

SCHOOL OF PUBLIC HEALTH

COLLEGE OF HEALTH SCIENCES

UNIVERSITY OF GHANA

BIRTH PREPAREDNESS AND COMPLICATION READINESS AMONG EXPECTANT
MOTHERS AT THE RIDGE REGIONAL HOSPITAL, ACCRA

BY

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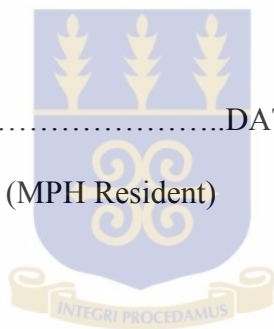
DECLARATION

I, Dzifa Adzoa Agbodohu, declare that this work is as a result of my own original research and effort.

It has not been presented either in whole or part in any university for the award of another degree. I admit that other people's work have been reviewed and have been properly acknowledged.

SIGNED.....DATE.....

Dzifa Adzoa Agbodohu (MPH Resident)



SIGNED.....DATE.....

Dr. Amos K. Laar (Academic supervisor)

DEDICATION

To William, Aseye, Mawuyram, William (Jnr.) and Dada.



ACKNOWLEDGEMENT

I thank the Almighty God so much for His love and mercies towards me. If it has not been the LORD how would I have made it through such a compact course as this? He kept me healthy to withstand every stress and obstacle that came my way.

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I deeply appreciate my family so much for having to cope with an absentee Mum and wife during the period I was at school.

To Vivian and her husband Kennedy, I am highly indebted to you. May God richly bless you.

Lastly, I'm very grateful to Mr. Edem K.M. Klobodu for all the help he gave me.

ABSTRACT

Background: Avoidable maternal mortality remains a huge burden more especially in sub-Saharan Africa. Expectant mothers are faced with life-threatening complications which a birth preparedness and complication readiness plan helps to actively avoid. Awareness of danger signs of pregnancy helps an expectant mother to make timely decisions to avoid delays that brings about complications that could result in morbidity or mortality.

Objective: The main objective of the study was to assess the knowledge and practices of birth preparedness and complication readiness among expectant mothers and specifically to determine the association between socio-demographic factors and birth preparedness and complication readiness.

Method: A cross sectional design was employed with a sample size of 400 expectant mothers in their 3rd trimester at the Ridge Regional Hospital. A simple random sampling of pregnant women visiting the RRH was done using the lottery method to select the participants. Analysis was done using SPSS version 16.

Results: Though many of the mothers (77.3%) were aware of the fact that they may need blood during labour only 16.4% of mothers actually had blood in the blood bank and 31.6% said they had arranged for a blood donor. There was a significant relationship between level of preparedness (p -value = 0.008) and educational level, also with ANC attendance (p = 0.032). It was observed that almost two-thirds of the respondents knew some danger signs and gave one or two examples. Two-thirds did not know anything

about Eclampsia or pregnancy induced hypertension. Almost all respondents (96%) had identified a close family member as a companion when in labour.

Conclusion: The respondents' demonstrated little knowledge on danger signs in pregnancy and many respondents did not know about birth preparedness especially in the area of blood donation. It is suggested that strategies be put in place for effective implementation of the policy on blood donation so that by the seventh month of pregnancy every expectant mother, irrespective of her haemoglobin level must have her blood ready in the blood bank to ensure complication readiness.

It is recommended that the standard for focused antenatal care is fully implemented as this will improve upon one on one provision of information and health education on danger signs in pregnancy. In doing so, there will be a general increase on the level of birth preparedness and complication readiness.

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LIST OF ACRONYMS AND ABBREVIATIONS.

ANC	Antenatal Care
ASE.....	Attitudes-Social Efficacy
BP	Birth Preparedness
BP/CR.....	Birth Preparedness and Complication Readiness
BPP	Birth Preparedness Plan/Package
CR.....	Complication Readiness
EmOC.....	Emergency Obstetric Care
HBLSS.....	Home Based Life Saving Skills
JHPIEGO.....	John Hopkins Program for International Education in Gynaecology Obstetrics
MMR	Maternal Mortality Ratio
PNC.....	Post Natal Care
RRH.....	Ridge Regional Hospital
SBA.....	Skilled Birth Attendance
SES.....	Socio Economic Status
TBA.....	Traditional Birth Attendance
WHO.....	World Health Organization

OPERATIONAL DEFINITION OF TERMS

Birth Preparedness and Complication Readiness (BPCR) is the process of planning for normal birth and anticipating the actions needed in case of an emergency. Women who have made funds available for transportation to hospital, have identified the mode of transportation when labour begins, have already arranged for a blood donor and women who already have blood in the blood bank are said to be ‘well prepared’. Any three of the above is considered as “well prepared”, less than three is considered as being “less prepared”.

Birth Preparedness and Complication Readiness Matrix delineates the roles of policymakers, facility managers, providers, communities, families, and women in ensuring that women and newborns receive appropriate, effective, and timely care. It outlines plans and actions that can be implemented by each group of stakeholders to build an enabling environment for normal and emergency care.

Delays in deciding to seek care results from failure to recognize signs of complications, failure to perceive the severity of illness, cost considerations, previous negative experiences with the healthcare system, and transportation difficulties.

Delays in reaching care comes about when distance from a woman’s home to a facility or provider, the condition of roads, and a lack of emergency transportation prevents her from receiving care early.

A delay in receiving care occurs at the facility level. Unprofessional attitudes of providers, shortages of supplies and basic equipment, a lack of healthcare personnel, and poor skills of healthcare providers have been identified.

Gravidarity: pregnancy.

Grand multipara: a woman who has given birth more than five times.

Multigravida: A woman who has had two or more pregnancies.

Multipara: a woman who has had two or more children.

Nullipara: a woman who has never given birth.

Parity: classification of a woman with regard to the number of children born.

Primigravida: a woman who is pregnant for the first time.

Primipara: a woman who has given birth for the first time.

Secundigravida: a woman who is pregnant for the second time.

CHAPTER ONE

1.1 INTRODUCTION

High levels of perinatal, neonatal and maternal mortality remain major public-health challenges in Ghana and the world over. About one third of neonatal deaths occur on the first day of life and the majority of maternal deaths occur during labour, delivery, and within 24 hours postpartum (Ronsmans & Yinger 2006).

Thaddeus & Maine (1994) proposed that apart from medical causes, there are numerous interrelated socio-cultural factors which delay care-seeking and contribute to these deaths. Care-seeking is delayed because of the delay in (a) identifying the complication, (b) deciding to seek care, (c) identifying and reaching a health facility, and (d) receiving adequate and appropriate treatment.

According to Mutiso, Qureshi & Kinnuthia, (2008), close to 15% of pregnant women develop life-threatening complications hence the need for emergency obstetric care. These complications are unpredictable and may progress rapidly to a fatal outcome. Knowledge of danger signs of obstetric emergencies and appreciation of the need for rapid and appropriate response when emergencies occur may reduce delay in decision making and in reaching health facilities.

It was observed by Thaddeus & Maine in (1994) that, the causes of these delays are common and predictable. However, in order to address them, women and their families as

well as the communities, providers, and facilities that surround them must be prepared in advance and be very ready for rapid emergency action.

Based on the above concept, one of the key roles of antenatal care is to provide health education on danger signs of pregnancy and delivery, preparation of a birth plan and to encourage delivery under a skilled attendant. The World Health Organization (WHO) and Ghana Health Service (GHS) now recommends that every pregnant woman should receive focused antenatal care in which Birth preparedness and complication readiness (BPCR) is a key component (WHO, 2002).

Maternal and Neonatal Health Program (2003) identified BPCR as a safe motherhood strategy whose objective is to promote the timely use of skilled maternal and neonatal care during childbirth or obstetric emergencies by reducing delays at the first, second and third levels. It entails making plans prior to birth to ensure that a pregnant woman is prepared for normal birth and complications. Decisions are made and documented on such issues as a desired place for birth, the preferred skilled birth attendant, items required for birth, birth companion, getting a compatible blood donor and arranging in advance for transport. Other elements of birth preparedness include knowledge of expected date of delivery, signs of labour, mobilizing resources to pay for services.

1.2 BACKGROUND TO THE STUDY

Maternal mortality remains a public health challenge worldwide, and the global maternal mortality ratio of 342, 900/100,000 live births annually is still unacceptably high (Hogan et al., 2010). However a disproportionately high burden of these maternal deaths is borne by developing countries such as Ghana, with a maternal mortality ratio of 451 per 100,000 live births (GSS, GHS, Macro Int. Inc. USA & Ghana Maternal Health Survey, 2009). These deaths are caused by pregnancy, childbirth or postpartum complications.

Hiluf & Fantahun (2008), observed that, lack of advance planning for use of a skilled birth attendant for normal births, and particularly inadequate preparation for rapid action in the event of obstetric complications, are documented factors contributing to delay in receiving skilled obstetric care.

A key strategy that can reduce the number of women dying from such complications is making a birth plan that constitutes birth-preparedness and complication-readiness measures for pregnant women, their spouses and their families (McPherson, Khadka, Moore, Sharma, 2006).

Birth-preparedness and complication-readiness is a comprehensive package aimed at promoting timely access to skilled maternal and neonatal services. The birth-preparedness package promotes active preparation and decision-making for delivery by pregnant women and their families. This emerged from the fact that a pregnant woman faces risk of sudden and unpredictable life threatening complications that could end in death or injury to herself or to her infant (Kakaire, Kaye & Osinde, 2011).

This is because complications such as hemorrhage are unpredictable and highly fatal if timely treatment is not obtained. The package of BPCR is a very important strategy in developing countries, where obstetric services are poor. There is also enough evidences from Nepal, Burkina Faso and India that promoting BPCR improves preventive behaviours, improves knowledge of mothers about danger- signs, and leads to improvement in care-seeking during obstetric emergency therefore reducing disability and death associated with child birth (Fullerton, Killian & Gass, 2005, McPherson , Khadka, Moore & Sharma, 2006 and Moran, Sangli, Dineed, Rawlins & Yameogo, 2006).

1.3 STATEMENT OF THE PROBLEM

Worldwide, in 2005, 535,900 women died from causes related to pregnancy and childbirth; half of these deaths occurred in sub-Saharan Africa (Hill, Thomas, AbouZahr, Walker, Say & Inoue, 2005). The common causes of maternal deaths are hemorrhage, postpartum infection, hypertensive disorders, obstructed labor and abortion complications (Pembe, Urassa, Carlstedt, Nyström, & Darj 2009). These life-threatening complications are treatable thus most of these deaths are avoidable if women with the complications have timely access to appropriate emergency obstetric care (WHO, 1994).

The public health burden of maternal mortality is huge hence improving maternal health has received recognition at the global level as evidenced by its inclusion in the Millennium Development Goals.

