

**SOCIO-ECONOMIC DETERMINANTS OF THE USE OF
ANTENATAL AND OBSTETRIC CARE SERVICES IN DUTSE
LOCAL GOVERNMENT AREA, JIGAWA STATE**

BY

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**THE DEPARTMENT OF GEOGRAPHY,
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JUNE, 2015

DECLARATION

I hereby declare that this thesis titled ‘Socio-economic Determinants of the use of Antenatal and Obstetric Care Services in Dutse Local Government Area, Jigawa State Nigeria’ is a record of my own research work under the supervision of Professor Moses Mamman and Professor John Gambo Laah. The information derived from the literature has been duly acknowledged in the text and a list of references provided. No part of this work has been submitted for the award of degree in any other university.

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Date

CERTIFICATION

This thesis entitled ‘Socio-economic Determinants of the Use of Antenatal and Obstetric Care services in Dutse Local Government Area of Jigawa State, Nigeria’ meets the regulations governing the award of degree of Master of Science of Ahmadu Bello University, and is approved for its contribution to knowledge and literary presentation.

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DEDICATION

This research work is dedicated to my parents, my beloved husband and my children.

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Abstract

The study assessed the socio-economic determinants of the use of Antenatal and Obstetric care services in Dutse Local Government Area of Jigawa State. Data was obtained through the administration of 400 samples to women of reproductive age in six out of the eleven wards in the LGA. Six (6) Focus Group Discussions one in each of the wards, four with women and two with men that is the husbands of the target population which sought for relevant information on the topic of study. More so Key Informant Interview was conducted with the head of the district visited and health personnel in charge of the health facilities within the study area. The results revealed the proportion of women who received antenatal care for their recent births to be (49.8%) and (24.3%) of the mothers gave birth to their recent child in the health facility and the rest (73.8%) delivered at home. Parity, family education, income, age, autonomy were significant determinants to the utilization of antenatal and obstetric care services in the study area. The research identified economic constraints, transport problems, inaccessibility of health facilities, lack of decision making power, cultural and traditional practices as important barriers for seeking maternal health care. This study confirms that the proportion of antenatal and obstetric care utilization among respondents is very low. Economic, health facility related and socio-cultural factors were the most frequently identified contributors to the low maternal health care utilization. Policy makers should put more efforts to educate mothers on the importance of Antenatal and Obstetric Care, and also improve men involvement and religious leaders, strengthen community participation, increase political commitment and boost accessibility to maternal health care services. Policy makers should give more emphasis to capacity building for skilled birth attendants at Primary Health Centres (PHCs). Traditional Birth Attendants (TBAs) are still highly accepted by communities and therefore the government should reassess the role of TBAs and motivate them as well.

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CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Antenatal care (ANC) is a term used to describe the medical procedures and care that a woman receives throughout her pregnancy, and is important in helping to ensure a healthy pregnancy state and child birth (Ekabua, Ekabua and Njoku, 2011). Wikipedia, the free encyclopedia, defined obstetric care as the medical specialty dealing with the care of a woman's reproductive tract and her child during child birth and postnatal period (a period beginning immediately after the birth of a child and extending for about six weeks) (Wikipedia, accessed 14 July 2013). Adequate ANC and skilled obstetric assistance during delivery are important strategies that significantly reduce maternal mortality and morbidity. ANC provides avenue to pregnant women to have appropriate information, treat existing social and medical conditions and screen for risk factors (Iyaniwura and Yussuf, 2009). However it is not enough to receive ANC, since majority of the fatal complications occur during or shortly after delivery (Iyaniwura and Yussuf, 2009).

It is estimated that 99% of pregnant women in developed countries receive ANC and 97% use skilled obstetric service at delivery, while, 65% and 53% of women in developing countries use ANC and skilled obstetric care respectively (Iyaniwura and Yussuf, 2009). The National Demographic and Health Survey (NDHS) of 2008, showed that in 2003, 58% and 35% received antenatal and delivery care from a skilled provider, while 17% of the women delivered alone. Five years later in 2008, 58% and 39% received antenatal and delivery care respectively from a skilled provider while 19% delivered alone (NPC and ICF Macro, 2009).

Attendance at antenatal clinics (ANCs) and receipt of professional delivery care have been associated with a reduction in maternal deaths (Magadi, Madise and Diamond, 2001). The ANC system in developing countries has been adapted from developed countries without formal evaluations of the impact of interventions in developing country settings. These evaluations demonstrated that in low risk pregnancies (pregnancies with no abnormal obstetric or medical history), a decrease from 12 ANC visits, as had been previously recommended, to a less-costly 4 visit-schedule did not result in an increase in adverse maternal and prenatal events (Pittref, Campbell and Fillppi, 2002). As a consequence, the World Health Organization (WHO) now recommends a 4-visit ANC schedule for low risk pregnancies (Jameh, Johanne and Vengem, 2011).

While available evidence indicates limited benefit from traditional antenatal care services, focused antenatal care provides opportunity for early detection of diseases and timely treatment (Magadi *et al*, 2001). It also provides opportunities for preventive health care services such as immunization against neonatal tetanus, prophylactic treatment of malaria through the use of intermittent presumptive treatment approach, and Human Immunodeficiency Virus (HIV) counseling and testing. Thus antenatal care may be particularly advantageous in resource poor developing countries, where health seeking behavior is inadequate, access to health care is otherwise limited, and most mothers are poor, illiterate or rural dwellers. With the strong positive association that has been shown to exist between level of care obtained during pregnancy, and the use of safe delivery care, antenatal care also stands to contribute indirectly to maternal mortality reduction (Babalola and Fatusi, 2009).

The WHO estimates that 850,000 women of reproductive age die each year from complications arising from pregnancy, and a high portion of these deaths occur in Sub-Saharan Africa (Mekonen and Mekonen, 2002). The ratio of maternal mortality in the region is one of the highest in the world, reaching levels of 686 per 100,000 live births (Babalola and Fatusi, 2009). Four major interventions have been identified by the World Health Organization (WHO) as critical in efforts to reduce maternal mortality in developing countries, three of them are; antenatal care, skilled birth attendance and emergency obstetric care (WHO). It is now recognized that countries with high rates of maternal mortality have low uptake of these essential interventions (Okonofua, 2008). By contrast, countries that have successfully reduced maternal mortality consistently have much higher uptake of these interventions. As an example, Sweden with one of the lowest maternal mortality rates in the world has 98% antenatal attendance by pregnant women, a skilled birth attendance of nearly 100% and almost universal access to emergency obstetric care. In comparison Nigeria, with the second highest maternal mortality rate in the world has only 60% antenatal attendance, skilled birth attendance of 30%, and very poor access to emergency obstetric care by pregnant women (Okonofua, 2008).

Much has been speculated about the level of maternal mortality in Northern Nigeria, with Maternal Mortality Ratio MMR speculated to be in excess of 1,000 maternal deaths per 100,000 live births (Centre for Reproductive Right and Women Advocate Research Documentation [CRRWARDC], 2008). Henry, Fidley and Afenyadu, (2012) confirmed this speculation by documenting a MMR of 1,271 maternal deaths per 100,000 live births from four states (Jigawa, Katsina, Yobe and Zamfara). The MMR estimate based on respondents aged 30 years and below was very high at 1,751 maternal deaths per 100,000 live births underscoring the fact that the maternal mortality situation

in the rural areas of Northern Nigeria is one of the worst worldwide, largely due to poor health systems, low utilization of skilled antenatal care, and preference for home deliveries (Henry, Sally and Dahiru, 2011). The MMR reported in Henry *et al*, (2012) is also higher than the latest national estimate of 608 maternal deaths per 100,000 live births (Hogan, Foreman and Naghavi, 2010).

