Scandinavian Journal of Public Health, 35*(6), 599–608.

Perry, H., & Zulliger, R. (2012). *How effective are community health workers? An Overview of Current Evidence with Recommendations for Strenghtening Community Health Worker Programs to Accelerate Progress in Achieving the Health-Related Millennium Development Goals*. Johns Hopkins Bloomberg School of Public Health. Maryland, USA.

Pervin, J., Moran, A., Rahman, M., Razzaque, A., Sibley, L., Streatfield, P. K., … Rahman, A. (2012). Association of Antenatal Care with facility delivery and perinatal survival - a population-based study in Bangladesh. *BMC Pregnancy and Childbirth, 12*(1), 111.

Pfeiffer, C., & Mwaipopo, R. (2013). Delivering at home or in a health facility? Health-seeking behaviour of women and the role of traditional birth attendants in Tanzania. *BMC Pregnancy and Childbirth, 13*, 55.

Pillai, V. K., Maleku, A., & Wei, F. (2013). Maternal mortality and female literacy rates in developing countries during 1970–2000: A latent growth curve analysis. *International Journal of Population Research, 2013*, 1–11.

Pitchforth, E., van Teijlingen, E., Graham, W., Dixon-Woods, M., Chowdhury, M., E. P., ... M, C. (2006). Getting women to hospital is not enough: A qualitative study of access to emergency obstetric care in Bangladesh. *Qual Saf Healthcare*, *15*(3), 214–219.

PMNCH. (2006). Opportunities for Africa's Newborns. Practical data, policy and programmatic support for newborn care in Africa. WHO. Geneva, Switzerland.

Prata, N., Passano, P., Rowen, T., Bell, S., Walsh, J., & Potts, M. (2011). Where there are (few) skilled birth attendants. *Journal of Health, Population and Nutrition*, *29*(2), 81–91.

Prata, N., Sreenivas, A., Vahidnia, F., & Potts, M. (2009). Saving maternal lives in resource-poor settings: Facing reality. *Health Policy*, *89*(2), 131-148.

PRIME/USAID/PATH/UNFPA. (1998). Safe Motherhood: Successes and Challenges. *Outlook*, *16*(July), 7–8.

Public Health Agency of Canada. (2013). *Maternal mortality in Canada*. Ottawa, Canada.

Pyone, T., Adaji, S., Madaj, B., Woldetsadik, T., & van den Broek, N. (2014). Changing the role of the traditional birth attendant in Somaliland. *International Journal of Gynecology & Obstetrics*, *127*(1), 41–46.

Raingruber, B. (2014). *Contemporary Health Promotion in Nursing Practice* (2nd ed.). Massachusetts, USA: Jones & Bartlett Publishers.

Requejo, J., Bryce, J., & Victora, C. (2012). *Building a Future for Women and Children: The 2012 Report*. Washington DC, USA.

Revathi, S., Ade, A., Kv, C., & Hiremath, S. G. A. (2013). A cross sectional study of utilization pattern of postnatal services in urban slums of Raichur city, Karnataka, India. *Journal of Pharmaceutical and Biomedical Sciences*, *36*(36), 1909–1914.

Rice, P. L. (2000). Nyo dua hli - 30 days confinement: Traditions and changed childbearing beliefs and practices among Hmong women in Australia. *Midwifery*, *16*(1), 22–34.

Rollins, N. C., Bhandari, N., Hajeebhoy, N., Horton, S., Lutter, C. K., Martines, J. C., ... Victora, C. G. (2016). Why invest, and what it will take to improve breastfeeding practices? *The Lancet*, *387*(10017), 491–504.

Ronsmans, C., & Graham, W. J. (2006). Maternal mortality: Who, when, where, and why. *The Lancet*, *368*(9542), 1189–1200.

Rööst, M., Johnsdotter, S., Liljestrand, J., & Essén, B. (2004). A qualitative study of conceptions and attitudes regarding maternal mortality among traditional birth attendants in rural Guatemala. *BJOG: An International Journal of Obstetrics and Gynaecology*, *111*(12), 1372–1377.

Rosenfield, A., & Maine, D. (1985). Maternal mortality - a neglected tragedy. Where is the M in MCH? *Lancet*, *2*(8446), 83–85.

Rosenfield, A. (1997). The history of the Safe Motherhood Initiative. *International Journal of Gynecology and Obstetrics*, *59*(SUPPL. 2), 7–9.

Rowe, R. E., Magee, H., Quigley, M. A., Heron, P., Askham, J., & Brocklehurst, P. (2008). Social and ethnic differences in attendance for Antenatal Care in England. *Public Health*, *122*(12), 1363–1372.

Rwabufigiri, B. N., Mukamurigo, J., Thomson, D. R., Hedt-Gautier, B. L., & Semasaka, J. P. S. (2016). Factors associated with Postnatal Care utilisation in Rwanda: A secondary analysis of 2010 Demographic and Health Survey data. *BMC Pregnancy and Childbirth*, *16*(1), 122.

Sakeah, E., McCloskey, L., Bernstein, J., Yeboah-Antwi, K., Mills, S., & Doctor, H. V. (2014). Is there any role for community involvement in the Community-based Health Planning and Services skilled delivery program in rural Ghana? *BMC Health Services Research*, *14*(1), 340.

Saleem, S., & Bobak, M. (2005). Women's autonomy, education and contraception use in Pakistan: A national study. *Reproductive Health*, *2*, 8.

Sardasht, F. G., Shourab, N. J., Jafarnejad, F., & Esmaily, H. (2014). Application of Donabedian Quality-of-Care Framework to assess the outcomes of preconception care in urban health centers, Mashhad , Iran in 2012. *Journal of Midwifery and Reproductive Health*, *2*(1), 50–59.

Say, L., Chou, D., Gemmill, A., Tunçalp, Ö., Moller, A., Daniels, J., … Alkema, L. (2014). Global causes of maternal death : a WHO systematic analysis. *Lancet Global Health*, *2*, 323–333.

Senah, K. (2003). Maternal Mortality in Ghana: The other side. *Research Review of the Institute of African Studies*, *19*(1), 47-55.

Shaikh, B. T., & Hatcher, J. (2005). Health seeking behaviour and health service utilization in Pakistan: Challenging the policy makers. *Journal of Public Health*, *27*(1), 49–54.

Shaokang, Z., Zhenwei, S., & Blas, E. (2002). Economic transition and maternal health care for internal migrants in Shanghai, China. *Health Policy and Planning*, *17*(SUPPL. 1), 47–55.

Sharma, S. K., Sawangdee, Y., & Sirirassamee, B. (2007). Access to health: Women's status and utilization of maternal health services in Nepal. *Journal of Biosocial Science*, *39*(5), 671.

Shiffman, J., & Smith, S. (2007). Generation of political priority for global health initiatives: A framework and case study of maternal mortality. *Lancet*, *370*, 1370–79.

Shukar-ud-din, S., Tariq, G., & Soomro, N. (2010). Abruptio placentae versus placenta previa as a risk factor for preterm labour. *Pak J Surg*, *26*(2), 163–168.

Sibley, L., & Ann Sipe, T. (2004). What can a meta-analysis tell us about traditional birth attendant training and pregnancy outcomes? *Midwifery*, *20*(1), 51–60.

Sibley, L. M., Hruschka, D., Kalim, N., Khan, J., Paul, M., Edmonds, J. K., & Koblinsky, M. A. (2009). Cultural theories of postpartum bleeding in Matlab, Bangladesh: Implications for community health intervention. *Journal of Health, Population and Nutrition*, *27*(3), 379–390.

Sibley, L. M., Sipe, T. A., & Koblinsky, M. (2004). Does traditional birth attendant training increase use of Antenatal Care? A review of the evidence. *Journal of Midwifery and Women's Health, 49*(4), 298-305.

Silverman, J. G., Decker, M. R., McCauley, H. L., Gupta, J., Miller, E., Raj, A., & Goldberg, A. B. (2010). Male perpetration of intimate partner violence and involvement in abortions and abortion-related conflict. *American Journal of Public Health, 100*(8), 1415–1417.