The global safe motherhood initiative was launched in 1987 in Nairobi Kenya with a goal to reduce the maternal mortality by 50% by the year 2000. Many interventions were put in place of which the training of Skilled Birth Attendants (SBA) and risk screening at antenatal care were widely adopted.

Unfortunately the uptake of SBA is low even in settings where services are available (WHO, 2006). Over the years maternal Deaths are thought to occur due to three delays: delay in deciding to seek appropriate care; delay in reaching an appropriate health facility; and delay in receiving adequate emergency care once at a facility.

In many societies in the world, cultural beliefs and lack of awareness inhibit preparation in advance for delivery of the expected baby. Since no action is taken prior to the delivery, the family tries to act only when labour begins. The majority of pregnant women and their families do not know how to recognize the danger signs of complications. When complications occur, the unprepared family will waste a great deal of time in recognizing the problem, getting organized, getting money, finding transport and reaching the appropriate referral facility.

These delays may be reduced if pregnant women are prepared for birth and complications. Birth preparedness and complication readiness is a safe motherhood strategy whose objective is to promote the timely use of skilled maternal and neonatal care during childbirth or obstetric emergencies by reducing delays at the first, second and third levels.

Even though the concept of birth preparedness and complication readiness is one of the simple, cost effective and most practicable means of reducing maternal mortality, it is not widely used by women and their significant others as evidenced by maternal deaths still occurring due to the delays.

Since a study of this nature has not been undertaken in the Region and the whole country at large, findings of the study will inform policy makers and stake holders to intensify intervention programs to make the concept of birth preparedness and complication readiness a very popular and a high cost effective intervention in reducing maternal mortality in the Region and the nation at large.

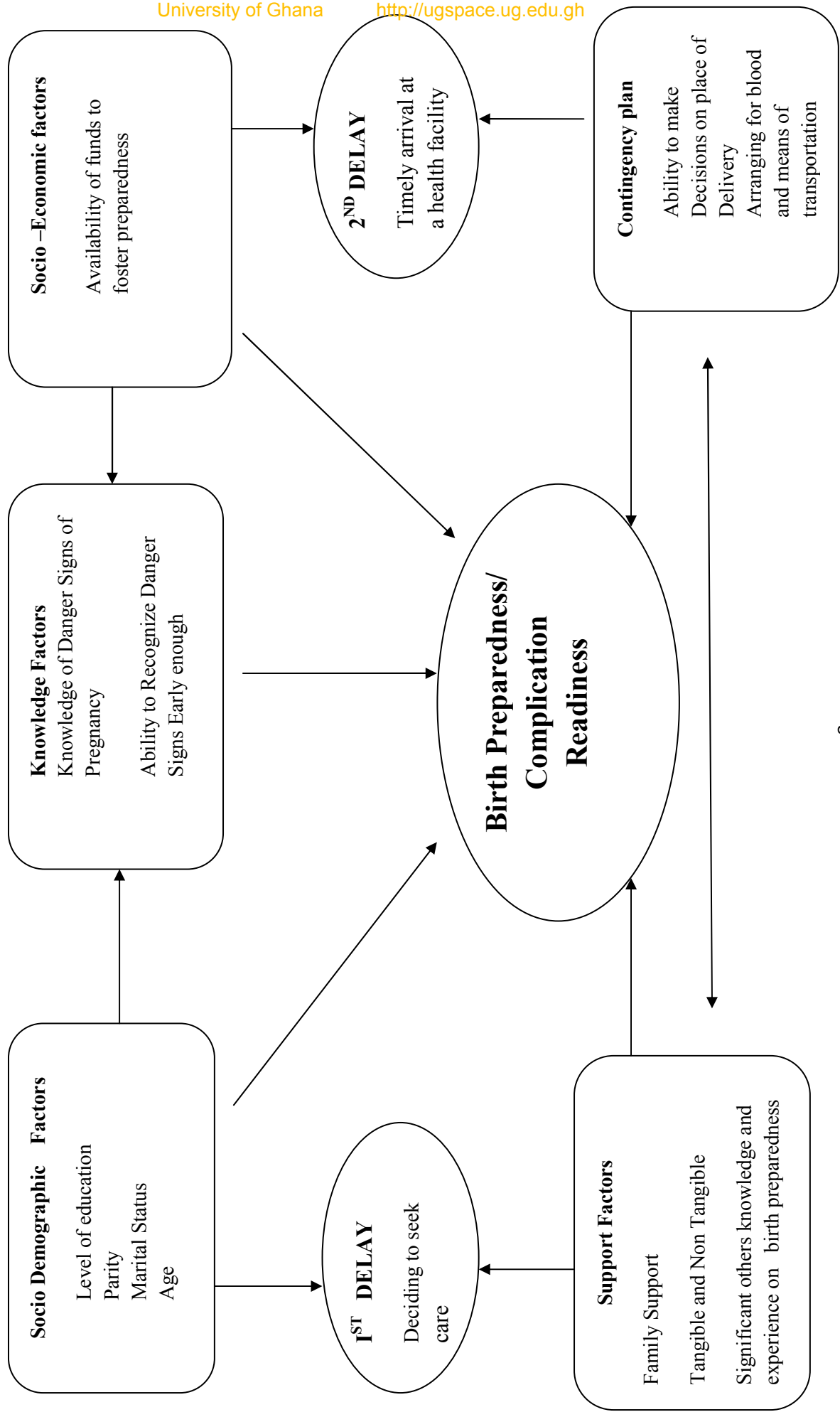
At the end of this study more insight has been gained as to the extent to which expectant mothers attending Antenatal Clinic (ANC) at the Ridge Regional Hospital (RRH) are aware and for that matter practice BPCR as a means of preventing deaths and complications surrounding childbirth.

1.4 EXPLANATION OF THE CONCEPTUAL FRAMEWORK

The diagram below is the conceptual framework of the study. BPCR is a strategy designed to help reduce the delays that result in maternal deaths. Socio demographic factors such as level of education, parity, age and marital status have an association with the level of birth preparedness. It is also believed that these factors as well as support

factors which includes family support that is tangible, non tangible and significant others' knowledge and experience on BPCR affects the first delay which is deciding to seek care. A woman's level of knowledge as well as her ability to recognize danger signs early enough could also influence her preparedness towards birth. Socio-economic factors such as availability of funds to foster preparedness has a direct effect on the 2nd delay which is timely arrival at the health facility

A good social / family support system is an important way in which pregnant women can receive tangible and Non tangible support. A contingency plan such as the ability to make decisions on place of delivery, arranging for blood donation and having prior transport arrangements do have a positive effect on birth preparedness and complication readiness as well as the second delay.

Fig 1.1 CONCEPTUAL FRAMEWORK DIAGRAM

1.5 JUSTIFICATION TO THE STUDY

Historical evidence shows that no country has managed to bring its maternal mortality ratio below 100 per 100 000 live births without ensuring that all women are attended by an appropriately skilled health professional during labour, birth and the period immediately afterwards WHO, 2006.

The WHO in 2006 said that many of the complications that result in maternal death and majority that contribute to perinatal deaths are unpredictable, and their onset can be both sudden and severe.

Delay in responding to the onset of labour and complications have been shown to be one of the major barriers to reducing mortality and morbidity surrounding childbirth. Studies done at various settings to identify means of overcoming the barriers that mitigate maternal mortality brought forth a concept of Birth Preparedness and Complication Readiness. Hence its adoption as one of the most important measures to adequately reduce the delays identified as being the major causes of maternal mortality Maternal and Neonatal Health Program, 2003.

Despite the great potential of Birth Preparedness and Complication Readiness in reducing the maternal and newborn deaths, its status is not well known in most of sub-Saharan Africa. The study aimed at identifying the level of BPCR amongst expectant mothers and also to assess whether some factors such as education, parity, availability of social support systems had any impact or influence on BPCR. The findings of the study will positively influence Maternal health care delivery at the RRH thereby reducing maternal mortality that results from the three main delays. Therefore, this study assessed the knowledge and practices with respect to birth preparedness and complication readiness

and factors associated with their practices among expectant mothers attending ANC at the Ridge Regional Hospital (RRH).

1.6. STUDY OBJECTIVES

1.6.1 General Objectives

To assess the knowledge and practices of birth preparedness and complication readiness among expectant mothers at the Ridge Regional Hospital

1.6.2 Specific objectives

To assess the knowledge of expectant mothers who are in their third trimester on birth preparedness and complication readiness.

To determine the association between socio-demographic factors and birth preparedness and complication readiness.

To identify the availability of social support systems for expectant mothers.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 The Concept of Birth Preparedness and Complication Readiness

The birth of a baby is a major reason for celebration around the world. Societies expect women to bear children and honor women for their role as mothers. Yet in most of the world, pregnancy and childbirth is a perilous journey (Ransom & Yinger, 2002). World Health Organization (WHO) in 2004 estimated that 529,000 women die annually from maternal causes. Ninety-nine percent of these deaths occur in the less developed countries. The situation is most dire for women in sub-Saharan Africa, where one of every 16 women dies of pregnancy related causes during her lifetime, compared with only 1 in 2,800 women in developed regions. Without the necessary intervention the WHO projected the figure to one of every 5 women in Africa (WHO, 2004).

According to Hiluf & Fantahun (2008), every pregnant woman faces the risk of sudden, unpredictable complications that could end in death or injury to herself or to her infant. Pregnancy related complications cannot be reliably predicted (JHIPEGO, 2001). Hence, it is necessary to employ strategies to overcome such problems as they arise. Lack of advance planning for use of a skilled birth attendant for normal births, and particularly inadequate preparation for rapid action in the event of obstetric complications, are well documented factors contributing to delay in receiving skilled obstetric care.

Iliyasu, et al (2010) stated that birth-preparedness and complication readiness is a comprehensive strategy aimed at promoting the timely utilization of skilled maternal and neonatal health care. The key elements include: knowledge of danger signs; plan for

where to give birth; plan for a birth attendant; plan for transportation and plan for saving money. In addition, a potential blood donor and a decision maker need to be identified. This is because every pregnant woman faces the risk of sudden, unpredictable complications that could end in death or injury to herself or to her infant. Mutiso et al. (2008) mentioned that birth preparedness and complication readiness is a safe motherhood strategy whose objective is to promote the timely use of skilled maternal and neonatal care during childbirth or obstetric emergencies by reducing delays at the first, second and third levels. In a skilled care approach, birth preparedness includes identifying a skilled provider and making the necessary plans to receive skilled care for all births. Complication readiness (*emergency funds, transport, blood donor and designated decision-maker*) receive greater emphasis in emergency obstetric care programs. Birth preparedness has been globally endorsed as an essential component of safe motherhood programs to reduce delays for care (JHPIEGO, 2004). Stating Ekabua, Ekabua, Odusolu, Agan, Iklaki & Etokidem, (2011), in a setting where there is prevailing illiteracy, lack of infrastructure, poor transport system, and the principle and practice of birth preparedness and complication readiness (BPCR) in a third world where access to skilled care providers are unpredictable have the potential of reducing the existing high maternal and neonatal morbidity and mortality rates.