1.2 STATEMENT OF THE RESEARCH PROBLEM

Africa has the highest burden of maternal mortality in the world and sub-Saharan Africa is largely responsible for the dismal maternal death figure for that region, contributing approximately 98% of the maternal deaths for the region (Awusi, Anyawu and Okeleke, 2009). The lifetime risk of maternal death in sub-Saharan Africa is 1 in 22 mothers compared to 1 in 210 in Northern Africa, 1 in 62 for Oceania, 1 in 120 for Asia, and 1 in 290 for Latin America and the Caribbean (WHO, 2005). Nigeria is a leading contributor to the maternal death figure in sub-Saharan Africa not only because of the hugeness of her population but also because of her high maternal mortality ratio. Nigeria's maternal mortality ratio of 1,100 per 100,000 is higher than the regional average (WHO, 2007). With an estimated 59,000 maternal deaths, Nigeria which has approximately two percent of the world's population contributes almost 10% of the world's maternal deaths (Hill, Abouzhar and Wardlaw, 2007). The Nigerian Demographic Health Survey (DHS) of 2008 reported that WHO estimated 59,000 maternity deaths occurred in Nigeria in 2005 and maternal mortality ratio (MMR) was 1,100 deaths per 100,000 live births, given the life time risk of maternal death of 1 in 18. The survey noted the situation in northern Nigeria give to be of concern, as maternal mortality ratio is much higher than the national average. MMR in 2003 for the North West Zone and North East Zone of Nigeria was estimated at 1,025 and 1,549 deaths per 100,000 live births respectively as

compare to national average of 800 deaths per 100,000 live births (NPC and ICF Macro, 2009).

Most of the researches conducted in the north-western part of Nigeria were centered on maternal and infant mortality. For example, Adamu, (2001) studied the spatio-temporal analysis of maternal mortality in Kano State. Abdussalami, (2009) studied the causes of death among women of child bearing age in Ahmadu Bello University Teaching Hospital (ABUTH) Zaria. The two studies were on maternal mortality not on the use of antenatal and obstetric care services. Other studies that were conducted on the use of antenatal and delivery care services among women in Northern Nigeria are clinically based, and were conducted by medical practitioners with the little of knowledge of the socio-economic effects. For instance, Henry *et al*, (2012) conducted a research on the use of antenatal and delivery care services in Northern Nigeria and discovered that only 24.7% of the women visited a clinic or facility for ANC at least once during their most recent pregnancies. The study which was conducted in the 3 Northern States of Katsina, Yobe and Zamfara also shows that about 95% of the women in Zamfara reported home deliveries, compared with 87.2% and 82.3% in Yobe and Katsina respectively. The research looked at neither demographic nor socio-economic determinants for the use of ANC, so therefore this research is set to such determinants.

Also, Idris, Gwarzo and Shehu, (2006), studied the factors that determine place of delivery among women in a semi-urban settlement in Zaria, Northern Nigeria. The result of the research indicated that, most of the respondents (about 73%) had attended at least one antenatal clinic in their previous pregnancies, but other significant proportion (about 27%) did not attend at all. Regarding the place of delivery, most of the respondents (70.2%) had their deliveries at home, while 2.2% did not indicate their place of delivery, the remaining (27.6%) delivered in hospitals.

Ronsmans, *et al*, (2003), conducted a research on maternal mortality and access to obstetric services in West Africa and concluded that in rural areas maternal mortality was 601 per 100,000 live births compared with 241 per 100,000 for urban areas. In urban areas the vast majority of birth took place in a health facility (83%) or with a skilled provider (69%), while 80% of the rural women gave birth at home without any skilled care. Another study conducted by Mekonen and Mekonen, (2002) in Ethiopia, discovered that in rural areas 21.6% received antenatal care and 2.2% received delivery care, as compare to the capital city of the country; Addis-Ababa, where 83.1% received antenatal care and 71.1% received delivery care. Going by this the problem is more prominent in the rural areas than in urban, and that is why this study is chose to be done in rural areas of Dutse local government area of Jigawa state.

Another research by Awusi *et al*, (2009) studied the determinants of antenatal care services utilization in Emevor Village of Delta State. The result obtained from the research revealed that 57% of the respondents utilized antenatal care services in the community, while 47% did not. The result also showed that 87.6% of the women aged less than 31years utilized ANC services compared with only 12.4% of the women aged more than 30years. The study reported that women in the community do not adequately utilize ANC services during pregnancy (at least within the past years preceding the survey).The non-utilization rate of 43%, found in the study was very high when compared to the less than 5% reported for the industrialized countries. The result is however comparable to the non-utilization rates of ANC services reported for Kumbotso Village in Kano, Nigeria 41%, Ilsa in Osun, Nigeria 45% and National average for India 44%, but however, it was lower than the national average reported for Nigeria (53%) and for South Asia which was 46% (Awusi *et al*, 2009). The study indicated that demographic determinants; age and parity (number of children a woman

has) as well as socio-economic determinants; level of education of the husband and wife, occupation and income have great influence on the use of ANC. However the study was conducted in the Southern part of the country, which is likely to have different socio-demographic characteristics than that of the northern part.

One of the most current studies on the subject is that of Obalugemoh (2006), which studied the socio-economic factors influencing access to reproductive and health care services among women of child, bearing age in Tudun Wada, Zaria, the study did not look at the demographic determinants but rather laid emphasis on socio-economic factors. There is therefore the need for a study that will consider both demographic and socio-economic factors that determine attendance to ANC. So this study seeks to address the identified research gap in the field of Medical Geography, by examining demographic and socio-economic determinants of the use of antenatal and obstetric care services in Dutse Local Government Area of Jigawa State where to the best knowledge of the researcher no such study has been done in the past. The study seeks to address the following research questions:

1. What are the antenatal and obstetric care facilities in the study area?
2. To what extent are ANC services being patronized by women in the study area?
3. What are the demographic factors that determine the use of antenatal and obstetric care services in the study area?
4. What are the socio-economic determinants of the use of antenatal and obstetric care facilities in the study area?
5. What are the components of antenatal and obstetric care services rendered to pregnant women in the study area?

1.3 AIM AND OBJECTIVES OF THE STUDY

The aim of the study is to examine the demographic and socio-economic determinants of the use of antenatal and obstetric care services in Dutse Local Government Area of Jigawa State. However, the specific objectives are to-:

- i. identify the antenatal and obstetric care facilities available in the study area.
- ii. assess the patronage of ANC and OBSC by women in the study area.
- iii. analyze the demographic factors that determine the utilization of antenatal and obstetric care services in the study area.
- iv. examine the social and economic factors that determine the utilization of antenatal and obstetric care services in the study area.
- v. identify the contents of antenatal care services rendered to pregnant women in the study area.

1.4 HYPOTHESIS

Ho : There is no significant relationship in the utilization of antenatal and obstetric care services by socio-economic factors in the study area.

Hi : There is significant relationship in the utilization of antenatal and obstetric care services by socio-economic factors in the study area.

1.5 THE SCOPE OF THE STUDY

The study have examine the socio-economic determinants to the use of antenatal and obstetric care facilities in 6 out of 11 wards in Dutse Local Government Area. The study looked at socio-economic determinants such as; age, parity (birth order), number of children died and alive, age at first pregnancy, spouse, level of education of women and

spouse, occupation, income, religion and culture. Women of child bearing age (15-49) that are pregnant or have delivered a baby from 2009-2014 have been interviewed.

1.6 SIGNIFICANCE OF THE STUDY

Access to appropriate maternity care including prompt referrals to emergency obstetric care services and skilled birth attendance could significantly reduce both perinatal and maternal mortality and/or morbidity. However, women in many countries in sub-Saharan Africa continue to have restricted access to skilled birth attendants. While more than half of all births in sub-Saharan Africa occur without the presence of a skilled attendant, nearly all births in developed nations take place with the assistance of a skilled birth attendant (Eijkvan *et al*, 2006). While available evidence indicates limited benefit from traditional antenatal care services, focused antenatal care provides opportunity for early detection of diseases and timely treatment. It also provides opportunities for preventive health care services such as immunization against neonatal tetanus, prophylactic treatment of malaria through the use of intermittent presumptive treatment approach, and HIV counseling and testing.