Simkhada, B., Porter, M. A., & van Teijlingen, E. R. (2010). The role of mothers-in-law in Antenatal Care decision-making in Nepal: A qualitative study. *BMC Pregnancy and Childbirth, 10*(1), 34.

Simkhada, B., Van Teijlingen, E. R., Porter, M., & Simkhada, P. (2006). Major problems and key issues in maternal health in Nepal. *Kathmandu University Medical Journal, 4*(2), 258-263.

Simkhada, B., Van Teijlingen, E. R., Porter, M., & Simkhada, P. (2008). Factors affecting the utilization of Antenatal Care in developing countries: Systematic review of the literature. *Journal of Advanced Nursing, 61*(3), 244–260.

Singh, P. K., Kumar, C., Rai, R. K., & Singh, L. (2013). Factors associated with maternal healthcare services utilization in nine high focus states in India: A multilevel analysis based on 14 385 communities in 292 districts. *Health Policy and Planning*, 1–18.

Smith, J. B., Coleman, N. A, Fortney, J. A, Johnson, J. D., Blumhagen, D. W., & Grey, T. W. (2000). The impact of traditional birth attendant training on delivery complications in Ghana. *Health Policy and Planning, 15*(3), 326–331.

Sonneveldt, E., DeCormier Plosky, W., & Stover, J. (2013). Linking high parity and maternal and child mortality: What is the impact of lower health services coverage among higher order births? *BMC Public Health, 13 Suppl 3*(Suppl 3), S7.

Sreeramareddy, C. T., Joshi, H. S., Sreekumaran, B. V, Giri, S., & Chuni, N. (2006). Home delivery and newborn care practices among urban women in western Nepal: a questionnaire survey. *BMC Pregnancy and Childbirth, 6*, 27.

Srivastava, A., Avan, B. I., Rajbangshi, P., & Bhattacharyya, S. (2015). Determinants of women's satisfaction with maternal health care: A review of literature from developing countries. *BMC Pregnancy and Childbirth, 15*(97), 1–12.

Srivastava, A., Kishore, S., & Padda, P. (2015). Socioeconomic differentials in utilization of maternal health care services: A study in urban slums of District Dehradun. *Bangladesh Journal of Medical Science, 14*(3), 280–285.

Stanton, C., Blanc, A. K., Croft, T., & Choi, Y. (2007). Skilled care at birth in the developing world: Progress to date and strategies for expanding coverage. *Journal of Biosocial Science, 39*(1), 109–120.

Starrs, A. M. (2006). Safe Motherhood Initiative: 20 years and counting. *Lancet, 368*(9542), 1130–1132.

Story, W. T., Burgard, S. A., Lori, J. R., Taleb, F., Ali, N. A., & Hoque, D. E. (2012).

Husbands' involvement in delivery care utilization in rural Bangladesh: A qualitative study. *BMC Pregnancy and Childbirth, 12*, 28.

Stremler, J., & Lovera, D. (2004). Insight from a breastfeeding peer support pilot program for husbands and fathers of Texas WIC participants. *Journal of Human Lactation : Official Journal of International Lactation Consultant Association, 20*(4), 417–422.

Subaiya, L. (2007). Internal migration and use of reproductive and child health services in Peru. USAID. Maryland, USA.

Sunil, T. S., Rajaram, S., & Zottarelli, L. K. (2006). Do individual and program factors matter in the utilization of maternal care services in rural India? A theoretical approach. *Social Science and Medicine, 62*(8), 1943–1957.

Sustainable Development Solutions Network. (2015). *Indicators and a monitoring framework for Sustainable Development Goals - Launching a data revolution for the SDGs*. New York, USA.

Tacoli, C., McGranahan, G., & Satterthwaite, D. (2015). *Urbanisation, rural – urban migration and urban poverty*. IIED Working Paper. London, UK.

Tarekegn, S. M., Lieberman, L. S., & Giedraitis, V. (2014). Determinants of maternal health service utilization in Ethiopia: analysis of the 2011 Ethiopian Demographic and Health Survey. *BMC Pregnancy and Childbirth, 14*(1), 161.

Tesfahun, F., Worku, W., Mazengiya, F., & Kifle, M. (2014). Knowledge, perception and utilization of Postnatal Care of mothers in Gondar Zuria District, Ethiopia: A cross-sectional study. *Maternal and Child Health Journal, 18*(10), 2341–2351.

Thadani, K. B. (2014). Public Private Partnership in the health sector: Boon or bane. *Procedia - Social and Behavioral Sciences, 157*, 307–316.

Thaddeus, S., & Maine, D. (1994). Too far to walk: Maternal mortality in context. *Social Science and Medicine, 38*(8), 1091-1110.

Thapa, D. K., & Niehof, A. (2013). Women's autonomy and husbands' involvement in maternal health care in Nepal. *Social Science and Medicine, 93*(SEPT), 1–10.

The Magpie Trial Collaborative Group. (2002). Do women with pre-eclampsia, and their babies, benefit from magnesium sulphate? The Magpie Trial: A randomised placebo-controlled trial. *Lancet, 359*(9321), 1877–1890.

Tipping, G., & Segall, M. (1995). *Health care seeking behaviour in developing countries: An annotated bibliography and literature review*. Development Bibliography 12. Institute of Development Studies, Sussex University, UK.

Titaley, C. R., Dibley, M. J., & Roberts, C. L. (2009). Factors associated with non-utilisation of Postnatal Care services in Indonesia. *Journal of Epidemiology and Community Health, 63*(10), 827–831.

Titaley, C. R., Hunter, C. L., Heywood, P., & Dibley, M. J. (2010). Why don't some women attend Antenatal and Postnatal Care services?: A qualitative study of community members' perspectives in Garut, Sukabumi and Ciamis districts of West Java

Province, Indonesia. *BMC Pregnancy and Childbirth, 10*(1), 61.

Tran, T. K., Gottvall, K., Nguyen, H. D., Ascher, H., & Petzold, M. (2012). Factors associated with Antenatal Care adequacy in rural and urban contexts - results from two health and demographic surveillance sites in Vietnam. *BMC Health Services Research, 12*(1), 40.

Twum-Baah, K., Nyarko, P., Quashie, S., Caiquo, I., & Amuah, E. (1994). *Infant, child and maternal mortality study in Ghana*. Ghana Statistical Service. Accra, Ghana.

Uchino, B. N. (2004). *Social support and physical health: Understanding the health consequences of relationships*. Connecticut, USA: Yale University Press.

Uchino, B. N. (2006). Social support and health: A review of physiological processes potentially underlying links to disease outcomes. *Journal of Behavioral Medicine, 29*(4), 377–387.

UNFPA. (2005). *State of world population 2005: The promise of equality. Gender equity, Reproductive Health and the Millennium Development Goals*. New York, USA.

UNFPA. (2007). *State of the world population 2007: Unleashing the potential of urban growth*. (Vol. 45). New York, USA.

UNFPA. (2011). *Socio-cultural influences on the reproductive health of migrant women: A review of literature in Viet Nam*. Ha Noi, Viet Nam.

UNFPA. (2014). *Programme of Action of the International Conference on Population Development*. New York, USA.

UNICEF. (2007). *The state of the world's children 2008: Child survival*. New York, USA.

UNICEF. (2008). *Health Care Seeking Behaviour in Somalia: A Literature Review*. Report 10. New York, USA.

UNICEF. (2009). *Maternal and Child Health: The social protection dividend - West and Central Africa*. Dakar, Senegal.

United Nations. (1996). *Report of the Fourth World Conference on Women*. New York, USA.

United Nations. (2006). *The Millennium Development Goals Report*. New York, USA.

United Nations. (2011). *The Millennium Development Goals Report*. New York, USA.

United Nations. (2015). *The Millennium Development Goals Report*. New York, USA.

US Health Resources and Services Administration. (2009). *Child Health USA 2008-2009*. Health Resources and Services Administration. Maryland, USA.