In many societies in the world, cultural beliefs and lack of awareness inhibit preparation in advance for delivery of the expected baby. Since no action is taken prior to the delivery, the family tries to act only when labour begins. The majority of pregnant women and their families do not know how to recognize the danger signs of

complications. When complications occur, the unprepared family will waste a great deal of time in recognizing the problem, getting organized, getting money, finding transport and reaching the appropriate referral facility (Moore, Copeland, Chege, Pido & Griffiths ,2002). For some of the complications such as severe hemorrhage, a few minutes matter to save life, while for others hours, or even days may be tolerable but with the prognosis getting worse as time elapses (White Ribbon Alliance for Safe Motherhood/ India 2002; Kitilla, 2001).

In Ethiopia, only 6% of the deliveries are attended to by health professionals. This situation well explains the maternal mortality ratio of 673 per 100,000 live births, which is one of the highest in the world (Central Statistical Agency, 2010). Studies revealed that hemorrhage, hypertensive disorders and ruptured uterus were among the causes of maternal deaths.

Despite the great potential of Birth Preparedness and Complication Readiness in reducing the maternal and newborn deaths its status is not well known in most of sub-Saharan Africa (Central Statistical Agency, 2010). Preparing for a safe delivery may include factors related to identifying and reaching care at the onset of labour, identifying and reaching care if a complication should arise, or planning to move closer to care before labour if emergency referral is not feasible. It is also important to consider that, with increasing urbanization, women living in peri-urban and urban settings may move when near term to their village of origin to deliver at their mother's home. So preparation for labour is also relevant in urban and peri-urban antenatal clinics.

Many programs that aim to improve maternal health have included efforts to improve preparation for birth and readiness for complications (JHPIEGO, 2004). The IMPAC manual ‘Pregnancy, Childbirth, Postpartum and Newborn Care’: A guide for essential practice’ lists some key points to be addressed in ANC, which include identifying where the woman would go in an emergency and issues of transport and costs, as well as considering moving closer to care if ‘living far’ from a facility (WHO, UNFPA, UNICEF, World Bank, 2006). However, greater guidance is required in terms of identifying which women should be strongly encouraged to move closer to care prior to labour and identifying the most appropriate facility to attend in the event of an emergency, recognizing that it may not be the closest health centre.

Experience suggests that discussions about preparing for birth should occur not only with pregnant women but with the communities that support them. The aim is education, motivation, cohesion and mobilization of pregnant women, families and communities. Community participatory approaches are most effective. A project that used such an approach in Kampong Chang in Cambodia was evaluated and found that community engagement was a feasible, effective and cost-effective way to introduce birth preparedness. The project increased referrals to hospital by 281% (Skinner & Rathavy, 2009).

Another well evaluated example of a birth preparedness intervention is the Home Based Life Savings Skills (HBLSS) training program devised by the American College of Nurse

Midwives to increase access to basic life saving measures within the home and community and by decreasing delays in reaching referral facilities where life-threatening problems can be managed (Sibley, Buffington, Beck & Armbruster, 2001). HBLSS takes into account the social context of childbirth, focusing on the pregnant woman, her family caregivers, and the home birth attendant as a team. The model has been implemented in India, Ethiopia, Haiti and Liberia. An evaluation of the model in rural Uttar Pradesh, India, found that role-play and demonstration enhanced retention of knowledge and skills for recognition and intervention for maternal bleeding and newborn sepsis, but did not change care-seeking during emergencies (Fullerton et al., 2005). An evaluation of the program in the Oromia region of Ethiopia found that learning was retained and after three years 54% of women giving birth were exposed to the training. Lack of emergency transport prevented decrease in delays for referral (Sibley, Buffington, Tedessa & McNatt, 2006).

2.2 The role of Emergency Obstetric Care in Birth preparedness

The Dinajpur Safe Mother Initiative in Bangladesh was designed to test the impact of several interventions on use of government obstetric services. CARE implemented a community mobilization program that included birth planning and support for funding and transportation, in addition to strengthening Emergency Obstetric Care (EmOC) services, during 1998-2001. In areas that received all interventions 'met need' increased by 24%, compared to 13% in communities where only basic EmOC services were upgraded, and no change in communities with no intervention. Successful systems had a high degree of community motivation and participating households. Some villages raised

enough money to purchase their own van or village ‘ambulance’ and others also established a system of listing blood groups of members so they could be mobilized to donate when needed (Hossain & Ross, 2006).

In a remote region of Nepal, the Birth Preparedness Package (BPP) covered four areas of birth planning – Antenatal Care (ANC), care of mother and newborn, danger signs and financial and transport preparations. The package included a flip chart used to systematically work through these areas with women. In addition, pregnant women were provided with a key chain made up of laminated cards containing similar messages and illustrations for use by both literate and illiterate women. There was improvement in knowledge and newborn care practices but no significant change in the use of EmOC, suggesting that other barriers also need to be addressed (McPherson et al., 2006).

Again in Nepal, women’s groups were facilitated through ten participatory meetings over one year addressing issues of pregnancy and childbirth. Many of the women’s groups established community fund schemes and transport systems with stretchers for use during obstetric emergencies. The intervention was implemented as a cluster-randomized controlled trial, which found significantly lower maternal deaths among women in women’s groups compared to controls (69 versus 341 per 100,000 live births) (Manandhar et al., 2004). So there is potential for women’s groups to provide support to families to enable a woman to travel closer to care near term.

The Maternal and Neonatal Health Program of JHPIEGO implemented a district-based model service-delivery system in Koupéla, Burkina Faso, during 2001-2004. In a survey to assess the effect of birth preparedness and complication readiness, of the 180 women who had given birth within 12 months of the survey, 46% had a transport plan, and more than 83% had a plan to save money (Moran et al., 2006).

In Tanzania, communities were supported to form their own plans for emergency transport. Of 50 villages, 32 developed transport plans which included written action plans, emergency funds, or community transport systems. A similar project engaged with local leaders to help 10 of 12 villages develop functional plans for emergency transport which included the use of locally available transport, emergency funds and equipping health staff with radios or phones. Successful communities offered assistance to other villages. Complications treated at the district referral hospital increased from 4 to 15% (Ahluwalia, Schmid, Kouletio & Kanenda, 2011).

There are some examples of community-based emergency response teams to provide initial pre-hospital care and facilitate transport to health care. These include community motivators, mobilizes or contact persons who facilitate emergency transport and liaise with health centres. In one such example in Sierra Leone, men were chosen for this role because they were considered to have more time available and were able to move more freely between villages, particularly at night. They received three days of training and organized action groups of volunteers who would assist transporting women by hammock

(Olaniran, Offiong, Ottong, Asuquo & Duke, 2009). Despite some positive anecdotal evidence, the impact of motivators on reducing maternal mortality appears to be relatively small, labour intensive in some settings, and difficult to sustain.

In Cambodia, lay community “First Responders” were trained to respond to landmine injuries in regions of poor communication and transportation infrastructure. As part of the program, local villagers were trained to provide basic first aid and mobilize health care. As a result, trauma mortality rates reduced from 40% to less than 10% in three years. Recently this model has been adapted to respond to obstetric emergencies. ‘Delivery Life Support’ aims to build a chain-of-survival network similar to that for trauma by linking midwives and Traditional Birth Attendants (TBAs) into the existing trauma response system. “First Responders” are trained to assist with basic life support during obstetric emergencies and trauma paramedics at local health centres are also trained in emergency obstetrics (Chandy, Steinholt & Husum, 2007).

It is clear from these evaluations that, to be effective, birth preparedness/complications readiness cannot be an independent intervention but must be implemented with other efforts to strengthen the quality of maternal health care at community and referral levels.

2.3 The Role of Knowledge on Pregnancy and Childbirth in Birth Preparedness

Home birth remains a strong preference and often the only option, for many women in the developing world. A large proportion of these home deliveries take place without professional attendants (bij de Vaate et al., 2002). Provision of a health worker with midwifery skills at every birth is considered a crucial intervention for safe motherhood, yet the WHO estimates that 47% of births in the developing world are assisted only by TBAs, family members, or no one (WHO 2012).

Usually, all pregnant women have to be screened for antenatal syphilis, anemia, pre-eclampsia and other common complications of pregnancy. However, Myer & Harrison (2003) noted that in the rural Hlabisa district of South Africa none of the women demonstrated any understanding of the potential benefits of such programs. In these circumstances, the possible benefits associated with antenatal services appear to be of secondary importance to the necessity of procuring an antenatal attendance card.

Orinda, Kakande, Kabarangira, Nanda & Mbonye, (2005) believe that women in Africa are poorly informed about the risks of pregnancy and the importance of antenatal care, while being coerced by the structure of the health care system into using facility-based services for labour and delivery. This scenario, high-lighted by poor communication between lay women and providers, sharply influences pregnant women's perceptions of antenatal care services and helps to shape their service utilization, reinforcing views of antenatal care as a nuisance and of labour and delivery as requiring facility-based care. While these approaches to antenatal care provision and utilization may help contribute to

safer childbearing through facility-based delivery, they also serve to limit women's understandings of health and health risks during pregnancy. Women's understandings of health in pregnancy contribute to late antenatal health seeking and inadequate attendance partners, which contribute in turn to avoidable prenatal deaths. Findings from a previous study by Kabakyenga, Ostergren, Turyakira & Pettersson, (2011) revealed that knowledge of obstetric danger signs and birth preparedness are strategies that enhance the utilization of skilled care during low-risk births and emergency obstetric care in complicated cases in low income countries. The presence of skilled attendants at births and availability of emergency obstetric care have been shown to greatly reduce maternal deaths that occur due to obstetric complications.

2.4 Health Seeking Behaviour of Expectant Mothers in Birth Preparedness and Complications Readiness

Health seeking behavior is related to utilization of health services, which is a complex behavioural phenomenon. Empirical studies of preventive and curative services have often found that use of health services is related to the availability, quality and cost of services as well as to the social structure, health beliefs and personal characteristics of the users (Chakraborty , Islam, Chowdhury, Bari & Akhter , 2003). Urasser, Lindmark & Nystrom (2012) in their earlier studies have shown that women with primary education and above were two times more likely to be prepared for birth and complications compared to those who lacked formal education. It is also reported that those who knew three or more obstetric danger signs were three times more prepared for birth and complications. Similarly studies conducted in other countries have separately showed a

clear relationship between high education and awareness of danger signs in Tanzania and in Kenya (Hiluf & Fantahun, 2007 & Pembe, et al., 2009).