Furthermore, antenatal care exposes pregnant women to counseling and education about their own health and the care of their children. Thus, antenatal care may be particularly advantageous in resource-poor developing countries, where health seeking behavior is inadequate, access to health services is otherwise limited, and most mothers are poor, illiterate or rural dwellers Babalola and Fatusi, (2009).

Understanding the preferences of the people and the various factors that influence their preferences will help to put in strategies that will improve utilization of skilled obstetric services and thereby reduce unnecessary loss of lives.

Studies of this type have the potential to reveal the real situations, benefit and pave ways for policy makers, the Local Government, the State Government the Federal Government as well as the research institutions and Non-Governmental Organizations NGOs. It will serve as a framework for assessing the development and level of awareness of birth preparedness and complication readiness in rural areas as well as the availability and accessibility of the health facilities in these areas. It will help to know where priorities and attention are needed most during budgets and other developmental projects. Rural areas are mostly vulnerable and more likely to be affected by the impacts of maternal and pregnancy related complications, which if care is not taken may lead to a long term morbidity or even death.

CHAPTER TWO

CONCEPTUAL FRAME WORK AND LITERITURE REVIEW

2.1 CONCEPTUAL FRAME WORK

2.1.1 Antenatal Care

Prenatal care visit or antenatal care (ANC) is defined as a series of regular contacts between a health care provider, typically a physician, and a pregnant woman that takes place at scheduled intervals between the confirmation of pregnancy and the initiation of labour. The primary function of this care is to monitor the progress of pregnancy, to identify complications, to provide information to the woman on beneficial practices, and to co-ordinate the involvement of other providers in the mother's labor and the delivery of the newborn (Mustard, 1993).

Gardosi, (1999), in defining the roles for hospital and community clinicians in antenatal care stated that “Any working definition needs to include both “patients” for which the health care team has responsibility” his definition here follows:

mother and baby oriented antenatal care aims to ensure the supervision of maternal and fetal well-being during pregnancy, making available all appropriate choices to fulfill optimal potential, and providing all necessary support and preparation for a high quality life after birth, with due respect for privacy and least necessary interference.

Antenatal care is the type of care given to the pregnant woman during antenatal period, which is the interval from conception to the delivery of the foetus (Agboola, 2006). Baker, (2006) maintained that modern obstetric care evolved more than 100 years ago; with changes which were driven by political and consumer pressure and that the idea of caring for mother and children was driven by the Boer war. One of the major advancement in ANC was made in 1843 when proteinuria and hypertension were noted to be associated with eclampsia. The European traditional models/approaches to

antenatal care developed in the early 1900s, assume that it is good to care for pregnant women. Frequent routine visits are the norm of this process, and women were classified by risk category to determine their chances of complications and the level of care they need. In many developing countries where there is grossly insufficient resources and man power this approach has been adopted without adjusting the interventions to meet the need of their particular populations, taking into account their available resources or evaluating the scientific basis for specific practices (Ballantyne, 1902).

The Maternal and Neonatal Health (MNH) programmes promote an updated approach to antenatal care that emphasizes quality over quantity of visits. The approach, focused antenatal care recognizes two key realities. First, frequent visits do not necessarily improve pregnancy outcomes, and in developing countries they are often logistically and financially impossible for women. Secondly, many women who have risk factors never develop complications, while women without risk factors often do so. When antenatal care is planned using a risk- approach, scarce health care resources may be devoted to unnecessary care for high- risk women who never develop complication and "low-risks" women who may be unprepared to recognize or respond to signs of complications(Harrison, 1998). The importance of antenatal care on neonatal outcome cannot, however, be over-emphasized as it has been linked to high birth weight and reduced neonatal tetanus (Omoigberale and Abiodun, 2005 and NPC, 2003).

According to Agboola, (2006), the main objective of ANC is to ensure healthy mother and infant at the end of pregnancy. It is a major preventive health measure which guarantees that the mother is maintained healthy. It also incorporate measures to prevent the development of any pregnancy disorders or complication. Antenatal care is to sensitize the mother so that disorders which are likely to complicate pregnancy are detected early while measures are taken to manage them.

The WHO technical working groups are of unanimous opinion that antenatal care makes a significant contribution to maternal and prenatal health and is therefore an essential component of care for mother and babies together with family planning, clean and safe delivery and essential obstetric care. Antenatal care is also made to provide opportunity for health education in which health talks covered topics such as physiological changes expected during pregnancy, nutrition, hygiene and care of teeth, immunization, coitus, relaxation and exercise during pregnancy and after delivery. It also educates mothers on exclusive breastfeeding, and other aspect of child care. Counselling for family planning is also covered during ANC. All these measures are aimed at achieving a healthy mother and baby at the end of pregnancy, thereby ensuring reduction in the prenatal and maternal mortality rates (Agboola, 2006).

The World Health Organization recently advocated that only examinations and tests (serving an immediate purpose and proven to be beneficial) should be performed during antenatal visits (WHO, 2003). These examinations should include, at a minimum, measurement of blood pressure, testing of urine for bacteriuria and proteinuria, and blood to detect syphilis and severe anaemia (UNICEF, 2000). However, implementing this recommendation has far-reaching implications in resource-limited settings that are also usually characterized by conditions threatening pregnancy and its outcome. First, although the approach can help to save costs and improve efficiency, its effectiveness in improving maternal outcomes may be limited due to exclusion of interventions addressing other conditions prevalent in those settings. Secondly, it could consequently result in low quality health service (Kayode, Samuel and Aderonke, 2008).

The concepts of antenatal care has now shifted from providing medical management of pregnant women to a combination of information sharing, medical care and helping the pregnant woman make informed decisions about her life in general and the pregnancy in

particular. The pregnant woman should no longer be a passive receiver of medical care; rather she should participate actively in the care of herself and the foetus. For this reason emphasis has now shifted from issues such as the number of times of antenatal visits to concept of the quality of the antenatal care given and received at each visits. The WHO recommended a minimum of four antenatal visits for woman with a normal pregnancy. This is not to imply that where more visits are practicable, it should be reduced to the minimum (Baker, 2006).

Antenatal care is provided in antenatal clinics and usually conducted by general duty medical practitioners and obstetricians and gynaecologists. Such clinics services are provided in general hospitals, specialist hospitals, private hospitals and teaching hospitals. In some developing countries, trained midwives and TBA who have undergone special training also conduct ANC clinics (Agboola, 2006).

Studies by Villar and Bergsjö, (1997), have also shown that some components of antenatal care (such as routine measurement of height and weight, and examination for the presence or absence of oedema) have no impact in reducing the risk of serious complications and maternal deaths. The reduction of maternal mortality remains one of the most important social and developmental challenges currently facing the African continent. Available evidence suggests that the eight and fourth Millennium Development Goals aimed at reducing maternal mortality rate by 75% by 2015, is the one most unlikely to be attained in many African countries (Gribble and Haffey, 2008). In Africa, the technologies to prevent and avert maternal deaths are known but the wiliness to apply them on a large scale is still lacking.

2.1.2 Obstetric Care

Obstetric Care:- The care of a female's reproductive tract and the baby at the time of delivery and extending to about six weeks after delivery. This can be classified under two categories:-

1. Essential Obstetric Care (EOC or EsOC), which, in some definitions, includes a broad array of services including family planning and antenatal, intrapartum, and postpartum care; and
2. Emergency Obstetric Care (EOC or EmOC), which includes more specific interventions such as blood transfusion, intravenous antibiotics, cesarean section, the management of abortion complications, and vacuum or forceps delivery.

There is a fundamental difference between the two approaches: EsOC, in some definitions, focuses on all pregnant women and is based on the idea that obstetric complications can be predicted and prevented, employing the concept of "high risk."

EmOC, on the other hand, focuses on the prompt identification, referral, and treatment. (Kallianes, 1995).

2.1.3 Maternal Deaths

- Maternal death - the death of a woman while pregnant or within 42 days of termination of pregnancy irrespective of the duration and the site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes.
- Pregnancy-related death - the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the cause of death.
- Late maternal death - the death of a woman from direct or indirect obstetric causes more than 42 days but less than one year after termination of pregnancy.