USAID. (2006). *The Role of Family Planning in Promoting Safe Motherhood*. Maternal and Neonatal Health Technical Update (3). Washington DC, USA.

Van Den Broek, N. R., & Falconer, A. D. (2011). Maternal mortality and Millennium Development Goal 5. *British Medical Bulletin, 99*(1), 25–38.

van Manen, M. (1990). *Researching lived experience: Human science for an action*

sensitive pedagogy. State University of New York Press. Albany, N.Y., USA.

Vanneste, A. M., Ronsmans, C., Chakraborty, J., & De Francisco, A. (2000). Prenatal screening in rural Bangladesh: From prediction to care. *Health Policy and Planning*, *15*(1), 1–10.

Varshney, A., Kumar, D., Patel, M., & Singh, U. (2012). Determinants of breast feeding practices in urban slums of a Taluka Headquarter of District Anand, Gujarat. *National Journal of Community Medicine*, *3*(3), 534–537.

Vecino-Ortiz, A. I. (2008). Determinants of demand for Antenatal Care in Colombia. *Health Policy*, *86*(2–3), 363–372.

Villar, J., Ba'aqeel, H., Piaggio, G., Lumbiganon, P., Belizán, J. M., Farnot, U., … Berendes, H. (2001). WHO Antenatal Care randomised trial for the evaluation of a new model of routine Antenatal Care. *The Lancet*, *357*(9268), 1551–1564.

Villar, J., & Bergsjø, P. (1997). Scientific basis for the content of routine Antenatal Care. I. Philosophy, recent studies, and power to eliminate or alleviate adverse maternal outcomes. *Acta Obstetricia et Gynecologica Scandinavica*, *76*(1), 1–14.

Wall, L. L. (1998). Dead mothers and injured wives: The social context of maternal morbidity and mortality among the Hausa of northern Nigeria. *Studies in Family Planning*, *29*(4), 341–59.

Wanjohi, M., Griffiths, P., Wekesah, F., Muriuki, P., Muhia, N., Musoke, R. N., … Kimani-Murage, E. W. (2016). Sociocultural factors influencing breastfeeding practices in two slums in Nairobi, Kenya. *International Breastfeeding Journal*, *12*(1), 5.

Weick, K. E. (1979). *The social psychology of organizing (2nd ed.). McGraw-Hill.*

Weitzman, A. (2017). The effects of women's education on maternal health: Evidence from Peru. *Social Science & Medicine*, *180*, 1–9.

White, D., Dynes, M., Rubardt, M., Sissoko, K., & Stephenson, R. (2013). The influence of intra familial power on maternal health care in Mali: Perspectives of women, men and mothers-in-law. *International Perspectives on Sexual and Reproductive Health*, *39*(2), 58–68.

WHO. (1986). *Ottawa Charter for Health Promotion*. Copenhagen, Denmark.

WHO. (1998). *Postpartum Care of the Mother and Newborn : a practical guide*. Geneva, Switzerland.

WHO. (2002). *WHO Antenatal Care randomized trial: Manual for the implementation of the new model*. Geneva, Switzerland.

WHO. (2003). *What is the efficacy/effectiveness of antenatal care and the financial and organizational implications*. Copenhagen, Denmark.

WHO. (2004). *Making pregnancy safer: the critical role of the skilled attendant. A joint statement by WHO, ICM and FIGO*. Geneva, Switzerland.

WHO. (2005). *World Health Report 2005: Make every mother and child count.* Geneva, Switzerland.

WHO. (2006a). Global shortage of health workers and its impact. Retrieved from http://www.who.int/mediacentre/factsheets/fs302/en/index.html%5Cnpapers2://publication/uuid/C822E71D-C9A5-40DF-A127-48A3E7515231

WHO. (2006b). *Working together for health: The world health report 2006.* Geneva, Switzeland.

WHO. (2007). *Public-Private Partnerships: Managing contracting arrangements to strengthen the Reproductive and Child Health Programme in India - Lessons and implications from three case studies.* Geneva, Switzerland.

WHO. (2008). *Proportion of births attended by a skilled health worker: 2008 Updates.* Department of Reproductive Health and Research Factsheet. Geneva, Switzerland.

WHO. (2013). *WHO recommendations on postnatal care of the mother and newborn.* Geneva, Swizerland.

WHO. (2014). *Maternal mortality.* WHO fact sheet. Geneva, Switzerland.

WHO. (2016). *Standards for improving quality of maternal and newborn care in health facilities.* Geneva, Switzerland.

WHO/UNFPA/UNICEF. (1992). *Traditional Birth Attendants: a joint WHO/UNFPA/UNICEF statement.* Geneva, Switzerland.

WHO/UNFPA/UNICEF/World Bank. (1999). *Reduction of Maternal Mortality.* Geneva, Switzerland.

WHO/UNICEF/IFPRI/UCDavis/FANTA/AED/USAID. (2010). *Indicators for assessing infant and young child feeding practices. Part 3: Country profiles.* Geneva, Switzerland.

WHO/UNICEF/UNFPA/World Bank/UNPD. (2015). *Trends in maternal mortality: 1990 to 2015.* Geneva, Switzerland.

WHO, & Global Health Workforce Alliance. (2010). *Global experience of community health workers for delivery of health related Millennium Development Goals: A systematic review, country case studies, and recommendations for integration into national health systems.* Geneva, Switzerland.

WHO, & UNICEF. (2003). *Ante-natal Care in developing countries - promises, achievements and missed opportunities: An analysis of trends, levels and differentials.* Geneva, Switzerland.

WHO, & UNICEF. (2010). *Countdown to 2015 decade report (2000-2010) with country profiles: Taking stock of maternal, newborn and child survival.* Geneva, Switzerlnd.

WHO, UNICEF, UNFPA, & The World Bank. (2007). *Maternal Mortality in 2005: estimates developed by WHO, UNICEF, UNFPA, and the World Bank.* Geneva, Switzerland.

WHO, UNICEF, UNFPA, & The World Bank. (2012). *Trends in Maternal Mortality: 1990 to 2010. WHI, UNICEF and The World Bank Estimates*. Geneva, Swtzerland.

WHO, UNICEF, UNFPA, The World Bank, & United Nations. (2014). *Trends in Maternal Mortality : 1990 to 2013 Executive Summary. Estimates by WHO, UNICEF, UNFPA, The World Bank and the United Nations Population Division*. Geneva, Swizerland.

Winch, P. J., Alam, M. A., Akther, A., Afroz, D., Ali, N. A., Ellis, A. A., ... Seraji, M. H. R. (2005). Local understandings of vulnerability and protection during the neonatal period in Sylhet district, Bangladesh: A qualitative study. *Lancet*, *366*(9484), 478–485.

Wirth, M. E., Balk, D., Delamonica, E., Storeygard, A., Sacks, E., & Minujin, A. (2006). Setting the stage for equity-sensitive monitoring of the maternal and child health Millennium Development Goals. *Bulletin of the World Health Organization*, *84*(7), 519.

Witter, S., Adjei, S., Armar-Klemesu, M., & Graham, W. (2009). Providing free maternal health care: Ten lessons from an evaluation of the national delivery exemption policy in Ghana. *Global Health Action*, *2*(1).

Witter, S., Arhinful, D. K., Kusi, A., & Zakariah-Akoto, S. (2007). The experience of Ghana in implementing a user fee exemption policy to provide free delivery care. *Reproductive Health Matters*, *15*(30), 61–71.

Woldemicael, G., & Tenkorang, E. Y. (2010). Women's autonomy and maternal health-seeking behavior in Ethiopia. *Maternal and Child Health Journal*, *14*(6), 988–998.

Women Deliver. (2009). *Focus on 5: Women's health and the MDGs*. NewYork, USA.

Women Deliver, & ICRW. (2010). *Targeting poverty and gender inequality to improve maternal health*. New York, USA.

Workineh, Y. G., & Hailu, D. A. (2014). Factors affecting utilization of Postnatal Care service in Jabitena district, Amhara region, Ethiopia. *Science Journal of Public Health*, *2*(3), 169–176.