Mothers' education is of importance in explaining the utilization of health care services. Female education retains a net effect on maternal health service use, independent of other women's background, characteristics, household's, socio-economic status and access to health care services. However, the study results are inconclusive with respect to the influence of other predisposing and enabling factors, such as women's age, number of previous pregnancies and access to health care services/facilities to mention but a few. It is further argued that better educated women are more aware of health problems, know more about the availability of health care services and use this information more effectively to maintain or achieve good health status. Mother's education may also act as a proxy variable of a number of background variables representing women's higher socio-economic status, thus enabling her to seek proper medical care whenever she perceives it necessary (de Groot, van Roosmalen, van Dongen & Borm, 1996).

Myer & Harrison (2003) noted that lack of physical access to health care facilities presents a fundamental hurdle to receiving care, even in urban settings. Poor quality of care continues to be a major concern in most health systems, as high patient volume and limited resources combine to constrain service provision. Even when facilities are accessible and quality services are available, many women only recognize pregnancy relatively late in gestation. Despite these insights, little is known about antenatal care utilization and the health-seeking behavior of pregnant women more generally, in rural

areas. These qualitative findings provide important preliminary insights into the combination of factors shaping antenatal health-seeking behaviors.

It is well recognized that women's current age plays an important role in the utilization of medical services (Chakraborty et al 2003). Mother's age may sometimes serve as a proxy for the women's accumulated knowledge of health care services that may have a positive influence on the use of health services. On the other hand, because of development of modern medicine and improvement in educational opportunities for women in recent years, younger women might have an enhanced knowledge of modern health care services and place more value upon modern medicine. Also, because of perceived risk associated with first pregnancy, a woman is more likely to seek maternal health care services for first order than high-order births. Having more children may also cause resource constraints, which have a negative effect on health care utilization. One of the important predisposing factors for utilization of health care is family size. Women from large families underutilize various health care services because of too many demands not only on their time but also on their resources if any.

It is also well known that increased income has a positive effect on the utilization of modern health care services. Husband's occupation can be considered a proxy of family income, as well as social status. Differences in attitudes to modern health care services by occupational groups depict occupation as a predisposing factor. Alternatively, viewing occupation as proxy to income, which enables acquisition of more and better health care,

depicts it as an enabling factor. Besides the 2005/06 Uganda Demographic and Health Survey (UDHS) revealed that women in Kampala were most likely to receive ANC services especially urine and blood tests. Women with secondary education and those in higher wealth quintiles were also more likely than other women to receive key ANC services (UBOS and Macro Org. 2007).

2.5 The Influence of Traditional Beliefs on Birth Preparedness

“Tradition” in its technical sense means truths or principles of a divine origin revealed or unveiled to mankind (Marty, 2004). Traditional knowledge or belief was defined as knowledge of local people and their everyday life. Traditional cultural practices reflected values and beliefs held by members of a community for periods often spanning generations. Every social group in the world has specific traditions, cultural practices, and beliefs. Some are based on religious beliefs and probing into religions further will provide an understanding of a particular culture. Traditional culture played a major role in the way a woman perceived and prepared for her birthing experience - this may positively or negatively affect the use of health care in general and maternal health in particular (Greene, 2007).

Religious beliefs within the community may act as a barrier for seeking care (Yousuf, Ayelew & Seid, 2011). Syed, Khadka, Khan & Wall (2008) found that religious beliefs were a barrier for ANC utilization in Bangladesh. Husbands and mothers in-law were usually the decision makers about ANC and some women also found the idea of ANC to

be shameful, especially if they felt they would be examined by a male worker. A similar study was done among Ethiopian Afar, where women stated during a focus group that only God and their husband could see them naked (Yousuf et al., 2011). Religious beliefs can also be the main reason for delayed referral to health services and preference for home delivery (Yousuf et al., 2011).

Pregnant women may prefer consultation with local religious leaders, traditional healers, and traditional birth attendants (TBAs) over seeking care from qualified health providers. In rural Gambia, older women in menopause are seen as experts on pregnancy and childbirth. When consulted, they usually decide what should be done and their advice is taken. For example, an older woman may advise a woman in labour to wait until the next Muslim praying time before seeking care. “Labour and child birth takes place at certain times, and these times correspond with the Muslim praying times. It was around midday and the next praying time was 2:00 pm so we thought she will deliver by then. After 2:00 pm she still did not deliver, then we decided to look for transportation to take her to the health center” (Cham, Sundby & Vangen, 2005). Another example is a study among Uganda women who felt embarrassed to give birth in a health facility because other members of the community would think they were not brave enough to give birth on their own (Ndyomugenyi, Neema & Magnussen, 1998). In a study among the women of Benin, birth represented a rare opportunity for a woman to demonstrate pride, courage, and bring honor to her and her husband’s families by her stoic demeanor. The woman who managed to deliver without indication that she was in labour and without calling for assistance until the child was born was especially esteemed (Sergent, 1990 as cited in Kyomuhendo, 2003).

Other harmful traditional practices that impact maternal health include female genital mutilation (FGM), early marriage, early pregnancy, traditional birth practices such as pushing on the abdomen to hasten delivery, and the use of certain surgical procedures. For example in northern Nigeria, traditional healers make an incision in the vagina on women who are not making progress in labour (McCarty & Maine, 1992). The practice is also in Ghana, though for other reasons. Some ethnic groups in Sierra Leone discourage pregnant women from eating meat and eggs, because it is believed that eating meat during pregnancy will cause her to give birth to a witch (Offor, 2010). There were however, some traditional practices that were beneficial to the mother and baby (Raven et al., 2007). For example, among many cultures in Africa, women were encouraged to breastfeed their infant for over a year, thus encouraging the practice of spacing between pregnancies (Offor, 2010).

2.6 The Influence of Socio-demographic Factors on Birth Preparedness

Women's education has been found to be one of the key determinants of maternal healthcare utilization (Celik & Hotchkiss, 2000; Navaneetham & Dharmalingham, 2002; Pallikadavath et al., 2004). Chakraborty et al. (2003) confirms the importance of women's education in the utilization of health care services in developing countries. In India for example, women with high school education and above were 11 times more likely to use antenatal care compared to illiterate women (Navaneetham & Dharmalingham, 2002). In Mali, low maternal women's education has also been found to

be an obstacle to the improvement of maternal healthcare utilization (Gage, 2007). Education of women likely enhanced autonomy so that women could develop confidence and capabilities to make decisions regarding their own health (Navaneetham & Dharmalingham, 2002). Educated women were more aware of health problems, knew more about the availability of health care services, and used information to achieve good health status (Chakraborty et al., (2003).

A woman's age, number of pregnancies carried, and whether or not she was married were factors that also play an important role in the utilization of maternal health care services (Chakraborty et al., 2003; Pallikadavath, Foss & Stone, 2004). Women carrying their first child were probably more susceptible to difficulties during labour and were more cautious than women who have had several births (Raj, Saggurti, Balaiah & Silverman, 2009). Therefore, women who were pregnant for the first time were more motivated to utilize maternity care because they did not know what to expect from the process (Pallikadavath et al., 2004; Singh, Rai, Alagarajan & Singh, 2012). Subsequently, as a woman endured more pregnancies, she would rely on her experience and draw from that knowledge (Singh et al., 2012).

In a study conducted in Karnataka, India, there were no significant differences in the likelihood of receiving antenatal care between first and second order birth, but it was an important predictor for women who had four or more births. In this later group the probability of receiving antenatal care was reduced by 60 % (Navaneetham &

Dharmalingham, 2002). Age was highly correlated with parity (number of pregnancies) and, in some settings, with educational level (Gabrysch & Campbel, 2009). A mother's age may serve as a proxy for the woman's accumulated knowledge of health care services, which would have a positive influence on the use of health services. Older women were more likely to seek maternal healthcare than younger women (Chakraborty et al., 2003).

In a study conducted in Jamaica, teenagers were more likely not to attend antenatal care or to attend it later, when compared to woman in their twenties. Babalola & Fatusi (2009) found that in Nigeria, women in the middle child bearing ages were more likely to use maternal health services than women in early and late child bearing. And so being of older age at marriage is positively associated with the use of healthcare services. One study in rural India reported that utilization of antenatal care was higher among women married at 19 or older compared to those married at less than 19 years (Pallikadavath et al., 2004). Early marriage or child marriage is practiced more often in Africa and Southern Asia. In these areas, a higher proportion of teenage girls are married to much older men, sometimes as early as 9 or 10 years of age, based on religious and cultural beliefs (Babalola & Fatusi, 2009; UN,2004) The girls may be restricted from seeking healthcare services because of fear or need for permission from a spouse or in-laws.

Ethnicity and religion are often considered markers of cultural background and are thought to influence beliefs, norms, and values in relation to childbirth, service use, and women's status (Gabrysch & Campbel, 2009). Ethnic identity may also be associated

with health beliefs that influence whether care is sought and whether that care is traditional or biomedical (Glei, Goldman and Rodriguez, 2003). In a study conducted in Nigeria, it was determined that ethnicity seemed to make no significant difference in the use of antenatal care, however, it made a significant difference in the use of skilled assistance and post-natal care. In the same study, it was found that the level of service utilization was significantly higher among the Igbos (in the south) and the minority tribe compared to the Hausas (in the north). This result reflects the influence of the cultural and religious beliefs in the north. The Islamic religion may have had a strong influence on the cultural beliefs and traditions on child birth of the Hausas in the north (Babalola & Fatusi, 2009).

Whether or not a woman is employed is one of the most important factors that positively influenced the use of maternal healthcare (Chakraborty et al., 2003). Women who were working and earning money may have been able to save and decided to spend it on a facility delivery (Gabrysch & Campbell, 2009).

2.7 Attitudes-Social influence model

A framework for the use of maternal healthcare is the Attitudes-Social influence model (ASE) (De Vries & Backbier, 1994). The ASE-model includes the Theory of Reasoned Action (Fishbein & Ajzen, 1975) and Social Learning Theory (Bandura, 1986). In the ASE-model, there are three main psycho-social factors that have been identified to predict behavior intention - attitudes, social influences, and self-efficacy. A person's

attitude towards a specific behavior is a result of the consequences that person expects from performing the behavior. For example, attitude may be a deciding factor in whether to breastfeed the baby or use bottle milk. Due to social influence as a result of social norms individuals may sway them because they are perceived to be an expert in the matter at hand. Self-efficacy expectations can be seen as a person's belief whether she can perform the desired behavior and can cope with barriers that may hinder actual performance. The implication of the model is that a person's health behavior can be changed, by changing her attitudes, her perception of social norms, social support, and her self-efficacy expectations (Amooti-Kaguna & Nuwaha, 2000).

CHAPTER THREE

3.0 METHODS

3.1 TYPE OF STUDY

This study was a quantitative, descriptive cross sectional study. This design was adopted in order for the phenomenon of interest to be investigated as a snap shot of the actual situation that exists on the ground. The design also allowed for the selected variables to be measured at a single time. It was a facility- based study.

3.2 STUDY AREA AND LOCATION

The study was a facility based study that made use of respondents accessing the Ridge Regional Hospital within the Greater Accra Region of Ghana.