- Direct obstetric death - maternal deaths resulting from obstetric complications of the pregnant state (pregnancy, labor, and the puerperium).
- Indirect obstetric death - those resulting from previous existing disease or disease that developed during pregnancy and which was not due to obstetric causes, but was aggravated by physiologic effects of pregnancy.
- Maternal mortality ratio - number of maternal deaths during a given time period per 100,000 live births during the same period.
- Maternal mortality rate - number of maternal deaths in a given period per 100,000 women of reproductive age during the same period.
- Lifetime risk of maternal death - risk a woman has of dying during her reproductive years, given current rates of fertility and maternal mortality. (Kallianes 1995).

2.2 APPROACHES AND THEORIES OF ANTENATAL AND OBSTETRIC CARE

2.21 Antenatal and Obstetric Care

The Maternal and Neonatal Health (MNH) programs promote an updated approach to antenatal care that emphasizes quality over quantity of visits. The approach, focused antenatal care recognizes two key realities. First, frequent visits do not necessarily improve pregnancy outcomes, and in developing countries they are often logistically and financially impossible for women. Secondly, many women who have risk factors never develop complications, while women without risk factors often do so. When antenatal care is planned using a risk- approach, scarce health care resources may be devoted to unnecessary care for high- risk women who never develop complication and "low-risks" women who may be unprepared to recognize or respond to signs of complications(Harrison, 1998). The importance of antenatal care on neonatal outcome

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2.2.2 Owino's Theory of Nurse-client Interactions For Childbirth Preparedness

Nurse and client perceptions brought out the main area of concern as the “preparation of antenatal mothers for childbirth by a skilled attendant”. It became apparent that the preparation of a mother by the nurse occurred mainly during nurse-client interactions. The concept was then re-constructed to ‘Nurse-Client Interaction for Childbirth Preparedness’ and was adopted as the title of the substantive theory. Since then, the theory has undergone further analysis and evaluation and the title has evolved to “Owino's Theory of Nurse-Client Interaction for Childbirth Preparedness” (Owino, 2012).

The theory was developed inductively from observation and interview data. Its focal point is the ANC process patterns that influence the decision of mothers for skilled attendant delivery. It also recognizes and emphasizes the need to address the challenging environmental, physical, psychological, intellectual, social, cultural and economic contexts in which ANC care is given. The theory depicts three phases in the process of preparing for childbirth, and six elements in the interaction process. These stages occur in taxonomy that though presented here as distinct categories, may sometimes have blurred boundaries. The three activity phases in the preparation process include; assessment, building consensus and the exit phases. The six main categories of behavioural patterns during the nurse-client interaction process include; willingness of mother to attend ANC, exchanging information, nursing care and treatment, focused preparation of the mother for delivery, evaluating readiness of client for delivery and referring the client.

The elements underpinning the main categories are concrete concepts derived from and grounded in the data. The concepts specifically spell out the process of effectively preparing the mother for delivery by a skilled attendant. It is a situation producing or

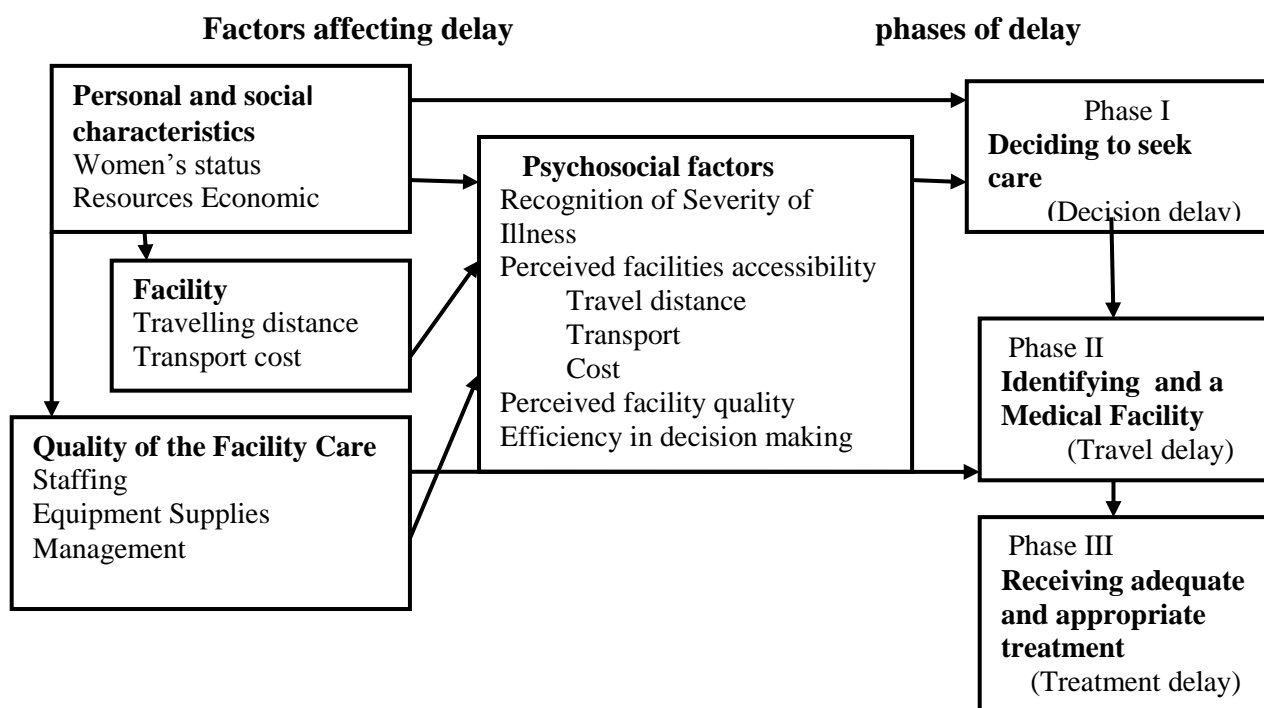
prescriptive process that is therefore best categorized as a substantive or nursing practice theory. The theory gives a set of actions that must be taken by the nurse in partnership with the client throughout the antenatal period. In proposing her idea of practice theory, Jacox (1974) provided the following concise description for a substantive theory:

“It is a theory that says given this nursing goal (producing some desired change or effect in the patient’s condition), these are the actions the nurse must take to meet the goal (produce the change)”.

2.2.3 The Three Delays Model of Seeking Care

Proper emergency obstetric care can resolve most obstetric complications. Why this does not happen in many developing country cases may be explained by a variety of factors, summarized by Thaddeus and Maine (1994) under the rubric of "three delays": women delay seeking care, they are delayed by difficulties in reaching a medical facility, and receiving treatment at a facility means further delay (See the diagram below).

The Delay Model



Source: Adopted and modified from Thaddeus and Maine 1994

2.2.4 Decision Delay

Whether a woman together with her family delay in seeking care depends on whether she recognizes an obstetric complication and its severity, and ascribes it to controllable factors. If a complication is perceived as a normal condition, not serious, or due to supernatural factors, a woman may not seek medical care, or at least put it off. If instead (and when) she properly recognizes a complication, the next issue for her is the feasibility of obtaining care. Is the health facility too far or too difficult to get to? Is it too costly, or is staff incompetent anyway? Her perceptions of the accessibility of medical-facility care and its adequacy and cost may affect her decision to seek care. Whether she can make the decision herself is also relevant. Her status in the home and in the community may determine whether others intervene, have to be consulted, or

have the final say. Besides status, education may be important in decisions and perceptions, and her household's economic resources may particularly influence how she, or some other decision maker, weighs the costs.

2.2.5 Travel Delay

Should a decision be made to seek care, the second delay may begin. Whereas perceptions of the accessibility of medical facilities affect the decision, any delay in carrying it out depends on actual accessibility--how easy or difficult it is to obtain transport and how long the trip is. Both depend on the mode of transport, which in turn may depend on what the woman can pay, so that economic resources are again relevant.