Xu, J., Kochanek, K. D., & Murphy, S. L. (2010). Deaths: Final Data for 2007. *National Vital Statistics Reports, 58*(19), 1-136. Maryland, USA.

Yakoob, M. Y., Ali, M. A., Ali, M. U., Imdad, A., Lawn, J. E., Van Den Broek, N., & Bhutta, Z. A. (2011). The effect of providing skilled birth attendance and emergency obstetric care in preventing stillbirths. *BMC Public Health*, *11 Suppl 3*, S7.

Yamane, T. (1967). *Statistics, An Introductory Analysis* (2nd ed.). New York: Harper and Row.

Yuster, E. A. (1995). Rethinking the role of the risk approach and Antenatal Care in maternal mortality reduction. *International Journal of Gynecology and Obstetrics*, *50*(SUPPL. 2), S59–S61.

Zanconato, G., Msolomba, R., Guarenti, L., & Franchi, M. (2006). Antenatal Care in developing countries: The need for a tailored model. *Seminars in Fetal and Neonatal*

Medicine, *11*(1), 15-20.

Zepro, N. B. (2015). Food taboos and misconceptions among pregnant women of Shashemene District, Ethiopia, 2012. *Science Journal of Public Health*, *3*(3), 410–416.

Zhao, Q., Huang, Z. J., Yang, S., Pan, J., Smith, B., & Xu, B. (2012). The utilization of Antenatal Care among rural-to-urban migrant women in Shanghai: A hospital-based cross-sectional study. *BMC Public Health*, *12*(1), 1012.

APPENDICES

APPENDIX A: CONSENT FORM FOR QUANTITATIVE DATA COLLECTION

Title of study: Maternal Health Care utilization through community-based initiatives in peri-urban Accra.

Introduction and nature of the study: Good day! My name is.....and I am from the School of Public Health, University of Ghana, Legon. I am conducting a study to assess the use of Maternal Health Care services in peri-urban areas. The purpose of this research study is to find out how effective community-based initiatives are in promoting the use of these services in peri-urban areas. I would also like to know what other sources of Maternal Health Care are available in your community. If you decide to participate, we will ask you to complete a questionnaire about your experiences with Antenatal Care, delivery services and Postnatal Care. The interview is expected to last 45 minutes.

Possible Risks and Discomforts

We do not anticipate any physical risk for participating in the study. The topics discussed during the interviews may be sensitive and may be uncomfortable for you to discuss. During the interview, you do not have to answer any questions that you do not want to answer. If you are not comfortable with the questions asked, you can withdraw from the study at any time. Your participation in the study will not affect your right to health care provision.

Possible Benefits

Though there is no direct benefit to you as an individual, your participation will help in making policy recommendations with regards to Maternal Health Care service delivery to women living in your community.

Additional Cost

There is no cost for participating in this study.

Compensation

There will be a reimbursement for travel costs the participants may incur while taking part in the study.

Confidentiality

All of the information that we collect during the study including any personal information about you will be confidential. We will not write your name on any of the information we collect and your personal information will be stored separately from study data. We will assign you an identification number and only this number will link you to the data we collect. Only study personnel will have access to the data, which will be kept in a secure location and password protected computer. This information will be destroyed two years after completion of study. No paper trail is stored.

Voluntary Participation/Withdrawal

Your participation is completely voluntary. You have the right to withdraw from the study at any time by notifying the study personnel.

Alternatives to Participation

Your participation in the study is completely voluntary. The alternative is not to participate in the study.

Contacts for Clarification

This research has been reviewed and approved by the Ghana Health Service Ethical Review Committee. If you have any questions about the study, you can contact the principal investigator. Adanna U. Nwameme on 024-6168214 (email address: adanwameme@yahoo.com); the study primary supervisor, Prof. Philip Baba Adongo on 024-4806015 (email address: adongophilip@yahoo.com); or the secretary to the GHS Ethical review Committee, Madam Hannah Frimpong on 024-3235225 or 050-7041223.

VOLUNTEER AGREEMENT

The above document describing the purpose, benefits, risks and procedures for the study has been read and explained to me. I have been given an opportunity to have any questions about the research answered to my satisfaction. I agree to participate as a volunteer.

_____ _____

Date Name and signature/mark of volunteer

If volunteers cannot read the form themselves, a witness must sign here:

I was present while the purpose, benefits, risks and procedures were read to the volunteer. All questions were answered and the volunteer has agreed to take part in the research.

_____ _____

Date Name and signature of witness

I certify that the nature and purpose, the potential benefits, and possible risks associated with participating in this research have been explained to the above individual.

_____ _____

Date Name and Signature of Person Who Obtained Consent

APPENDIX B: QUESTIONNAIRE FOR QUANTITATIVE DATA COLLECTION

IDENTIFICATION		
Name of respondent		
Unique ID of respondent		
CHPS zone resident (Yes/No)		
Date of birth of last child (dd/mm/yy)		
Date of interview		
Time interview started:	Time interview ended:	
Name of interviewer		

SECTION 1: BACKGROUND				
No.	Questions and filters	Coding categories	Skip to	
1	How old are you?	_____years		QAGE
2	What is the highest level of formal school you attended?	None .....1 Primary.....2 JSS.....3 Middle School.....4 SSS.....5 Tertiary.....6 Other (specify)_____7		QEDU
3	To which ethnic group do you belong?	Asante .....1 Fanti .....2 Akuapem .....3 Sefwi.....4 Brong.....5 Nzema .....6 Ga .....7 Dangme .....8 Ewe .....9 Guan.....10 Buli .....11 Mamprusi .....12 Frafra/Gruni .....13 Kassene .....14 Dagbani .....15 Wali/Dagari.....16 Sissala .....17 Other (specify)_____18		QETH
4	What is your religion?	Christianity.....1 Islam.....2 Traditional religion.....3 No Religion.....4 Other (specify)_____5		QREL

5	What is your marital status?	Single.....1 Married.....2 Widowed.....3 Divorced.....4 Separated.....5 Cohabiting/living together.....6		QMAR
6	What is your occupation?	Unemployed.....1 Trading/Selling.....2 Hairdressing/Dressmaking.....3 Housewife.....4 Farming.....5 Craftsmanship.....6 Construction work.....7 Civil/Public Servant.....8 Student.....9 Other (specify):_____10	→10	QOCC
7	How often do you work during the year?	Seasonally/Part of the year.....1 Throughout the year.....2 Once in a while.....3		QWRK
8	Are you able to spend your income as you deem fit?	Yes.....1 No.....2	→10	QSIN
9	Who else has a say in how your income is spent?	Husband.....1 Mother-in-law.....2 Other (specify)_____3		QINS
10	How are major decisions made in your household?	Respondent.....1 Husband/partner.....2 Jointly.....3 Other (specify):_____4		QDEC
11	Do you have access to any cell phone?	Personal phone.....1 Within the household.....2 Within the compound.....3 Within the community.....4 None.....5		QCELL
12	Do you need permission from your husband to move out of the house?	Yes.....1 No.....2		QPER
13	Do you have a valid NHIS card for 2015/2016? (Check the card)	Yes.....1 No.....2		QNIC

SECTION 2: REPRODUCTIVE HISTORY				
No	Questions and filters	Coding categories	Skip to	
14	How many pregnancies have you had?	Number of pregnancies_____		QNPG
15	How many children have you given birth to?	Number of children given birth to_____		QNCH
16	Are you or your husband/partner currently doing something or using any method to delay or avoid your getting pregnant?	Yes.....1 No.....2 Unsure.....8	→20 →20	QCON
17	Which method are you currently using?	Female Sterilization.....1 Male Sterilization.....2 IUD.....3 Injection.....4 Implant.....5 Pill.....6 Male condom.....7 Female condom.....8 Diaphragm.....9 Foam/Jelly.....10 Lactational amen. method.....11 Rhythm/Periodic Abstinence...12 Withdrawal.....13 Other modern method.....14 Other traditional method.....15		QCMT
18	For how long have you been using this method?	Number of months method has been in use_____		QCPR
19	How did you learn about this method?	During ANC.....1 From a Community Health Officer.....2 From the radio.....3 From the television.....4 From a newspaper.....5 From a relative/friend.....6 Other (specify)_____7		QCED