The Ridge Regional Hospital was opened by the British around the year 1928. After independence in 1957, Dr. Kwame Nkrumah turned the hospital into a women's hospital to treat Obstetrics and Gynaecology cases. During the era of Col.I.K Acheampong, he turned the hospital into a District hospital in 1974 in order to ease the pressure in Korle-Bu. The hospital was later designated Regional Hospital in year 1997. It occupies a total land area of 15.65 acres. Politically it falls within the Osu Klottey sub-metro of the Accra Metropolitan area. As a regional Hospital for the Greater Accra Region, its catchment area is the whole of the region with an estimated population of 4,283,322. However the immediate catchment area includes the following suburbs: Nima, Maamobi, Kanda, Accra New Town, Kotobabi, Osu, La, Adabraka, Airport Residential Area, Legon, Achimota and Central Accra.

The Ridge Regional Hospital is accredited by the Medical and Dental Council for Ghana for the training of House officers in Medicine, Surgery, Obstetrics and Gynaecology, Dentistry and also training of post graduate Residents in Paediatrics, Obstetrics and Radiology. The ANC services are carried out three times a week that is Mondays, Tuesdays and Thursdays however, ANC referrals from other hospitals are accepted from Mondays to Fridays. Apart from taking weight measurement, testing of urine and checking of blood pressure which is done at one central point for all the clients, instead of the cubicle based care (Focused Antenatal Care); History taking, palpation and prescription writing are done in individual cubicles with a Midwife in attendance. Cases which are beyond the Midwife are referred to the Obstetrician for attention.

The overall Bed complement of the facility is 191.

3.3 THE STUDY VARIABLES

A. Explanatory variables

Socio-demographic Variables: Age, Marital status, Educational status, Parity, Occupation.

B. Outcome Variables

Birth Preparedness and Complication Readiness.

3.4 STUDY POPULATION

The study population was made up of women within the reproductive age who are attending antenatal clinic at the Ridge Regional Hospital and were within the last

trimester of pregnancy. Such women made up the study population and this inclusion is irrespective of parity, age, educational and economic status.

3.5 SAMPLE SIZE DETERMINATION

The sample size was determined using the following assumptions level of confidence of 95% and a margin of error (d) of 5% 0.05. Using the formula for calculating sample size for small samples which is stated below:

$$n = \frac{z^2 \cdot pq}{d^2}$$

Where n = minimum sample size, z= confidence level of 95 % (1.96), p= is the assumed practice of BP (0.5) and d is the margin of error 5%

$$n = \frac{(1.96)^2 \cdot 0.5 \cdot (1-0.5)}{(0.05)^2}$$

$$n = \frac{(3.8416 \cdot 0.25)}{0.0025}$$

$$n = 384.16 \approx 384$$

By adding 10% non response rate of 384 $\approx$ 390 approximately 422 expectant mothers in the third trimester were expected to be interviewed, however only 400 were recruited during the period of data collection.

3.6 SAMPLING METHOD

Simple Random Sampling was employed. In the absence of a sampling frame, the lottery method was the most appropriate sampling technique for this study. Based on the antenatal attendance records of the hospital over the years, an average of 100 women report at the ANC per day of which 50% are within the last trimester

Using this information, a lottery method was adopted where fifty (50) cards were marked, (forty (40) "yes" and ten (10) "no" these cards were placed in a sack and all the pregnant women in their third trimester visiting the ANC were asked to dip their hands into the sack and pick a card. Those who picked "yes" were interviewed after they gave their consent and their ANC cards were marked to avoid interviewing them twice.

The data was collected over a period of 5 weeks; since there are 3 ANC days in a week, an average of 30 respondents were interviewed per day till the required number was obtained.

3.7 DATA COLLECTION TECHNIQUES/ METHODS AND TOOLS

The study made use of structured questionnaire (portions of which is adopted from the Medical Outcomes Study (MOS) social support survey) which were administered through a face to face interview to elicit response from the study participants who fell within the eligibility criteria of the study within the period of data collection. Although the original questionnaires were in English language, questions were translated into the local languages during the interview for those who could not speak English.

3.8 DATA PROCESSING AND ANALYSIS

Data collected was coded, entered, cleaned and analyzed using SPSS version 16 software by two personnel. This was done separately so that comparisons were made during the process to ensure that data entry was done accurately. Employing descriptive statistics, summaries of frequencies, percentages and measures of association between birth preparedness and variables such as educational level, marital status and others were explored at the 95% confidence interval. A p-value <0.05 was used to determine statistical significance. Association between birth preparedness and socio- demographic characteristics was tested using Pearson's Chi-square.

3.9 DETERMINATION OF LEVEL OF PREPAREDNESS

Those who were considered as 'well prepared' met at least three of the following conditions: have made funds available for transportation, have identified the mode of transportation to hospital when labour begins, have arranged for a blood donor and already has blood in the bank. Those who met less than three of the conditions were considered 'less prepared'.

3.10 QUALITY CONTROL

Three research assistants were recruited to be interviewers as they have basic knowledge in research methodology. The following measures were put in place to ensure the quality and validity of the data and findings of the study:

1. Research assistants or data collection personnel with the requisite background were recruited and trained well (intensively) for the study.
2. Each day, data was checked on the field to ensure that all information has been properly collected and recorded.
3. Errors and omissions detected were discussed with the respective research assistants and the necessary corrections made.
4. There was regular monitoring by the field supervisor at the study area to review questionnaires presented by the field staff for consistency. Appropriate corrections were made. Data that were clearly inconsistent and corrections could not be made, were excluded from processing and analysis since it could affect the consistency and validity of the results.
5. Questionnaires that were excluded as a result of inconsistencies or incompleteness were kept for discussion in the final report.
6. All data collected were entered in SPSS (version 16.0).
7. The Researcher verified how data had been coded and entered into the computer.

3.11 ETHICAL ISSUES

Ethical clearance was obtained from the Ghana Health Service Ethical Review Board.

Permission was also sought from the Greater Accra Regional Health Directorate as well as the Ridge Regional Hospital Authorities before commencement of the study.

Participants were told the nature and purpose of the research prior to inclusion in the

study. Before the questionnaires were administered the participants were made to understand that their participation in the study was purely voluntarily and that they could choose to withdraw from the study if they so desired at any point in the data collection process.

They were made aware of the fact that the information provided will be treated with all confidentiality and anonymity since no names will be written on the questionnaires.

Before the actual commencement of data collection each participant was made to give a verbal consent indicating her willingness to be involved in the study.

3.11.1 Description of Research Burden

Participants were told that they will be interviewed and the responses elicited will be used to fill a questionnaire and that the interview will not last beyond 30 minutes.

3.11.2 Description of Measures to reduce risk

The participants were made aware of the fact that the methods and tools that were used in the study posed no risk to them. However, some questions on their obstetric history may be embarrassing to them. They were assured that anonymity and high level of confidentiality was applied to every information they provided. Maximum privacy was ensured as much as possible and that they had the right not to answer any question they were not comfortable with.

3.11.3 Benefits to participants

The participants were informed that the research did not guarantee any direct or short term benefit. It was expected however, that the information elicited would inform policies and programmes in the region to prevent maternal mortality and improve maternal health.

3.11.4 Compensation

It was made known to the participants that, there was neither compensation nor reward for participating in the study. Willingness to participate was purely voluntary.

3.11.5 Rights of participants and Right to Opt out of the Research

Participants were made to understand that they had the right:

- To decline enrolling in the study
- Not to answer questions they are uncomfortable with
- Withdraw from the study completely and yet not suffer any consequences, punitive measures or decline in the quality of care they receive at the facility.

3.12 TRAINING OF RESEARCH ASSISTANTS

Three (3) Research Assistants with midwifery skills were employed .They were trained on;

- How to administer the questionnaire.
- Translate technical terms into local language.
- To respect the dignity and human rights of the participants.

- Obtain verbal consent from all participants before questionnaires were administered.

3.13 PRETESTING

This aspect was done few days prior to the commencement of the actual data collection process. The questionnaire was pretested on 10 (ten) pregnant women at term of pregnancy but attending ANC at Madina Polyclinic (Kekele). This was done to identify ambiguities and inconsistencies. Necessary changes were made to bring out clarity of questions.

3.14 ACTUAL DATA COLLECTION

The pre-trained research assistants with midwifery skills who are fluent in the local languages collected the data by first providing privacy and obtaining a verbal consent. The objective of the research was explained to the participants before conducting a face-face interview using the questionnaire designed by the researcher. The interview schedule included information on the age of the respondent, marital status, level of education, occupation, number of deliveries (parity) and number of visits to the ANC with the current pregnancy. Their ANC cards were reviewed to confirm the gestational age and obstetric history.

Information on birth preparedness was assessed by asking of their expected date of delivery, whether they are aware that labour could start before the due date. It was also determined if participants had saved money for any emergency as well as arranging for a blood donor. Information was sought on whether they had decided on the facility to give birth in and whether they had arranged for transportation should labour occur.

Their knowledge of danger signs in pregnancy was assessed by asking what danger signs of pregnancy they knew, they were then asked whether they knew that bleeding, change in pattern of foetal movement, loosing liquor, swelling of face, ankle and feet, severe vomiting, convulsions, severe frontal headaches and difficulty in breathing were the danger signs in pregnancy.

In assessing the support systems that are available to them, it was determined whether they had someone to accompany them to the hospital when in labour. Also, they were asked if they had identified someone to help take care of the children whiles they are in hospital as well as to help in taking care of the newborn when they are discharged home.

CHAPTER FOUR

4.0 RESULTS

4.1 Introduction

In this chapter, key findings from the data collected in line with the objectives of the research which is a quantitative study are interpreted and results presented.

A total of 400 expectant mothers in their third trimester participated in the study.

4.2 Characteristics of respondents

Sixty-eight percent of the respondents were between the ages 25-34 years. Only 2.5% were 40% years and older. Majority of 53% completed at least Junior High School while 10% completed University education. Only 2.3% did not attend any school. Seventy-eight and a half percent of respondents are married and 1% separated. A proportion of 54.3% were traders while 2.5% were unemployed, 77 representing 19.3% were in formal employment and 31 representing 7.8% were housewives (Table 4.1).

Table 4.1: Demographic Characteristics of Respondents

Demographic Respondents	Characteristics of	Frequency	Percent
Age			
	< 20	14	3.5
	20-24	59	14.8
	25-29	136	34
	30-34	136	34
	35-39	46	11.5
	40+	9	2.5
	Total	400	100.0
Educational Level			
	None	9	2.3
	Primary	59	15
	Secondary	219	53.9
	College	35	8.9
	University	40	10.2
	Other	38	9.7
	Total	400	100.0
Marital Status			
	Married	318	79.3
	Single	54	13.6
	Separated	4	1
	Cohabiting	24	6.1
	Total	400	100.0
Occupation			
	Unemployed	15	2.5
	Trader	217	54.9
	Housewife	31	7.8
	Formal Employment	77	19.5
	Other	60	15.2
	Total	400	100.0

4.3 Reproductive History and History of Antenatal Care

This consists of information on the number of times a respondent got pregnant (gravidarity) and the number of deliveries one has undergone (parity) as well as the number of visits made to the Ante Natal Clinic.