2.2.6 Treatment Delay

Eventually, if the first and second delays are not too lengthy, the woman arrives at a medical facility. The third delay begins. Is she admitted promptly, or is the admission process complicated? Are there staff available, or do they have to be sent for? Are the needed equipment and supplies at hand, or does someone have to go out to buy them wherever they can be found?

What does all of this cost, and is payment demanded upfront, so that time must be spent making arrangements to pay? If a medical facility is understaffed, unequipped, or otherwise incapable of providing the specific treatment required, referral may be needed to another facility, meaning another potential round of the second delay and the third delay.

Although delays between symptoms and treatment are a generic problem in many areas of medical care, Thaddeus and Maine (1994) argue that, for obstetric complications the delays are "crucial to reducing maternal deaths". Such complications

are often unpredictable, developing even among "well-nourished, well-educated women who receive prenatal care".

2.3 LITERATURE REVIEW

2.3.1 Access and Utilization of ANC and OBSC

Many health problems experienced by pregnant women can be prevented, detected and treated during ANC visits with trained health workers. ANC can foster a rapport between the mother and the father and the health care provider, provide preventive care and health education, identify and treat illness, encourage skilled attendance at birth and prepare the mother, other family members, and birth attendants for possible emergencies (WHO, 2006). Good ANC can help prevent factors associated with newborn mortality such as low birth weight and complications from infectious diseases, including reducing Mother to Child Transmission of HIV (MTCT). Male partner participation in antenatal health care can encourage male partner support and involvement in pregnancy and delivery (WHO, 2006). Overall, women's access to quality ANC is central to achieving the Millennium Development Goals #5. Improve maternal health and #4. Reduce child mortality.

In a study conducted by Iyaniwura and Yussuf, (2009), antenatal care and skilled obstetric care were found important strategies for improving maternal and newborn health but many women in developing countries continue to go through pregnancy and delivery without using these services. In the study, there was a high level of awareness of the need for special care for women during pregnancy and majority of the women knew where they could receive ANC in their community. This can be attributed to the high proportion of women who had formal education and that the study was carried out in a semi urban community where there was easy access to the mass media. The study which used a Descriptive Cross section Survey Method found that majority of the women received ANC, booked during the second trimester and had more than 4 ANC visits. However many of the women who received ANC did not attend antenatal clinic

until the second or third trimester by which time it may be too late to benefit maximally from some of the services delivered at the clinic. The reported widespread use of ANC (84.6%) in this study supports the findings of the National HIV/AIDS Reproductive Health Survey in 2003 where 89.4% of the women from South Western Nigeria reported that they received ANC during their last pregnancy Federal Ministry of Health. (FMH, 2003). This is much higher than the rate of use reported in other parts of Nigeria such as Northern Nigeria Kabir, Iliyasu, Abubakar and Sani, (2005), Eastern Nigeria Onah *et al*, (2006), and rural South-South Nigeria (Osubor *et al*, 2006). In a study of 107 women in rural Kano, Northern Nigeria, 88% did not attend ANC and 96.3% had delivered or planned to deliver at home (Kabir *et al*, 2005). The disparity in use of maternity services in various parts of Nigeria may partly account for the vast difference in maternal mortality in the different regions, varying from 166/100,000 in South-West to over 1500/100,000 in Northern Nigeria. (FMH, 2003).

Despite the relatively high rate of use of maternity services in Sagamu a village in the South Western part of Nigeria, hospital statistics show that some women in this area still die from complications of pregnancy and child bearing (Bawa *et al*, 2004). Use of ANC maternity services in the Sagamu study is relatively higher than in many other parts of Nigeria but it is much lower than what is reported from other countries or regions such as East Asia or North America where all or almost all pregnant women received ANC and deliver in health institutions (Raynold *et al*, 2004). Still in the Sagamu study, one in five women (20%) did not use ANC service at all or they used non-health institutions such as Traditional Birth Attendance (TBA) or spiritual homes. The rate of non-use of maternity services may also be much higher in the rural areas compared to suburban and urban areas. Bawa *et al*, (2004) in a study of a rural area in south west Nigeria found that although many women attended at least one ANC, most

of them refused to deliver in the hospital. It is important that all pregnant women access quality ANC and have skilled attendant at delivery.

Perceived quality of service is a major factor that influences people's decision to use health care facility (Adamu and Salihu, 2002). Though many of those who used the services expressed that the service was good, the main reasons given for non utilization of government services for delivery by those who used other facilities were linked to quality of care. Government facilities are usually associated with long waiting time and poor staff attitude which discourages many women from using these facilities. Effort should be made to reduce waiting time at the hospitals, train health workers to be empathetic, improve the facilities at the health clinics and make the system as patient responsive as much as possible. These improvements may reduce the problem of 'empty bed syndrome' in Nigerian public hospitals.

2.3.2 New Trend in Antenatal Care (Focused Antenatal Care)

Focused antenatal care: concepts and principles

Historically, the traditional antenatal care service model was developed in the early 1900s. This model assumes that frequent visits and classifying pregnant women into low and high risk by predicting the complications ahead of time, is the best way to care for the mother and the fetus. The traditional approach was replaced by focused antenatal care (FANC) — a goal-oriented antenatal care approach, which was recommended by researchers in 2001 and adopted by the World Health Organization (WHO) in 2002. FANC is the accepted policy in Nigeria.

FANC aims to promote the health of mothers and their babies through targeted assessments of pregnant women to facilitate:

- Identification and treatment of already established disease.
- Early detection of complications and other potential problems that can affect the outcomes of pregnancy.
- Prophylaxis and treatment for anaemia, malaria, and sexually transmitted infections (STIs) including HIV, urinary tract infections and tetanus. Prophylaxis refers to an intervention aimed at preventing a disease or disorder from occurring.
- FANC also aims to give holistic individualized care to each woman to help maintain the normal progress of her pregnancy through timely guidance and advice on:
 - Birth preparedness, Nutrition, immunization, personal hygiene and family planning,
 - Counseling on danger symptoms that indicate the pregnant woman should get immediate help from a health professional.

In FANC, health service providers give much emphasis to individualized assessment and the actions needed to make decisions about antenatal care by the provider and the pregnant woman together. As a result, rather than making the traditional frequent antenatal care visits as a routine activity for all, and categorizing women based on routine risk indicators, the FANC service providers are guided by each woman's individual situation is considered special.

This approach also makes pregnancy care a family responsibility. The health service provider discusses with the woman and her husband the possible complications that she may encounter; they plan together in preparation for the birth, and they discuss postnatal care and future childbirth issues. Pregnant women receive fundamental care at

home and in the health institution; complications are detected early by the family and health service provider; and interventions are begun in good time, with better outcomes for the women and their babies.

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2.3.3 Basic Obstetrics Care Initiative Facility (BOCIF)

The BOCIF programme aimed at strengthening the capability of the health system to respond to obstetric issues, through definition of minimum standards for equipment and skilled staff. While the programme has a sound conceptual basis, the implementation hardly took off the ground. The requirements have not been widely disseminated, and followed-up (FMOH, 2004).

The safe motherhood initiative stated that: During childbirth, every woman should be helped by a health professional that can manage a normal delivery as well as detect and manage complications such as haemorrhage, shock and infection. Skilled attendants should have access to a functioning emergency and transport system so that they can refer women to an appropriate health facility for higher level medical care (such as Caesarean delivery or blood transfusion) when necessary (SMI, 2006). The SMI also emphasized that the single most important way to reduce maternal deaths is to ensure that a skilled health professional is present at every birth. However, there is a serious shortage of these professionals in developing countries. Whether by choice or out of necessity, 60 million women in the developing world give birth each year without skilled help—cared for only by a traditional birth attendant, a family member, or no one at all (WHO, 1997) Skilled care during childbirth is important because millions of women and newborns develop serious and hard to-predict complications during or immediately after delivery. Skilled attendants—health professionals such as doctors or

midwives who have midwifery skills—can recognize these complications, and either treat them or refer women to health centers or hospitals immediately if more advanced care is needed :Safe Motherhood Initiative and Family Care International (SMI and FCI, 1998).

More than three-quarters of all maternal deaths in developing countries take place during or soon after childbirth (Abouzahr, 1997).