SECTION 3: ANTENATAL CARE				
20	Did you see anyone for antenatal care during your last pregnancy?	Yes.....1 No.....2	→41	QANC
21	Whom did you see? Anyone else? Probe to identify each type of person and record all mentioned.	SKILLED PERSONNEL Doctor.....1 Midwife.....2 Nurse.....3 TRAINED PERSONNEL Community Health Officer.....4 Health Extension Worker.....5 OTHER PERSONNEL TBA.....6 Other (specify)_____7		QANP
22	Where did you receive antenatal care for your last pregnancy?	PUBLIC SECTOR Govt. Hospital.....1		QANL

	Anywhere **else**? Probe to identify type(s) of source(s) and circle the appropriate code(s). Name of place:	Govt. Health center.....2 Govt. Community Health Clinic...3 NGO facility.....4 PRIVATE SECTOR Private Clinic.....5 Maternity Home.....6 Traditional Birth Attendant.....7 OTHER (specify)_____8		
23	Did you have a maternal health book (pink book) for your last pregnancy?	Yes, seen.....1 Yes, but not available .....2 Yes, but lost.....3 Yes, but disposed of .....4 No.....5		QMHB
24	How many **weeks** pregnant were you when you first received antenatal care for your last pregnancy?	Months _____ Don't know.....99		QANW
25	How many times in total did you receive antenatal care during that pregnancy?	Number_____ Don't know.....99		QANT
26	CHECK THAT NUMBER OF VISITS IN HEALTH BOOK = Q25	Yes.....1 Q25 more than Health Book.....2 Q25 less than Health Book.....3		QACK
27	I notice that you mentioned receiving a number of ANC visits that is different than are listed in your book. Sometimes women may forget to bring their book to ANC; sometime the health worker may also not write in your book? Did this happen to you? MULTILE RESPONSES POSSIBLE	Forgot to bring book.....1 Health Worker did not write.....2 Other (specify)_____3		QCRC
28	During that pregnancy, Were you weighed? Was your blood pressure measured? Was your height measured? Did you give a urine sample? Did you give a blood sample? Was your stomach measured? Did a health worker listen to the heart rate of your baby?	Yes No Weighed..... 1 2 Blood pressure... 1 2 Height..... 1 2 Urine sample..... 1 2 Blood sample..... 1 2 Stomach..... 1 2 Baby heart rate... 1 2		QANS
29	During that pregnancy, were you counseled by a health worker on: Process of pregnancy and its complications? Diet and nutrition in pregnancy? Rest and exercise in pregnancy? Personal hygiene? Danger signs in pregnancy? Use of drugs in pregnancy? Effect of STIs and HIV/AIDS? Care of the breast and breastfeeding? Symptoms and signs of labour?	Yes No Pregnancy & its complications....1 2 Diet and nutrition.....1 2 Rest and exercise.....1 2 Hygiene.....1 2 Danger signs.....1 2 Use of drugs.....1 2 STIs and HIV/AIDS.....1 2 Breast care and breastfeeding.....1 2 Labour signs/symptoms.....1 2 Financial prep.....1 2 Skilled birth attendant.....1 2		QCOU

	Financial preparation for your delivery? Using a skilled birth attendant? Identifying emergency transport options? Plans for Postnatal Care? Family planning? Effects of harmful habits such as smoking, drug abuse and alcoholism? Schedule for next ANC visit?	Transport.....1 2 Postnatal Care.....1 2 Family planning.....1 2 Substance abuse.....1 2 ANC schedule.....1 2		
30	During (any of) your antenatal care visit(s), were you told about the things to look out for that might suggest problems with the pregnancy?	Yes.....1 No.....2 → 32		QCOM
31	Were you told where to go if you had any of these complications?	Yes.....1 No.....2		QANR
32	At the time of this pregnancy, did your household have any bed net?	Yes.....1 No.....2		QPBN
33	How often did you sleep under a bed net during that pregnancy?	Every night.....1 Most nights.....2 Some nights.....3 Rarely.....4 Never.....5		QUBN
34	During that pregnancy, did you take any drugs to keep you from getting malaria?	Yes.....1 No.....2 → 38 Don't know.....99 → 38		QPAM
35	What drugs did you take? MULTIPLE RESPONSES POSSIBLE	SP.....1 ACT.....2 Other (specify)_____3 Don't know.....99		QAMD
36	How many times did you take these drugs?	Number of times_____ Don't know.....99		QAMT
37	Did you get the drugs during any antenatal care visit, during another visit to a health facility or from another source?	ANC Visit.....1 Other health facility visit.....2 Other (specify)_____3		QAMS
38	During that pregnancy were you given an injection in the arm to prevent you and the baby from getting tetanus?	Yes.....1 No.....2 → 40 Don't know.....99 → 40		QTTD
39	During that pregnancy, how many times did you get this tetanus injection?	Number of times_____ Don't know.....99		QTTT
40	During this pregnancy, did you take any drug for intestinal worms?	Yes.....1 No.....2 Don't know.....99		QIWM
41	During this pregnancy, did you make any preparations for delivery?	Yes.....1 No.....2 → 43		QPPD

42	If yes, what kind of preparation did you make? Circle all responses which the mother mentions unprompted, then ask, "Is there anything else?" Then read each question and circle the appropriate answer	Yes No Transport.....1 2 Money.....1 2 Food.....1 2 Clean instruments for delivery..... 1 2 Clean cloths..... 1 2 Other specify:_____		QTPM
43	Did you discuss planning for your delivery with anybody while you were pregnant?	Yes.....1 No.....2 → 45		QDPD
44	Whom did you plan your delivery with? Circle all responses which the mother mentions unprompted. Then ask, "Is there anyone else."	Husband.....1 Mother-in-law.....2 Mother.....3 Friends/relative.....4 CHO.....5 Community Health Volunteer.....6 Other health worker (specify) _____ 7 Other (specify)_____ 8 Don't know.....99		QPDL
45	Did any health worker give you specific instructions to deliver at a health facility?	NONE.....1 → 49 SKILLED PERSONNEL Doctor.....2 Midwife.....3 Nurse.....4 TRAINED PERSONNEL Community Health Officer.....5 Health Extension Worker.....6 Other (specify)_____7		QIDL
46	When did they make this recommendation? MULTIPLE RESPONSES POSSIBLE	1st trimester.....1 2nd trimester.....2 3rd trimester, but before labor started.....3 3rd trimester, during labor.....4 Can't remember.....99		QTID

47	Why did they make this recommendation?	R does not know why.....1 Suspected twins.....2 Position of the baby.....3 Hypertension/edema/blurred vision..4 Previous c-section.....5 First birth.....6 Bleeding.....7 Many hours in labor.....8 Lack of movement of fetus.....9 Diabetes.....10 Anemia.....11 Other (specify) _____12		QRID
48	Did anyone else recommend that you go to deliver at health facility? MULTIPLE RESPONSES POSSIBLE	Husband.....1 Mother-in-law.....2 Mother.....3 Friends/relative .....4 Other: _____5		QAID
49	Did any health worker visit you at home during your pregnancy?	NONE.....1 SKILLED PERSONNEL Doctor.....2 Midwife.....3 Nurse..... 4 TRAINED PERSONNEL Community Health Officer.....5 Health Extension Worker.....6 Mother Support Group Volunteer...7 Other (specify)_____8		QIPD
50	What are the complications during pregnancy that need medical treatment? DO NOT READ OUT ANSWERS. Probe: Anything else? Circle all responses mentioned	Severe headache.....1 Blurry vision.....2 Reduced/absent fetal movement.....3 High Blood Pressure.....4 Edema of the face/hands.....5 Convulsions.....6 Excessive Vaginal Bleeding.....7 Severe lower abdominal pain.....8 Other (specify)_____ 9 Don't know.....99		QCPG
51	What are the complications in a woman during childbirth that needs medical treatment? DO NOT READ OUT ANSWERS. Probe: Anything else? Circle all responses mentioned	Excessive vaginal bleeding.....1 Foul-smelling discharge.....2 High Fever.....3 Baby's Hand or Feet Come First....4 Baby in abnormal position.....5 Prolonged Labor (>12 hours).....6 Retained Placenta.....7 Ruptured uterus.....8 Prolapsed Cord.....9 Cord around neck.....10 Convulsions.....11 Other (Specify)_____12 Don't know.....99		QCDL