A total of 52.8% had been pregnant less than two times and 1.3% had more than six pregnancies, 178 respondents representing 44.5% recorded pregnancies between 3-5 times.

The number of respondents who had not experienced delivery before are 111 (27.8%), 278 (69.5%) had delivered between 3-5 times. Only 9 respondents had had 4 or more deliveries which represented 2.3%. For those who had Ante natal Care less than 4 times 43 (10.8%) were recorded and 357 respondents (89.2%) had visited the ANC more than 4 times.(Table 4. 2).

Table 4 2: Reproductive History and History of Antenatal Care

Reproductive History and History of		
Antenatal Care	Frequency	Percent (%)
Gravidarity		
Primigravida	88	22.1
Secundigravida	122	30.6
Multigravida	189	47.4
Total	400	100.0
Parity		
Nullipara	110	27.8
Primipara	155	39.1
Multipara	129	32.6
Grand Multipara	2	0.5
Total	400	100.0
Number of visits to the ANC		
<4	43	10.8
≥4	357	89.2
Total	400	100.0

4.4 Knowledge of Danger Signs During Pregnancy

Expectant mothers were questioned on whether they knew any danger signs of pregnancy. This question was asked in order to determine whether they knew that the underlying questions were signs of danger during pregnancy in order to ascertain their ability to recognize danger signs should they occur.

The study identified that 68.7% indicated that they knew some danger signs and gave examples of them while 31.3% of them did not know what danger signs of pregnancy were. However when the various signs were mentioned to them, they were aware of them except that they did not know that it was a dangerous sign.

When asked about bleeding, 75.5% were aware that it was a dangerous sign and 23.8% were unaware of it; 62.7% did not know that change in pattern of foetal movement was a dangerous sign in pregnancy only 37.3% had that knowledge. A total of 65.1% knew that loosing liquor was a dangerous sign and 34.9% did not know that. When asked about swelling face, ankle and feet 78.5% had that knowledge and 20.5% did not have that knowledge.

Of the total, 60.9% knew that severe frontal headache was a dangerous sign while 39.1 % did not know that.

Two hundred and fifty-eight respondents (65.2%) knew that severe vomiting was a dangerous sign of pregnancy and 138 (34.8%) did not know that. Convulsions are a definite sign of Eclampsia, 69% (272) did not know that but 31% (122) knew about it. When asked about difficulty in breathing, 65.3% (257) were aware that it is a dangerous sign as against 34.4% (135) that had no knowledge of it (Table 4.3).

Table 4.3: Percentage of Expectant Mothers who Reported Knowledge on Key Danger Signs During Pregnancy

Variable	Frequency	Percent (%)
Do you know any danger signs?		
No	124	31.3
Yes	272	68.7
Total	396	100
Bleeding	302	75.5
Change in pattern of foetal movement	145	37.3
Loosing Liquor	257	65.1
Swelling of face, ankle and feet	314	78.5
Severe frontal headache	238	60.9
Severe vomiting	258	65.2
Convulsion	122	31
Difficulty in breathing	257	65.4

4.5. Knowledge of Danger Signs (Spontaneous /Non Spontaneous Response)

Table 4.4 shows the distribution of Danger signs with Spontaneous Response and Non Spontaneous Response. Bleeding had the highest response of spontaneous response (56.7%), while swelling of face, ankle and feet had the highest Non spontaneous response (78.5%).

Table 4.4: Knowledge of Danger Signs (Spontaneous /Non Spontaneous Response)

Danger Signs	Spontaneous Response		Non Spontaneous Response	
	Yes	Percent	Yes	Percent
Anaemia	2	0.5	-	-
Bleeding	230	56.7	302	75.5
Change in pattern of foetal movement	-	-	145	36.3
Convulsions	-	-	122	30.5
Difficulty in breathing	-	-	257	64.3
Headache	5	1.2	238	59.5
High temperature	1	0.2	-	0.0
Loosing liquor	43	12.1	257	64.3
Lower abdominal pain	12	3.0	-	-
Oedema	91	22.4	-	-
Pregnancy Induced Hypertension	1	0.2	-	-
Swelling of face, ankle and feet	-	-	314	78.5
Vomiting	15	3.7	258	64.5
Total	400	100.0		

Note: Percentages of Non Spontaneous response were done on individual questions

4.6 Information on Birth Preparedness

The information gathered from this portion of the questionnaire helped to ascertain how well prepared a respondent was. A woman was considered ‘well prepared’ if she had accomplished any three or more of the following practices: made funds available for

transportation to hospital, have identified the mode of transportation to hospital when labour begins, have arranged for a blood donor and already has blood in the blood bank. A woman was considered 'less prepared' if she accomplished less than three of the four practices.

Other variables in this category are: knowledge of expected date of delivery which had 89.2%, of respondents saying 'Yes' to the possibility of labour to start before due date to which 86.1% admitted knowledge of. Identifying the facility one will give birth in to which 96.2% pointed out that they will deliver at the Ridge Regional Hospital, some also said they would take transfers to clinics or hospitals where their mothers lived outside Accra.

Three hundred and seven respondents were aware that they may need blood during labour but only 124 mothers had arranged for a blood donor. Only 16.4% (65) of respondents already had blood ready in the blood bank. Three hundred and eighty respondents had already identified a companion (their mother, mother-in-law, sister or husband) to take them to hospital when in labour. A total of 376 respondents had already packed their bags with items needed for the delivery of the baby (Table 4.5).

Table 4.5: Awareness and Resource Mobilization Towards Preparedness

Variable	Frequency	Percent (%)
Awareness of expected date of delivery		
Yes	354	89.2
No	43	10.8
Total	397	100
Awareness that labour may start before due date	341	86.1
Availability of funds for transportation to hospital	353	88.7
Identified the facility to give birth in	383	96.2
Identification of mode of transportation to hospital at the onset of labour	306	77.1
Mode of transportation arranged for		
Private Car	101	25.3
Taxi	297	74.2
Trotro	2	0.5
Awareness of the need of blood during labour	307	77.3
Already identified a blood donor	124	31.6
Already have blood in the blood bank	65	16.4
Identified companion to accompany to the hospital at the onset of labour	380	95.7
Already packed bag with items needed for delivery	376	94.7

4.7 Association of Socio-demographic Characteristics and Birth preparedness and Complication Readiness

Table 4.6 indicates that Educational Level, Occupation and ANC Attendance were the variables that have significant relationship with the level of preparedness. There was a significant relationship between educational level and level of preparedness $X^2 (1, n=393) = 6.971, p < .05$. Higher Levels of education are associated with lower levels of preparedness. Irregular Income earners that is women who were not in formal employment are associated with lower levels of preparedness $X^2 (1, n=395) = 11.151, p < .05$. Finally, higher levels of ANC Attendance are associated with lower levels of preparedness. $X^2 (1, n=400) = 4.574, p < .05$. (Table 4.6).

Table 4.6: Association between Birth Preparedness and Socio-demographic Characteristics

Demographic Characteristics	Prepared Frequency(%)	Not Prepared Frequency (%)	χ^2	p –value
Age				
<20	0(0)	7(1.8)	2.746	0.097
≥20	111(27.8)	281(70.4)		
Marital Status				
Not Married	94(23.7)	220(55.6)	2.731	0.098
Married	17(4.3)	65(16.4)		
Educational Level				
Less than Secondary	19(4.8)	87(22.1)	6.971	0.008
Secondary or more	90(22.9)	197(50.1)		
Occupation				
Irregular Income	76(19.2)	242(61.3)	11.151	0.001
Regular Income	33(8.4)	44(11.1)		
Parity				
1	66(16.7)	199(50.3)	3.879	0.144
2-4	44(11.1)	84(21.2)		
≥5	1(0.3)	2(0.5)		
ANC Attendance				
<4	6(1.5)	37(9.2)	4.574	0.032
≥4	105(26.2)	252(63.0)		

4.8 Availability of Social Support Systems

This section sought to assess the social support systems that were available to the respondents.

A total of 294 respondents had identified who will be with the children at home whiles the mother is in hospital. Eighty-three respondents who are going to be first-time mothers did not have the need for anyone to be at home with the children whiles they were in hospital. Respondents identified their mothers, husbands and sisters as people they count on to listen to them when they need to talk, give them good advice when they notice a danger sign, to help them when they were confined to bed and to make them feel loved and wanted. 73.8% of the pregnant mothers said they got together with their husbands or sisters for relaxation and 73.5% had a good time with them when they needed it (Table 4.7).

Table 4.7: Availability of Social Support Systems

Variable	Frequency	Percent (%)
Residence SES		
Family house	85	21.3
Live with husband only	224	56.0
Live with husband and some family members	72	18.0
Live alone	19	4.8
Total	400	100.0
Identified who will be with the children	294	73.5
Identified an individual who will help care for the baby	390	97.5
Have someone to count on to listen when she needs to talk	374	93.5
Have someone to give good advice when a danger sign was noticed	373	93.3
Have someone to help if confined to bed	386	96.5
Have someone to accompany her to the doctor	384	96
Have someone to love and make her feel wanted	389	97.3
Have someone to get together for relaxation	295	73.8
Have someone to have a good time with	294	73.5

CHAPTER FIVE

5.0 DISCUSSION

5.1 Background Information and characteristics of the study population

This design was adopted in order for the phenomenon of interest to be investigated as a snap shot of the actual situation that exists on the ground. The study was a facility based study that made use of respondents accessing the Ridge Regional Hospital within the Greater Accra Region of Ghana.

The immediate catchment area includes the following suburbs: Nima, Maamobi, Kanda, Accra New Town, Kotobabi, Osu, La, Adabraka, Airport Residential Area, Legon, Achimota and Central Accra. However there were respondents from very far places like Weija, Sowutuom, Ashalley Botwe, Adenta, Teshie, Ajiringanor, Gbawe, Ofankor barrier, Tantra Hills, Tabora Alhaji, Omaajor, Pokuase amongst others.

The main aim was to assess the knowledge and practices of birth preparedness and complication readiness among pregnant women in order to find out how well informed they are about dangers in pregnancy in order to avoid the three main delays that cause maternal deaths.

5.2.0 Knowledge on birth preparedness and complication readiness

5.2.1 Level of preparedness

Knowledge of danger signs:

A very important aspect of assessing BPCR is measuring the spontaneous knowledge of essential danger signs of pregnancy as was stated by Hiluf & Fantahun (2008); the study found out that 10.9% of the respondents mentioned vaginal bleeding and 2.2% mentioned blurred vision and 5.2% mentioned swollen hands/face as danger signs during pregnancy; they also said that knowledge of danger signs of obstetric complications is the first step in the appropriate and timely referral for emergency care.