In 1996, skilled birth attendants were present at only 53%of births in the developing world (WHO, 1997). In developed countries, skilled attendance is nearly universal.

Countries where skilled attendance at delivery is low tend to have higher rates of maternal death and disability.

The best person to provide assistance during childbirth is a health professional with midwifery skills who lives in or near to the community he or she serves. Most midwives work in hospitals and urban areas. They are scarce in rural areas — where 80% of developing country populations live. In parts of Asia and Africa, there is only one midwife for every 15,000 births (Fortney,1998) Skilled attendants include doctors, nurses, midwives and other health workers with midwifery skills who can diagnose and manage complications during childbirth, as well as assist normal deliveries (WHO and FIGO, 1992).

Adequate equipment, drugs and supplies are essential to enable skilled attendants to provide good quality care. In addition, skilled attendants need to be supported by appropriate supervision. When delivery is taking place in the village (at home or in a local health facility), an emergency transport system must be available to take women to facilities that can provide more advanced care. In developing countries, women commonly seek the help of traditional birth attendants: community members who

deliver infants according to local customs and beliefs. In some — but not all — communities, these attendants may have some training to help them avoid harmful practices, conduct clean deliveries, recognize danger signs and refer women to health facilities if they have any complications. However, without emergency back-up support (including referral to a district hospital), training traditional birth attendants does not decrease a woman's risk of dying in childbirth (Tinker and Koblinsky, 1993).

2.3.4 Access to Essential Obstetric Care (EOC) Services

Access to essential obstetrics services have been shown to be clearly linked with maternal mortality situation as approximately 15 percent of pregnant women may develop life threatening emergencies conditions that would need such services for effective intervention. The availability and accessibility of EOC services, thus, deserve particular focus in their view of maternal mortality situation. Findings from a recent study conducted by FMOH and UNFPA between 2002 and 2003, which used internationally defined EOC signal functions showed inadequacy in the availability and utilization of EOC services, as only 18.5 percent of facilities offering maternal health care services meeting the EOC criteria. A further breakdown of the facilities that met the EOC criteria indicated that only 4.2 percent of public sector facilities compared to 32.8 percent of private sector facilities met the criteria. Among the 12 states randomly selected for the study, and covering the 6 geo-political zones, whereas the availability criterion of 1 CEOC facility for a population of 500,000 by virtually all, only Lagos state met the criterion of 4 BEOC per 500,000 populations (and that was achieved only with the combination of private and public sector facilities). On the whole, only an estimated 5.9percent of pregnant women delivered in EOC facilities, indicating a high level of unmet need for EOC services. Studies on maternal and neonatal health services conducted by Futures Group³² in 1999 in 49developing countries rated the service

capacity of Nigeria's health facility to provide emergency obstetric care services as 48 out of a possible score of 100 and, the country was rated as the 41st on its Maternal and Neonatal Program Index (which involves assessment of service capacity, access, care received, family planning and support functions) (FMOH, 2004).

2.3.5 Risk Factors and Obstetric Disability

Several risk factors predispose a woman to death during pregnancy, labor, or the immediate postpartum period. For example, a pregnant woman who is malnourished and anemic is less likely to survive postpartum hemorrhage, possibly resulting in death. In addition, child bearing among adolescents younger than 16 years and women older than 35 years of age has been associated with higher risks of maternal death (Temmerman *et al*, 2004; Conde-Agudelo *et al*, 2005). Women of shorter stature (less than 5 feet) and those with more than five previous deliveries are also considered to be at higher risk of maternal death. However, a comprehensive

World Health Organization review of the effectiveness of antenatal care indicated that even women without these or other known risk factors are at significant risk of developing obstetric complications (Carroli *et al*, 2001). Thus, all pregnant women should be viewed as at risk of obstetric complications and death.

Maternal deaths may represent only the tip of the iceberg of maternal health problems. For every maternal death, an estimated twenty women suffer obstetric injury or disability (Making Pregnancy Safer 2004). “Near misses” (women who survive life-threatening complications) have been estimated as being six to fifteen times more common than maternal deaths (Filippi *et al*, 2005; Kaye *et al*, 2003), with poor women disproportionately experiencing maternal morbidity or long-term disabilities (Muleta 2006; Wall 2006). The sequel of pregnancy and delivery complications include obstetric fistula, dyspareunia (painful sexual intercourse), utero-vaginal prolapse (drop of the uterus from its normal position), and secondary infertility. However, the magnitude of these debilitating conditions has been difficult to assess in developing countries due to deficient health information systems.

2.3.6 Significance of Emergency Obstetric Care

An international consensus has gradually emerged over the past decade on the centrality of emergency obstetric care in improving maternal health and survival in developing countries.(WHO/UNICEF/UNFPA 2004). Emergency obstetric care can be divided into basic and comprehensive emergency obstetric care. Basic emergency obstetric care facilities are expected to provide six functions that are essential in preventing direct obstetric deaths: administration of parental antibiotics, parenteral oxytocic drugs, and parental anticonvulsants for pre-eclampsia; manual removal of retained placenta; removal of retained products of conception; and assisted vaginal delivery (Maine *et al*, 1997). Comprehensive emergency obstetric care facilities, which are usually referral hospitals, in addition provide Cesarean section and blood transfusion. To significantly reduce maternal mortality, it is imperative that all pregnant women, including those delivering at home, have ready access to emergency obstetric care in the event of life-threatening complications - the presence of a health professional is not enough if no well-functioning emergency obstetric service backup is available (AbouZahr and Wardlaw 2001; Paxton *et al*,2005). In developing countries, emergency obstetric facilities are inadequate, and barriers and delays prevent timely access to those that are available.

2.4 SOCIO-ECONOMIC DETERMINANTS OF ANC ATTENDANCE

In a research conducted by Simkhada *et al*,(2008) on the Socio economic factors affecting the utilization of antenatal care in developing countries the Studies most commonly identified the following factors affecting antenatal care uptake: maternal education, husband's education, marital status, availability, cost, household income, women's employment, media exposure and having a history of obstetric complications. Cultural beliefs and ideas about pregnancy also had an influence on antenatal care use.

Adequate utilization of antenatal care cannot be achieved merely by establishing health centers; women's overall (social, political and economic) status needs to be considered.

2.4.1 Education and ANC Attendance

There is a relationship between educational attainment and maternal death. Thaddeus and Maine, (1994) opined that formally educated women are better able to break away from traditions to utilize modern means of safeguarding their own health. This is in accordance with Caldwell and Caldwell's (1999) study of gender implications for women's survival in South Asia. They found that educated women were better able to utilize health facilities available in the community to their advantage.

Mother's education has contributed significantly to increased health facility utilization in previous studies (Elo, 1992; Celik and Hotchkiss, 2000; Becker *et al.*, 1993. Furthermore, the Nigeria Demographic and Health Survey 2008 reported that only 10% of deliveries to mothers with no education occurred in health facilities compared to 90% of deliveries to mothers with education (Nigeria Demographic and Health Survey, 2008). This further emphasizes the importance of education in decision making. Education serves as a proxy for information, cognitive skills, and values; education exerts effect on health-seeking behavior through a number of path ways. These pathways include higher level of health awareness and greater knowledge of available health services among educated women, improved ability of educated women to afford the cost of medical healthcare, and their enhanced level of autonomy that results in improved ability and freedom to make health-related decisions, including choice of maternal services. (Hodgkin, 1996; Elo, 1992; Celik and Hotchkiss, 2000; Becker *et al.*, 1993; Stewart and Sommerfelt, 1991; Schultz, 1984; Raghupathy, 1996; Caldwell, 1981). Educated mothers are more likely to take advantage of public health-care

services than other women (Orubuloye and Caldwell, 1975; Caldwell, 1979). Education may also impart feelings of self-worth and confidence as well as reduce the power differential between service providers and clients, thereby reducing the reluctance to seek care (Chanana, 1996; Starrs, 1998).