52	Where did you get information about these complications?	NONE.....1 SKILLED PERSONNEL Doctor.....2 Midwife.....3 Nurse.....4 TRAINED PERSONNEL Community Health Officer.....5 Health Extension Worker.....6 Other (specify)_____7		QSIC
53	Where you satisfied with the Antenatal care you received at the health care facility?	Yes.....1 No.....2 → 55		QSAN
54	What were you satisfied with? MULTIPLE ANSWERS POSSIBLE	Range of services offered.....1 Attitude of nurses.....2 Level of sanitation.....3 Availability of drugs.....4 Privacy during examination.....5 Time spent during examination.....6 Other (specify).....7		QRSA
55	What were you not satisfied with?	Range of services offered.....1 Attitude of nurses.....2 Level of sanitation.....3 Availability of drugs.....4 Privacy during examination.....5 Time spent during examination.....6 Other (specify).....7		QRDS
56	For women who did not attend ANC, why did you make that decision? DO NOT READ OUT RESPONSES Probe, 'Any other reason? ' Record all mentioned, and rank according to importance.	RANK [___] Cost too much.....1 [___] Facility not open.....2 [___] Too far/no transportation...3 [___] Don't trust facility/poor quality service.....4 [___] No female provider at facility.....5 [___] Husband / family did not permit.....6 [___] Not necessary.....7 [___] Not customary.....8 [___]Other(specify)_____9		QNAN

SECTION 4: DELIVERY CARE				
57	Where did you give birth to your last child? Probe to identify the type of source and circle the appropriate code.	HOME → 60 Your home..... 1 Other home..... 2 FACILITY Govt. Hospital.....3 Govt. Health Cen.....4 Govt. Community Health Center....5 Govt. Health Post.....6 NGO facility.....7 Private facility.....8 On the way to facility.....9 Other(specify)_____10		QPOB

58	What was the reason you didn't deliver at home? DO NOT READ OUT RESPONSES Probe, 'Any other reason? ' Record all mentioned, and rank according to importance.	RANK [ ] Experienced complication.1 [ ] Facilities are safer.....2 [ ] Free delivery at the facility.3 [ ] Access to the facility.....4 [ ] Better care at facilities.....5 [ ] Other (specify)_____6		QDLR
59	Who accompanied you to the health facility?	Nobody.....1 Husband.....2 Mother-in-law.....3 Father-in-law.....4 Mother/father.....5 Other relative.....6 CHO.....7 Other (specify):_____8		QDLC
60	What was the reason you didn't deliver in a health facility? DO NOT READ OUT RESPONSES Probe, 'Any other reason? ' Record all mentioned, and rank according to importance.	RANK [ ] Cost too much.....1 [ ] Facility not open.....2 [ ] Too far/no transportation...3 [ ] Don't trust facility/poor quality service.....4 [ ] No female provider at facility.....5 [ ] Husband / family did not permit.6 [ ] Not necessary.....7 [ ] Not customary.....8 [ ]Other(specify)_____9		QUSD
61	Who assisted with the delivery of the baby? Probe, 'Anyone else?' Probe for the type(s) of person(s) and record all mentioned. If respondent says 'no one assisted', probe to determine whether any adults were present at the delivery.	SKILLED PERSONNEL Doctor.....1 Midwife.....2 Nurse.....3 TRAINED PERSONNEL Community Health Officer.....4 Health extension worker.....5 OTHER PERSONEL TBA.....6 Community Health Volunteer.....7 Relative/friends.....8 Nobody.....9 Other (specify)_____10		QADL
62	During your most recent delivery, did you experience any of the following symptoms?	Convulsions.....1 Long labor.....2 Baby hand or feet coming first/abnormal position.....3 Excessive bleeding/shock.....4 None of the above.....5 → 65		QDLS
63	When you experienced these symptoms, were you told to go to a health facility?	Yes.....1 No.....2 → 65		QAHF
64	By whom?	SKILLED PERSONNEL		QWAH

		Doctor.....1 Midwife.....2 Nurse.....3 TRAINED PERSONNEL Community Health Officer.....4 Health extension worker.....5 OTHER PERSONNEL TBA.....6 Community Health Volunteer.....7 Relative/friends.....8 Nobody.....9 Other (specify)_____10		
65	Was your baby delivered by Caesarean section, i.e., did they cut your belly open to take the baby out?	Yes.....1 No.....2 → 67		QCSP
66	Why did you have a Caesarean section?	Mother was bleeding.....1 Blood pressure was high.....2 Labour was obstructed.....3 Baby was too big.....4 The umbilical cord was wrapped around the baby's neck.....5 Mother had a previous C/S.....6 Other (specify).....7		QRCS
67	Where was the baby placed immediately after delivery?	On the floor.....1 In a cot.....2 On the mother's abdomen.....3 With someone else.....4 Other (specify): _____5 Don't know.....99		QBPL
68	Did your baby cry or breathe easily immediately after birth?	Yes.....1 No.....2 → 71 Don't know.....99 → 71		QBCB
69	What was done to help the baby cry or breathe at the time of birth? PLEASE DO NOT READ OUT RESPONSES. Probe, 'Anything else?' Record all responses	Rubbed/massaged.....1 Dried.....2 Mouth cleared.....3 Nothing.....4 → 71 Other (specify): _____5 Don't know.....99 → 71		QABC
70	Who took these measures to help the baby cry or breathe? PLEASE DO NOT READ OUT RESPONSES.	SKILLED PERSONNEL Doctor.....1 Midwife.....2 Nurse.....3 TRAINED PERSONNEL Community Health Officer.....4 Health extension worker.....5 OTHER PERSONNEL TBA.....6 Community Health Volunteer.....7 Relative/friends.....8 Nobody.....9		QPCB

		Other (specify)_____10		
71	What was done to keep your baby warm after delivery (within the first day after birth)? Anything else? MULTIPLE RESPONSES POSSIBLE Circle all responses mentioned	Dried the baby.....1 Wrapped the baby with clean cloths....2 Put baby beside the mother.....3 Kept the baby on bare skin to skin contact.....4 Bathed in warm water.....5 Warmed delivery room.....6 Other (specify)_____7 Nothing done..... 8 Don't know.....99		QBWM
72	How long after birth did you first put your baby to the breast? If 1 to 24 hours, record hours. Otherwise, record days.	Mins [|] Hours [|] Days [|] Don't know.....99 Never breastfed.....88 → 77		QTBF
73	Did you have support with exclusively breastfeeding your baby?	Yes.....1 No.....2 → 77		QSEB
74	From whom did you receive this support? MULITIPLE RESPONSES POSSIBLE	SKILLED PERSONNEL Doctor.....1 Midwife.....2 Nurse.....3 TRAINED PERSONNEL Community Health Officer.....4 Health extension worker.....5 OTHER PERSONEL TBA.....6 Community Health Volunteer 7 Relative/friends.....8 Mother support group.....9 Nobody.....10 Other (specify)_____11		QSSB
75	When did you first start giving food or drink other than breast milk to your baby? If less than 1 hour, record '00' hours. If 1 to 24 hours, record hours. Otherwise, record days/months.	Hours [|] Days [|] Months[|] Baby exclusively breastfed until now.....96 → 77 Don't know.....99 → 77		QTSF
76	Are you still breastfeeding ?	Yes.....1 No.....2		QSBF