The assessment of knowledge was based on the fact that some expectant mothers know the danger signs and are able to recognize them of which 68.7% were able to give examples. Sixty-seven percent of respondents knew at least one danger sign in a study done in East Africa by Mutiso, et al, 2008) which is less than the result with this study.

A key sign of antepartum haemorrhage is vaginal bleeding; 23.8% of respondents in this study were unaware of it. In this same study done by Mutiso et al. in East Africa, 35.8% were not aware of it while all the respondents in that study completely lacked information on danger signs such as fever, convulsions and difficulty in breathing. In this study however, about 30% had no knowledge of bleeding. The knowledge of danger signs is very important to the pregnant woman as this helps her to recognize the signs and symptoms and aids in her decision to seek care on time to avoid delay.

Blood donation:

Many of the mothers (77.3%) were aware of the fact that they may need blood during labour but only 16.4% of mothers actually had blood in the blood bank and 31.6% said they had arranged for a blood donor. It is however observed that about 80% of those who already had blood in the bank had anaemia with haemoglobin levels around 7g/dl so were cautioned by the midwives that they needed to have blood in the blood bank before getting into labour. During the educational health talks, the midwives informed the expectant mothers of the importance of having a blood donor in readiness of any complications. Despite that only one-third of the respondents had arranged for a donor. In a similar study done in Kenya, Mutiso et al., (2008), observed that only 28.7% had identified a blood donor which is almost the same in this study. Iliyasu et al., (2010) in their study which took place in Northern Nigeria however had only 1.8% of spouses who donated blood during a complication and 3.7% donated blood in anticipation of a birth complication. The study done by Urassa et al. in Mpwapwa district in Tanzania, (2012), however stated that only 8.7% women arranged for a potential blood donor.

Also, the safest place to give birth is in an emergency obstetric and neonatal care facility (EmONC) (Rogo & Aloo 2001). In this study, 96.2% of respondents have identified the facility to give birth and most of those who said they will deliver at the Ridge Regional Hospital and others who decided to give birth outside Accra said they will obtain a transfer to the clinic/ hospital closest to where they will reside.

5.2.2 Antenatal care

One of the most important functions of antenatal care is to offer the expectant mother advice and information on birth preparedness and complication readiness (BPCR) (Mutiso et al., 2008). It was realized in this study that higher levels of ANC attendance are associated with lower levels of preparedness chi-square = 4.574, $p = 0.032$. Sixty-three percent of respondents who had more than 4 visits were not well prepared for birth. This result however is in sharp contrast to the study done in Tanzania which reported that respondents who had more than 4 visits were 85.9% prepared for birth (Urassa et al., 2012). There was a statistically significant association between level of preparedness and ANC attendance ($p = 0.032$; Table 4. 7).

Birth preparedness and complication readiness (BPCR) is a process of planning for normal delivery and being prepared to combat any complications should they occur. For BPCR to be successful, responsibility must be shared among all stakeholders- policy makers, facility managers, healthcare providers, communities, families and women as a coordinated effort is needed to reduce the delays that contribute to maternal deaths (Ekabua, et al., 2011). Many a time, access to care is impeded by three main delays which are delays in deciding to seek care, delays in reaching care, and delays in receiving care. The delays have many causes including financial concerns and inadequate knowledge about maternal health issues (Thaddeus & Maine 1994).

Information on preparedness:

In this study, majority of the expectant mothers (89.2%) knew their expected date of delivery as well as the possibility of labour to start before the due date.

According to Mutiso et al., (2008), advance transport arrangements reduce delay in reaching the health facility. Time is saved by that gesture as it enables couples know what transport is available at different times of the day and how much it will cost so that savings could be made to serve that purpose, 74.2% of the respondents said they have arranged with Taxi drivers to pick them to the hospital when in labour.

5.2.3 Association between Socio-demographic characteristics and Birth preparedness and Complication Readiness

Level of education:

A higher level of education is the most important factor for increased awareness of danger signs as stated by Pembe et al., (2009). In this study, 53% of respondents had completed at least Junior High School and 10% completed University education (p-value = 0.008). Compared to a study done in Ethiopia where it was observed that educated women were twice more prepared for birth than the uneducated ones (Hiluf & Fantahun, 2008) the illiterates were 25.8% and the educated respondents 74.1%. This might be related to the fact that women who are educated are more likely to be financially sound and also have better negotiating power and are able to make their own decisions in matters concerning their health than women who are uneducated, Urassa et al. (2012). Another reason why better educated women are more prepared for birth and complication readiness is their ability to better understand health messages and search for more

information regarding health issues Kabakyenga et al. (2011). According to Kabakyenga et al, (2011) similar studies conducted in other countries have shown separately clear relationship between high education and awareness of danger signs of pregnancy in Tanzania, (Pembe et al., 2009), Kenya (Mutiso et al., 2008) and in Ethiopia (Hiluf & Fantahun, 2007). de Groot et al.(1996) argued that better educated women are more aware of health problems, know more about the availability of health care services and use this information more effectively to maintain or achieve good health status. Mother's education may also act as a proxy variable of a number of background variables representing women's higher socio-economic status, thus enabling her to seek proper medical care whenever she perceives it necessary (de Groot et al., 1996).

The results indicated that, Educational level, Occupation and ANC attendance had significant relationship with the level of preparedness as evident by $p < 0.05$. Age, Marital status and Parity did not show any significant relationship with the level of preparedness. It is observed that women who knew three or more danger signs were three times more likely to be prepared for birth and complications as noted by Urassa et al., (2012).

Antenatal care at regular intervals in the course of pregnancy is important in monitoring the physical status of both mother and foetus as it helps in early detection of danger signs as well as other diseases and complications. It also offers an opportunity for expectant mothers to be counseled and to plan for delivery (WHO, 1994). ANC attendance should be at least four times as recommended by WHO. In this study, those who attended ANC less than four times were not 'well prepared' with a p-value of 0.032.

Age:

Age is one of the demographic characteristics used to determine if a respondent was ‘well prepared’ or ‘less prepared’. From the study, respondents below the age of 20 years were ‘not well prepared’ as they had a p-value of 0.097. $\chi^2 = 2.746$; $p = 0.097$ (12.5%). A similar study done in Uganda by Kabakyenga et al., (2011) however revealed that 34.4% women less than 25 years were birth prepared. The possible reasons being that the operational definitions used to determine being ‘well prepared’ are not the same as those used in this study.

Marital status:

The marital status of the respondents was also used to determine mothers who are ‘well prepared’ versus those who are ‘less prepared’. It revealed the fact that being married does not necessarily make one ‘well prepared’ for birth and complications p-value = 0.098.

Marital status was not a good predictor for birth preparedness as shown in the study done in Southeastern Nigeria by Ekabua et al., (2011).

Parity:

The p-value for parity in this study is 0.144 which shows that the more respondents had children previously did not make them ‘well prepared’ for birth and complications. In Southeastern Nigeria, a study done by Ekabua et al., (2011) showed the opposite where

parity was seen as a better predictor of knowledge of severe vaginal bleeding as a key danger sign during pregnancy than educational level with a p -value = 0.0009 and p = 0.849 respectively. Also in the same study, it was observed that parity was a highly significant predictor (p = 0.0089) of planning to save money followed by awareness of birth preparedness (p = 0.0101). This study however did not seek to determine whether parity had any effect on knowledge of danger signs of pregnancy but to determine the birth preparedness and complication readiness of an expectant mother in her third trimester of pregnancy.

5.2.4 The availability of social support systems for expectant mothers

This section sought to assess the social support systems that were available to the respondents. The pregnant woman is vulnerable at this time of her life and the availability of social support is very crucial for her general wellbeing and that of her baby as well. A gainfully employed spouse is expected to give her the needed financial support. Those who live in the family house usually have their siblings, mothers, mothers-in-law and cousins available to give the necessary support when a pregnant woman needs someone to accompany her to hospital or to do her marketing and cooking for her when her health does not permit her to do it herself.

Respondents who live with their husbands alone said they were expecting their mothers or mothers-in-law, sisters or an aunt as is common in the African extended family system/situation to come and live with them as the time of delivery approaches. This

same relative they said will help with the care of the new born and the older children till the woman is strong enough to take up full care of her children. A total of 294 (73.5%) respondents had identified who will be with the children at home while the mother is in hospital. Eighty-three respondents who are going to be first-time mothers did not have the need for anyone to be at home with the children while they were in hospital. Respondents identified their mothers, husbands and sisters as people they count on to listen to them when they need to talk, give them good advice when they notice a danger sign, to help them when they were confined to bed and to make them feel loved and wanted.

In a study carried out in Uganda, 42.9% of expectant mothers reported that they were accompanied by their spouses to the ANC, 35% had their spouses help them with household chores during the antenatal period. During the onset of labour, 68.6% are accompanied by their spouses to hospital. (Kakaire et al., 2011). This study revealed that 95.7% of respondents had identified a close family member who is a mother, sister or an aunt to accompany them to the health facility when in labour.

In a related study done by Ekabua et al., (2011), knowledge of availability of community support systems was very poor among women surveyed however this aspect of the study was not covered in this research.

CHAPTER SIX

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

The study sought to assess the knowledge and practices of birth preparedness among expectant mothers.

The following key findings were observed:

Despite the fact that the pregnant women knew about blood donation, only 16.4% already had blood donation arrangements. Others simply did not want to do anything about it because they thought they did not need transfusion during previous pregnancies.

There was a significant relationship between educational level and level of preparedness as well as higher levels of education being associated with better level of preparedness. It was observed that almost two-thirds of the respondents knew some danger signs and gave one or two examples. As many as two-thirds did not know anything about Eclampsia or pregnancy induced hypertension.

Majority of the expectant mothers (95%) had identified a companion to hospital when in labour, these were their immediate family members or in-laws.

6.2 RECOMMENDATIONS

6.2.1 Recommendations for Stakeholders (GHS and RRH)

Giving that less than twenty percent of the respondents already had blood in the blood banks, It is recommend that the importance of having blood in readiness for any complication be emphasized by the Ghana Health Service by improving upon blood donation policies in tertiary hospitals. This emphasis should be laid during health educational talks at the ANC as it is a very important aspect of BPCR. It is therefore suggested that every expectant mother is to donate blood by the seventh month of pregnancy as a way of proving birth preparedness and complication readiness.