2.4.2 Spouse Education and ANC Attendance

Awusi *et al*, (2006) argued that women and their spouses' formal education greatly influence women's utilization of ANC services in Nigerian communities. The study found that 96% of the women with post secondary education, 69% with secondary and 46% with primary education utilized the services. Only 23% with no formal education attended ANC during pregnancy. The study further revealed that there was a higher percentage of ANC services utilization among women whose husbands had post-secondary (81%) and secondary education (69%), while only 18% and 27%, of women whose husbands had primary and no formal education, utilized ANC services respectively. Conversely, the highest percentage of women who did not utilize the services was found among women whose husbands had primary (82%) and no formal (73%) education.

2.4.3 Distance and ANC Attendance

Previous studies have documented overwhelming evidence that distance to a health facility is a strong determinant of its choice for a maternal health services (AL-Nahedh, 1995). Distance to health services exerts a dual influence on use, as a disincentive to seeking care in the first place and as an actual obstacle to reaching care after a decision has been made to seek it. Many pregnant women do not even attempt to reach a facility for delivery since walking many kilo metres is difficult in labour and impossible if labour starts at night (as was reported by 83.3% of our respondents), and transport means

are often unavailable (reported by 77.1% of our respondents). Those trying to reach a far-off facility often fail, and women with serious complications may die on route (Federal Ministry of Health Integrating maternal, newborn and child health strategy. (FMH, 2007). The obstacle effect of distance is stronger when combined with lack of transport and poor roads. To overcome this problem of distance, Nigeria adopted the concept of Primary Health Care (PHC) to bring health services including maternity services as close to the family as possible (Thaddeus and Maine, 1994). It is estimated that approximately 71% of Nigerians have access to a PHC facility located within a 5km radius of their home (Thaddeus and Maine, 1994).

Magadi *et al*, (2000) revealed that the frequency of antenatal care is also influenced by the accessibility of antenatal care service. This study showed that an increase in distance or time to the nearest health facility is associated with fewer antenatal care visits. Obermeyer, (1993).

2.4.4 Autonomy or Decision making and ANC

Autonomy has been defined as the capacity to manipulate one's personal environment through control over resources and information in order to make decisions about one's own concerns or about close family members. Women's autonomy thus can be conceptualized as their ability to determine events in their lives, even though men and other women may be opposed to their wishes (Bloom *et al*, 2001). The influence of women's autonomy on the use of health care appears to be as important as other known determinants such as education. Dimensions of autonomy such as freedom of movement, decision making power and control over finance can exert a strong influence over service use and service choice in South Asian setting (Bloom *et al*, 1998 cited in Kausar *et al*, 1999). In a North Indian City, women's autonomy, as measured by the

extent of a women's freedom of movement, appears to be a major determinant of maternal health care utilization among the poor to middle income women (Bloom *et al*, 2001).

2.4.5 Place of Residence and ANC

In a study of utilization of antenatal care, Mondal, (1997) found that the place of residence did not emerge as a significant factor in explaining the difference in service utilization after controlling all the variables. This result is consistent with the findings of Celik and Hotchkiss, (2000) that urban/rural living status of women did not emerge as statistically significant role on prenatal care service utilization after controlling other variables. However, in a comparative study of Morocco and Tunisia, Obermeyer, (1993) identified that urban residence was positively associated with the use of maternal health care services. The residence was the strongest predictor of the antenatal care in Morocco. Similarly, in a study carried out in Jordan, Obermeyer and Potter, (1991), found that mother's place of residence has significant effect on prenatal care. Bhatia and Cleland, (1995) also revealed urban rural differential in the health service utilization and argued that urban rural residence is also an indicator of geographical proximity to services. In a study in Kenya, Magadi *et al*, (2000) found the association between place of residence and frequency of antenatal care visits. They also argued that rural urban residence could also act as a proxy for access to health service, since many developing countries have disproportionate numbers of health service in favor of urban communities.

2.4.6 Income and ANC Attendance

National wealth is not a necessary condition for maternal mortality reduction. Likewise, Shariff and Singh, (2000) revealed that income was not a significant determinant of the

antenatal care service utilization. Interestingly, in many developing countries, women are reluctant to seek antenatal care services from the health centers, even when they are provided free of charge (Sesia, 1996; Rahman *et al*, (1982).

However, in a study of African Urban area, Develay *et al*, (1996) found significant association between socioeconomic class and health seeking behaviours. Similarly, in a study of maternal health care in Thailand, Raghupathy, (1996) found the positive impact of income on health service use. Celik and Hotchkiss (2000), identified the similar result that household wealth was associated with prenatal care use. From the above findings it is very clear that economic status of women is important for the frequency of antenatal care visits.

The socioeconomic status is difficult to measure; some elements of socioeconomic disadvantage that are thought to be associated with pregnancy outcomes are maternal education and maternal age. Unequal opportunities in education and employment also affect the economic status. However, the economic status of women can be measured indirectly by the composite index of household possession and amenities as a proxy. For example, Mondal, (1997).used the standard of living index as a proxy for economic status and found that utilization of antenatal care service differed significantly with respect to the women's standard of living. This finding is consistent with the finding that high standard of living was a predictor of greater use of antenatal care. Similarly, Magadi *et al*, (2000) used household amenities and possession to measure the socioeconomic status and found influencing frequency of antenatal visits.

2.4.7 Culture and ANC Attendance

Traditional beliefs and cultural practice that are common to a community may contribute to the variability in the use of health services. Women in some cultures may

not use antenatal care because they perceived that the modern health sector is intended for a service only. Women sometimes may feel shy to discuss their reproductive health problems with their husbands or senior members of the household, and postpone care seeking until it is too late (WHO, 2002).

One important inference from the review of existing literature is that the role of individual and household factors differs from one geographical and social setting to another. Thus, as several authors have aptly noted, the determinants of maternal health care service utilization vary across and within cultures (Navaneetham, 2002). It is reasonable to assume that utilization of such services depends on individual and household factors, as well as factors operating at the community level.

For instance in a study conducted by Babalola and Fatusi in (2009) on the determinants of maternal services utilization in Nigeria (with a focus on individual, household, community and state-level factors), using a multi-level analytic methods and assessed state-level random effects were used to collect data to identify individual, household and community factors that were significantly associated with utilization of maternal care services among 2,148 women who had a baby during the five years preceding the survey. It found that approximately three-fifths (60.3%) of the mothers used antenatal services at least once during their most recent pregnancy, while 43.5% had skilled attendants at delivery and 41.2% received postnatal care. There were commonalities and differences in the predictors of the three indicators of maternal health service utilization.

The use of antenatal care services is highly influenced by the antenatal care seeking behavior of women, which is influenced by individual characteristics as well as demographic factors (Rahman *et al*, 1982). Magadi *et al*, (2000) also identified the significant association between demographic factors and frequency of antenatal care visits.

2.4.8 Age and ANC

There is some debate about women's age and age at marriage and service utilization. Elo, (1992) argued that older women are more likely to be antenatal care service user than their counterparts. Moreover, Bhatia and Cleland, (1995) found that young mothers are significantly less likely than older mothers to receive routine care during pregnancy. This result is consistent with the findings that poor attendees were younger than good attendees (Blondel and Marshall, 1998). Similarly, McCaw-Binns *et al*, (1995) found that younger were most likely to not attend or attend late and were unlikely to present early. Interestingly, Obermeyer and Potter (1991) illustrated that the age, age at marriage and the type of family structure were not significant predictors of utilization of prenatal care. In addition, in a study of utilization of healthcare in an African urban area, Develay *et al*, (1996) identified that age and sex did not differ significantly between two zones. In contrast to the above findings, Niroula (1994) indicated that, age has a negative relationship with the utilization of modern health care. Similarly, Rahman *et al*, (1982) found that the young women were more likely to seek antenatal care than older ones. In a pattern study of prenatal care utilization in the United States, Kogan *et al*, (1998) found that the young were more likely to begin care later than adults, but similar proportions of young had intensive utilization. This indicates that the frequency of antenatal care varied according to age of mother and an increase in the age of mother reduce the probability of using prenatal care. Moreover, commonly used risk factors in maternity care include women's age and age at marriage. After controlling for parity, Koenig *et al*, (1988) found little evidence that younger maternal age is associated with higher mortality risk. This finding also indicated that maternal age is the most important factor in the study of maternal health.