77	How long after delivery was it before a health care personnel checked on you and your baby?	Hours [__ | __] Days [__ | __] Nobody checked.....96 → 79 Don't know.....99 → 79		QTCU
78	Who checked on you?	SKILLED PERSONNEL Doctor.....1 Midwife.....2 Nurse.....3 TRAINED PERSONNEL Community Health Officer.....4 Health extension worker.....5 OTHER PERSONNEL TBA.....6 Community Health Volunteer.....7 Mother Support Group.....8 Nobody.....9 Other (specify)_____10		QWCU
79	How long did you stay at the facility following your delivery?	Hours [__ | __] Days [__ | __] Months[__ | __] Don't know.....99		QTIC
80	FOR BIRTHS IN WOMAN'S OWN/OTHER'S HOME: Before the health professional, CHO or TBA left your house after the delivery, did he/she check on you and/or your baby's health?	Both ☐ Mother only ☐ Baby only ☐ None ☐		QPCH

SECTION 5: POSTNATAL CARE				
81	Where you advised to go for postnatal care after delivery?	Yes.....1 No.....2 → 83		QAPN
82	Who advised you to go for PNC?	SKILLED PERSONNEL		QPPN

		Doctor.....1 Midwife.....2 Nurse.....3 TRAINED PERSONNEL Community Health Officer.....4 Health extension Worker.....5 OTHER PERSONNEL TBA.....6 Community health volunteer.....7 Mother support group.....8 Other (specify)_____9		
83	After the delivery, did you go to a facility/place of delivery for postnatal care?	Yes.....1 No.....2 →	88	QPNC
84	How many hours, days or weeks after the birth did you first go for PNC?	Hours: ____ Days: ____ Weeks: ____ Don't know..... 99		QTPN
85	Who checked on your and/or your newborn's health at that time? Anyone else? Probe for the type(s) of person(s) and record all mentioned.	SKILLED PERSONNEL Doctor.....1 Midwife.....2 Nurse.....3 TRAINED PERSONNEL Community Health Officer.....4 Health extension Worker.....5 OTHER PERSONNEL TBA.....6 Community health Volunteer.....7 Other (specify)_____8		QPPC
86	How many times did you go for check-up in the first 6 weeks?	Number of times_____ Don't know.....99		QNPN
87	What did the health worker/other do during that visit to check on your health?	Examined body.....1 Checked breasts.....2 Checked for heavy bleeding..3 Counseled on danger signs for newborns.....4 Counseled on breastfeeding..5 Counseled on nutrition.....6 Other (specify) _____7		QPCH
88	For those who did not go for PNC, why did you not go?	RANK ____ Costs too much...1 ____ Facility not open..2		QRPN

	DO NOT READ OUT RESPONSES Probe, 'Any other reason? ' Record all mentioned, and rank according to importance.	[___] Too far/no transportation.....3 [___] Don't trust facility/poor quality service..4 [___] No female provider at facility.....5 [___] Husband / family did not permit.....6 [___] Not necessary.....7 [___] Not customary.....8 [___] Other (specify) 9		
89	Have you been visited at home by a health worker?	Yes.....1 No.....2	→ 93	QHVS
90	How long after your delivery were you visited?	Within a week .....1 Two weeks .....2 Three weeks .....3 Four weeks .....4 Other (specify).....5		QTHV
91	What type of health worker visited you the last time? MULTIPLE RESPONSES POSSIBLE	Midwife.....1 CHO.....2 TBA.....3 Community Health Volunteer.....4 Mother support group.....5 Other (specify):.....6		QWHV
92	What did you speak about the last time you were visited?	Care of the newborn.....1 Exclusive breastfeeding.....2 Health of children.....3 Health of adults.....4 General sanitation.....5 Disease prevention.....6 Nutrition.....7 Other (specify)_____8		QDHV
93	What are the danger signs/symptoms after giving birth indicating the need to seek health care for a baby less than a week old? Probe, "Is there anything else?" Circle all responses mentioned.	Fever.....1 Unable to suckle/feed.....2 Difficult/fast breathing.....3 Diarrhea.....4 Convulsions.....5 Persistent vomiting.....6 Yellow palms/soles/eyes/jaundice....7 Lethargy.....8 Unconsciousness.....9 Red/discharging eyes.....10 Skin pustules.....11 Skin around cord is red.....12 Pus from cord.....13 Failure to pass urine.....14 Shivering/cold baby/low temperature.....15 Bluish palms and soles .....16 Very small baby/below normal weight.....17		QDSN

		Baby doesn't cry at birth...18 Baby cries stridently.....19 Other (specify): _____20 Don't know.....99		
94	Did your baby experience any danger signs/symptoms during the first month following delivery?	Yes.....1 No.....2	→ END	QBDS
95	What were the danger signs/symptoms that your baby experienced? Circle all responses which the mother mentions unprompted. Then ask, "Is there anything else?" Then read each question and circle the appropriate response.	Fever.....1 Unable to suckle/feed.....2 Difficult/fast breathing.....3 Diarrhea.....4 Convulsions.....5 Persistent vomiting.....6 Yellow palms/soles/eyes/jaundice...7 Lethargy.....8 Unconsciousness.....9 Red/discharging eyes.....10 Skin pustules.....11 Skin around cord is red.....12 Pus from cord.....13 Failure to pass urine.....14 Shivering/cold baby/low temperature.....15 Bluish palms and soles .....16 Very small baby/below normal weight.....17 None.....18 Other, specify: _____19		QDSS
96	How many episodes of illness did your baby have up to the age of 1 month?	Number [__|__]		QNIE
97	Did you seek advice or treatment for the illness outside the home?	Yes.....1 No.....2	→ 100	QHSB
98	Who was the first health personnel you came in contact with for the problem? Circle all responses which the mother mentions unprompted. Then ask, "Is there anything else." Then, read each question and circle "1" for "yes" or "2" for "no."	SKILLED PERSONNEL Doctor.....1 Midwife.....2 Nurse.....3 TRAINED PERSONNEL Community Health Officer...4 Health Extension Worker.....5 OTHER PERSONNEL TBA.....6 Community Health Volunteer.....7 Other (Specify)_____8		QHPC
99	From where else did you seek care? Circle all responses which the mother mentions unprompted. Then ask, "Is there anything else." Then, read each question and circle "1" for "yes" or "2" for "no."	Govt. Hospital.....1 Govt. Health Center.....2 Govt. Community Health Center.....3 NGO Facility.....4 Private facility.....5		QHCS

		Pharmacy/chemical shop.....6 Maternity home.....7 TBA.....8 Herbalist.....9 Other (specify):_____10		
100	Why did you not seek medical help? MULTIPLE RESPONSES POSSIBLE	Expecting self resolution of the illness.....1 Health facility too far/no transportation.....2 Cost of treatment/service too high.....3 Don't trust facility/poor quality of care .....4 Respected family members did not permit.....5 The traditional birth attendant did not allow it.....6 Not customary to seek care outside home after childbirth.....7 Other (specify): _____8		QNHC

APPENDICE C: CONSENT FORM FOR FOCUS GROUP DISCUSSIONS AND IN DEPTH INTERVIEWS AMONG POSTNATAL WOMEN AND HEALTH CARE PROVIDERS

Title of study: Maternal Health Care utilization through community-based initiatives in peri-urban Accra.

Introduction and nature of the study: Good day! My name is.....and I am from the School of Public Health, University of Ghana, Legon. I am conducting a study to assess the use of Maternal Health Care services in peri-urban areas. The purpose of this research study is to find out how effective community-based intitiatives are in promoting Maternal Health Care services in peri-urban areas. I would also like to know what other sources of Maternal Health Care are available in your community. If you decide to participate, we will ask you to participate in a discussion/interview about your experiences with Antenatal Care, delivery services and Postnatal Care. The interview is expected to last 45-60 minutes.

Possible Risks and Discomforts

We do not anticipate any physical risk for participating in the study. The topics discussed during the interviews may be sensitive and may be uncomfortable for you to discuss. During the interview, you do not have to answer any questions that you do not want to answer. If you are not comfortable with the questions asked, you can withdraw from the study at any time. Your participation in the study will not affect your right to health care provision or jeopardise your employment.