Since less than 2% of the expectant mothers knew about the danger signs of pregnancy induced hypertension as per their spontaneous responses and non-spontaneous responses, It is recommend that focus ANC be practiced fully by ensuring that more weighing scales and Blood Pressure apparatuses be provided to the Midwives as well as more cubicles so that Focused ANC will be enhanced and not partially at the Ridge Regional Hospital as this will improve upon individual health education which will enhance knowledge of danger signs. Health education and health promotional talks should be intensified by the midwives on important topics such as: Danger signs of pregnancy especially convulsions, severe frontal headaches, swelling of face, ankle and feet and also loosing liquor. Prior transport arrangement should be emphasized and expectant mothers should be allowed to have birth companions as it is part of birth preparedness and complication readiness.

In order to improve upon the social support systems that the expectant mothers have from their family members, the various communities in which they live must form community support systems in order to provide emergency funds, transport and blood donors in readiness to assist needy expectant mothers.

6.2.2 Recommendations for future research

Exploring the social support systems available in the community will help create the awareness of that need if not already existing as this aspect was not added to the study because of time constraints.

A research can also be done to validate higher levels of education being associated with lower levels of preparedness.

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APPENDICES

APPENDIX ONE

STRUCTURED QUESTIONNAIRE

UNIVERSITY OF GHANA, LEGON SCHOOL OF PUBLIC HEALTH

TOPIC: Birth Preparedness and Complication Readiness among Expectant Mothers at The Ridge Regional Hospital.

Name or interviewer.....

Questionnaire number.....

Date of interview.....

My name is.....I am administering this research tool on behalf of the Ridge Regional Hospital. We want assess how well prepared you are towards birth and how much you know about birth complications and also how ready you are to combat it should any occur.

SOCIO-DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

1. Age in years.....

2. Education

Primary ☐ Secondary ☐ College ☐ University ☐ Others ☐

3. Marital status

Married ☐ Single ☐ Separated ☐ Widowed ☐ Divorced
Cohabiting ☐

4a. Gravidity.....

4b. Parity.....

5. Number of visits to the ANC.....

6. Occupation

Trader ☐

Housewife ☐

Formal employment ☐

Farmer ☐

Others specify.....

INFORMATION ON BIRTH PREPAREDNESS

7. Do you know your expected date of delivery?

Yes ☐ No ☐

8. Is it possible for labour to start before due date?

Yes ☐ No ☐

9. Have you made funds available for transportation to hospital?

Yes ☐ No ☐

10. Have you identified the facility you will give birth in?

Yes ☐ No ☐

11. Have you identified the mode of transportation to hospital when labour begins?

Yes ☐ No ☐

11b. If yes what mode of transportation have you arranged for?

.....

12a. Are you aware that you may need blood during labour?

Yes ☐ No ☐

12b. Have you already arranged for a blood donor?

Yes ☐ No ☐

12c. Do you already have blood in the blood bank?

Yes ☐ No ☐

13. Have you identified a companion to take you to the hospital when in labour?

Yes ☐ No ☐

14. Have you already packed your bag with items needed for the delivery and for the baby?

Yes ☐ No ☐

KNOWLEDGE OF DANGER SIGNS DURING PREGNANCY.

15a. Do you know any danger signs in pregnancy?

Yes ☐ No ☐

15b. If yes what danger signs do you know.....

16. Do you know that the following are danger signs of pregnancy?

Bleeding Yes ☐ No ☐

17. Change in pattern of foetal movement: Yes ☐ No ☐

18. Loosing liquor Yes ☐ No ☐

19. Swelling of face, ankle and feet: Yes ☐ No ☐

20. Severe frontal headaches: Yes ☐ No ☐

21. Severe vomiting: Yes ☐ No ☐

22. Convulsions: Yes ☐ No ☐

23. Difficulty in breathing: Yes ☐ No ☐

ASSESSMENT OF SOCIAL SUPPORT SYSTEMS

24a. Is your Spouse gainfully employed?

Yes ☐

No ☐

24b. If yes, Which type of work does he do?.....

25a. Where do you reside?

Family house ☐

Live with husband only ☐

Live with husband and some family members ☐

Live alone ☐

25b. In which area do you reside?.....

26. Have you identified who will be with the children at home whiles in the hospital?

Yes ☐

No ☐

27. Have you identified an individual who will help you care for the baby after he/ she is born?

Yes ☐

No ☐

28. Do you have someone you can count on to listen to when you need to talk?

Yes ☐

No ☐

29. Do you have someone to give you good advice when you notice a danger sign?

Yes ☐ No ☐

30. Do you have someone to help you if you were confined to bed?

Yes ☐ No ☐

31. Do you have someone to take you to the doctor if you needed it?

Yes ☐ No ☐

32. Do you have someone to love and make you feel wanted?

Yes ☐ No ☐

33. Do you have someone to get together with for relaxation?

Yes ☐ No ☐

34. Do you have someone to have a good time with?

Yes ☐ No ☐

APPENDIX TWO

CONSENT FORM

Title of research: Birth Preparedness and Complication Readiness among Expectant Mothers at Ridge Regional Hospital

Principal Investigator: Dzifa Agbodohu

Qualification: MPH Resident

Address; School of Public Health, University of Ghana, Legon.
Department of Population and Reproductive Health
P. O. Box LG 13
Tel. 0243-267148, Email: edzifanam@yahoo.com

General Information about the Research

The main aim of this research is to explore the Birth Preparedness and complication readiness of expectant mothers at Ridge Regional Hospital.

Description of Research Burden

You will be interviewed and the responses elicited will be used to fill a questionnaire. The interview will not last beyond one hour.

Description of Measures to reduce risk

The methods and tools that will be used in the study posed no risk to you. However, some questions on your obstetric history may be embarrassing to you. You are assured that anonymity and high level of confidentiality will be applied to every information you would provide. Maximum privacy will be ensured as much as possible and you have the right not to answer any question you are not comfortable with.

Benefits to participants

The research does not guarantee any direct or short term benefit. It is expected however, that the information elicited will inform policies and programmes in the region to prevent maternal mortality and improve maternal health.

Compensation

There is no compensation for participating in the study. Willingness to participate is purely voluntary.

Rights of participants and Right to Opt out of the Research

As a Participant, you have the right:

- To decline enrolling in the study
- Not to answer questions you are uncomfortable with
- Withdraw from the study completely and yet not suffer any consequences, punitive measures or decline in the quality of care they receive at the facility.

Contacts for additional information

For further information/clarification you may ask any questions now or contact the following people:

1. Dr. Augustine Ankomah

Department of Population, Family and Reproductive Health

School of Public Health

University of Ghana, Legon.

2. Dr. Amos Laar

Department of Population, Family and Reproductive Health

School of Public Health,

University of Ghana, Legon.

Principal Investigator

Dzifa Agbodohu

Department of Population, Family and Reproductive Health

School of Public Health,

University of Ghana,

Legon.

Mobile no:0244841396.

If you agree to participate in this intervention, initial or right thumb in the spaces below;

Yes, I agree to the interview/discussion.....

No, I do not agree to the interview/discussions

SIGNATURE/RIGHT THUMB PRINT



APPENDIX THREE

VOLUNTEER AGREEMENT FORM

The nature and purpose of the research on **BIRTH PREPAREDNESS AND COMPLICATION READINESS AMONG EXPECTANT MOTHERS AT RIDGE REGIONAL HOSPITAL** has been explained to me. I have been given an opportunity to obtain clarifications about the research to my satisfaction. I agree to participate as a volunteer.

Date

Signature or mark of volunteer

If participants cannot read the form themselves, a witness must sign here:

I was present while the nature purpose and procedures of the research were read to the volunteer. All questions were answered and the volunteer has agreed to take part in the research.

Date

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

Signature of Person Who Obtained Consent

IN CASE OF FURTHER INFORMATION OR ENQUIRY ABOUT THE RESEARCH, THE PRINCIPAL RESEARCHER CAN BE CONTACTED ON THE FOLLOWING NUMBER

0244841396.

APPENDIX FOUR**LIST OF LOCATION OF RESIDENCES OF RESPONDENTS**

Location	Frequency	Percent
Asylum Down	9	2.3
Abeka	2	0.5
Ablenkpe	2	0.5
Abokobi	1	0.3
Achimota	17	4.3
Adabraka	38	9.6
Adenta	10	2.5
Adjiriganor	4	1.0
Agbogba	3	0.8
Aggege last stop	1	0.3
Agiga	1	0.3
Agboba suncity	1	0.3
Akoto Lante	1	0.3
Akweteman	2	0.5
Alajo	6	1.5
Alaska	1	0.3
Amalata	1	0.3
Amanhia	1	0.3
Amarhia	2	0.5
Amasaman	1	0.3
Anyaa Palestine	1	0.3
Ashalley Botwe	6	1.5
Ashieye	1	0.3
Ashongman Estate	1	0.3
Awoshie	2	0.5
Awudome Estate	1	0.3
Banana inn	1	0.3
Bubuashie	2	0.5
Burma Camp	1	0.3
Cantoment	1	0.3
Carprice	1	0.3
Chantan	1	0.3
Chorkor	1	0.3
CMB	1	0.3
Dansoman	11	2.8
Dome	12	3.0
Dome Pillar 2	1	0.3
Dzorwulu	1	0.3

 LIST OF LOCATION OF RESIDENCES OF RESPONDENTS Cont'd

East Legon	3	0.8
Elwak Barracks	1	0.3
Haatso	2	0.5
Israel	1	0.3
James town	1	0.3
Kanda	24	6.0
Kaneshie	1	0.3
Kasoa	9	2.3
Kokrobite	1	0.3
Kokomlemle	6	1.5
Korle Gorno	1	0.3
Korle Worko	1	0.3
Kotobabi	5	1.3
Kwabanya	1	0.3
Kwashieman	3	0.8
La	2	0.5
La Apapa	1	0.3
La Polyclinic	1	0.3
Labadi	2	0.5
Lapaz	11	2.8
Latebiokoshie	1	0.3
Lepaz	1	0.3
Madina	17	4.3
Mamobi	7	1.8
Mamprobi	1	0.3
Mateheko	4	1.0
New Legon	1	0.3
Newtown	13	3.3
Nii Boi town	1	0.3
Nima	37	9.3
Nmadjor	1	0.3
North Kaneshie	3	0.8
North Ridge	1	0.3

 LIST OF LOCATION OF RESIDENCES OF RESPONDENTS Cont'd

Odokor	1	0.3
Odorkor	2	0.5
Odorna	2	0.5
Ofankor	2	0.5
Ofankor Barrier	1	0.3
Official town	1	0.3
Pig Farm	3	0.8
Pokuase	4	1.0
Ridge	1	0.3
Roman Ridge	2	0.5
Sabon Zongo	1	0.3
Santa Maria	1	0.3
Sowutuom	5	1.3
Spintex	5	1.3
Sukura	1	0.3
Tabora	1	0.3
Tabora Alhaji	1	0.3
Taifa	1	0.3
Tantra Hills	2	0.5
Tema	4	1.0
Tesano	5	1.3
Teshie	4	1.0
Teteku	1	0.3
Tudu	6	1.5
Weija	1	0.3
Total	400	100.0