Possible Benefits

Though there is no direct benefit to you as an individual, your participation will help in making policy recommendations with regards to Maternal Health Care service delivery to women living in your community.

Additional Cost

There is no cost for participating in this study.

Compensation

There will be a reimbursement for travel costs the participants may incur while taking part in the study.

Confidentiality

All of the information that we collect during the study including any personal information about you will be confidential. We will not write your name on any of the information we collect and your personal information will be stored separately from study data. We will assign you an identification number and only this number will link you to the data we collect. Only study personnel will have access to the data, which will be kept in a secure location and password protected computer. This information will be destroyed two years after completion of study. No paper trail is stored.

Voluntary Participation/Withdrawal

Your participation is completely voluntary. You have the right to withdraw from the study at any time by notifying the study personnel.

Alternatives to Participation

Your participation in the study is completely voluntary. The alternative is not to participate in the study.

Contacts for Clarification

This research has been reviewed and approved by the Ghana Health Service Ethical Review Committee. If you have any questions about the study, you can contact the principal investigator, Adanna U. Nwameme on 024-6168214 (email address:

adanwameme@yahoo.com); the study primary supervisor, Prof. Philip Baba Adongo on 024-4806015 (email address: adongophilip@yahoo.com); or the secretary to the GHS Ethical review Committee, Madam Hannah Frimpong on 0243235225 or 0507041223.

VOLUNTEER AGREEMENT

The above document describing the purpose, benefits, risks and procedures for the study has been read and explained to me. I have been given an opportunity to have any questions about the research answered to my satisfaction. I agree to participate as a volunteer.

Date Name and signature/mark of volunteer

If volunteers cannot read the form themselves, a witness must sign here:

I was present while the purpose, benefits, risks and procedures were read to the volunteer. All questions were answered and the volunteer has agreed to take part in the research.

Date Name and signature of witness

I certify that the nature and purpose, the potential benefits, and possible risks associated with participating in this research have been explained to the above individual.

Date Name and Signature of Person Who Obtained Consent

APPENDIX D: FGD GUIDE FOR POST-NATAL WOMEN

Demographic data: Age, Marital status, Occupation, Parity, Educational level, Religion, Ethnicity

A. ANTENATAL CARE

1. What is Antenatal Care?

   -How did you hear about ANC?

   -Who encouraged you to attend ANC clinics?

2. Where did you attend Antenatal Care?

3. Why did you choose to attend ANC at the place you did?

4. At what stage in your pregnancy did you go for your first ANC visit?

5. Why did you go at that time?

6. How many times in all did you go?

7. Did you go anywhere else in addition, and why?

8. Did you get any health visits in your home during your pregnancy, and from whom?

9. What was done for you during your ANC visits (in the facility and at home)?

10. What advice concerning pregnancy-related complications were you given?

11. What did you like about the ANC services?

12. What did you not like about the ANC services?

13. What pregnancy complications did you experience?

14. What was done about it?

15. What are the reasons why women may not go for ANC?

B. DELIVERY

16. Where did you deliver your baby?

17. If not in a facility, why did you make that choice?

18. Who took the delivery?

19. What complications did you experience during delivery?

20. What was done about it?

21. What was the condition of your baby at birth?

22. How long was it before you were discharged?

C. POSTNATAL CARE

23. When did you go for your first postnatal visit?

22. Where did you go?

-If you didn't go, why did you choose not to?

-Why do some women not go for PNC?

23. What was done for you and your baby?

24. Did you get any health visits at home after your delivery, and from whom?

-What was done for you and your baby during this visit?

25. How did you establish (exclusive) breastfeeding?

26. What difficulties did you experience?

27. What support did you have from your family? From health workers? From your community?

APPENDIX E: FGD GUIDE FOR COMMUNITY HEALTH OFFICERS AND IDI GUIDE FOR URBAN CHPS COORDINATOR

Demographic Data: Age, Position, Number of working years

Preparatory Question:

What services do you provide for community members in your zone?

ANTENATAL CARE

1. What is Antenatal Care? What is Focused Antenatal Care?

2. What training do you have to provide perinatal care services?

3. What Antenatal Care services do you provide for the pregnant women in your communities?

-What are other sources of Antenatal Care utilized by women in your communities?

-What are the reasons why they choose to use these sources?

-What are the barriers to ANC services access faced by women in your communities?

SKILLED BIRTH DELIVERY

4. What delivery services do you provide for the pregnant women in your communities?

-What are other sources of delivery services utilized by women in your communities?

-What are the reasons why they choose to use these sources?

-What are the barriers to SBD faced by women in your communities?

POSTNATAL CARE

5. What postnatal care services do you provide for the pregnant women in your communities?

-What are other sources of postnatal care utilized by women in your communities?

-What are the reasons why they choose to use these sources?

-What are the barriers to PNC services access faced by women in your communities?

7. What support do the women have with establishment of Exclusive Breastfeeding?

COMMUNITY BASED COLLABORATIONS

8. What community-based activities are in place to support you in your delivery of these perinatal services?

9. How do you collaborate with the formal health facilities offering maternal health care to women in your communities?

10. How do you collaborate with the informal health facilities offering maternal health care to women in your communities?

APPENDICE F: IDI GUIDE FOR FACILITY HEALTH WORKERS, TRADITIONAL BIRTH ATTENDANTS AND MOTHER SUPPORT GROUPS

Demographic Data: Age, Position/Occupation, Number of working years/Educational level

MATERNAL HEALTH CARE

1. What is Antenatal Care? What ANC services/support do you offer in your facility/group?
2. What is Skilled Birth Delivery? What delivery services/support do you offer in your facility/group?
3. What is Postnatal Care? What postnatal services/support do you offer in your facility/group?
4. What are the challenges of maternal health care faced in your facility/maternity/community? (Probe on logistics, workforce, follow up of pregnant women and of postnatal women)

COMMUNITY BASED COLLABORATIONS

5. How do you collaborate with Community Health Officers in your district/community? Other health workers and TBA?
6. What differences exist between the knowledge and attitude of women who have Community Health Officers in their community and those who don't?
7. What support do the women have with establishment of Exclusive Breastfeeding?
8. What are the challenges faced by MSG volunteers working in the community

APPENDIX G: ETHICAL APPROVAL LETTER

GHANA HEALTH SERVICE ETHICS REVIEW COMMITTEE

In case of reply the number and date of this Letter should be quoted.

Research & Development Division
Ghana Health Service
P. O. Box MB 190
Accra
Tel: +233-302-681109
Fax + 233-302-685424
Email: ghserc@gmail.com

My Ref: GHS/RDD/ERC/Admin. App/ 16/165
Your Ref. No

Adanna Uloaku Nwameme
School of Public Health
University of Ghana
Legon

The Ghana Health Service Ethics Review Committee has reviewed and given approval for the implementation of your Study Protocol.

GHS-ERC Number	GHS-ERC 16/11/15
Project Title	"Improving Antenatal Care Utilization through Community-Based Interventions in Periurban Accra"
Approval Date	9th September, 2016
Expiry Date	8th September, 2017
GHS-ERC Decision	Approved

This approval requires the following from the Principal Investigator

- Submission of yearly progress report of the study to the Ethics Review Committee (ERC)
- Renewal of ethical approval if the study lasts for more than 12 months,
- Reporting of all serious adverse events related to this study to the ERC within three days verbally and seven days in writing
- Submission of a final report after completion of the study
- Informing ERC if study cannot be implemented or is discontinued and reasons why
- Informing the ERC and your sponsor (where applicable) before any publication of the research findings.

Please note that any modification of the study without ERC approval of the amendment is invalid.

The ERC may observe or cause to be observed procedures and records of the study during and after implementation.

Kindly quote the protocol identification number in all future correspondence in relation to this approved protocol

SIGNED.....
DR. CYNTHIA BANNERMAN
(GHS-ERC CHAIRPERSON)

Cc: The Director, Research & Development Division, Ghana Health Service, Accra