2.4.9 Parity and ANC Attendance

Simkhada *et al.*, (2008) noticed that Parity had a statistically significant negative effect on adequate attendance. Whilst women with higher parity tend to use antenatal care less, there is interaction with women's age and religion. So also Titaley *et al.*, (2010) in a study conducted in Indonesia, found an increased odd of underutilizing antenatal care services was observed in mothers of high birth rank infants.

Rahman *et al.*, (1997) pointed out that antenatal visit is positively associated with parity. Authors argued that women with higher parity understand that they are at higher risk of pregnancy-related complications, and more likely to receive antenatal care visits. However, in a comparative study between Morocco and Tunisia, Obermeyer (1993) revealed that early age at marriage and higher parity is negatively correlated with prenatal care. Furthermore, many authors have illustrated that the number of children in the household has significant and negative effect on prenatal care (Obermeyer and Potter, 1991; Blondel and Marshall, 1998). In addition, a woman having a large family size, has fewer antenatal visits on average (Niroula, 1994; Magadi *et al.*, 2000) also may indicate that the low number of parity increase the probability of visiting adequate antenatal care service. Celik and Hotchkiss (2000) compared the women who have first child to the women having two or more previous pregnancies. Not surprisingly, they found that women who were pregnant with their first child were more likely to use prenatal care than women who have had two or more previous pregnancies after controlling others variables in the model. A similar result was suggested by Jirojwong *et al.*, (1999) that the number of pregnancies is the important determinant of ANC clinic attendance.

Similar to the above findings, the association between high parity and low utilization of health services has been reported in another study from Turkey (Celik and Hotchkiss,

2000). Women with high parity might tend to rely on their experiences from previous pregnancies and not feel the need for antenatal checks. Some might experience difficulties to attend antenatal services due to time constraints related to their responsibilities for their other children.

CHAPTER THREE

THE STUDY AREA AND RESEARCH METHODOLOGY

3.1 STUDY AREA

3.1.1 Location

Dutse Local Government Area is one of the twenty seven Local Government Areas (LGAs) in Jigawa State (see Fig 3.1). Dutse is located between Latitudes $11^{\circ} 32' 42''\text{N}$ - $12^{\circ} 44' 24''\text{N}$ and between Longitudes $9^{\circ} 8' 20''\text{E}$ - $9^{\circ} 27' 21''\text{E}$. The Local Government Area has the projected population of 394, 631 projected using the exponential method of population projection and the growth rate of 3.1% for the state (National Population Commission, 2006).

Dutse LGA covers an area of 1147.246 km². Ringim and Jahun Local Government Areas shared border with Dutse LGA to the north, Birnin Kudu LGA to the south, Kiyawa to the west and Kano State to the east. Dutse LGA is made up of 11 wards, (see Fig 3.1)

www.cometonigeria.com/searchbyregion/north-west/jigawastate

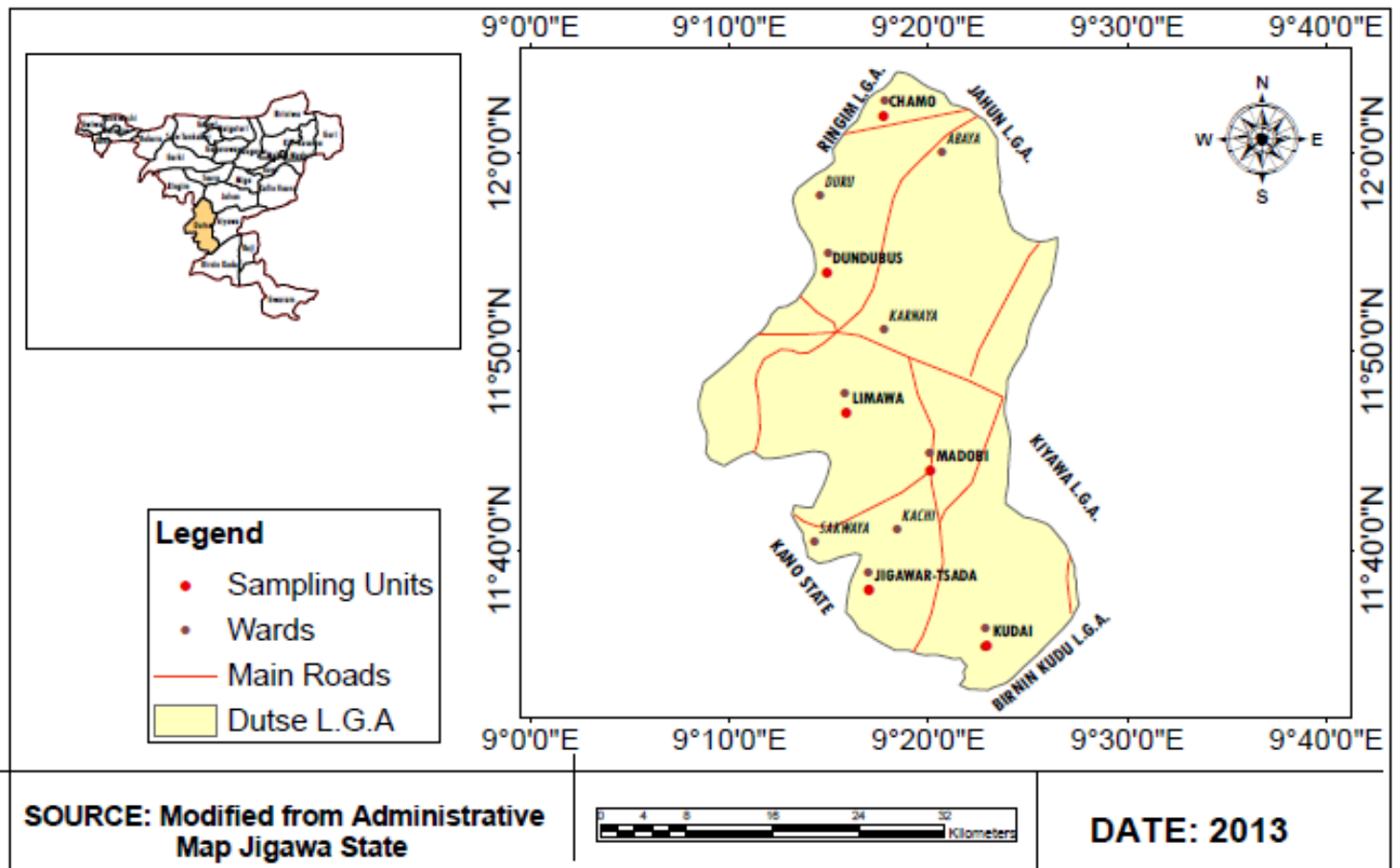


Fig 3.1 Map of Dutse LGA Showing (the 11 wards) and the Sampling Units.

3.1.2 Relief and Drainage

The LGA has a total land area of approximately 1147.246 square kilometers. Its topography is similar to that of the State which is generally characterized by undulating plains, with sand dunes of various sizes spanning several kilometers. Dutse is in the southern part of Jigawa and southern part of Jigawa comprises the Basement Complex while the northeast is made up of sedimentary rocks of the Chad Formation. The main rivers are Hadejia, Kafin Hausa and Iggi Rivers with a number of tributaries feeding extensive marshlands in north-eastern part of the State. Hadejia – Kafin Hausa River traverses the State from west to east through the Hadejia-Nguru wetlands and empties into LakeChadBasin.

www.cometonigeria.com/searchbyregion/north-west/jigawastate

3.1.3 Climate

The climate of Dutse LGA is similar to that of Jigawa State which is semi arid, characterized by a long dry season and a short wet season. The climatic variables are erratic and vary considerably over the year. The annual mean temperature is about 25°C but the mean monthly values range between 21°C in the coolest month and 31°C in the hottest month. However, the mean daily temperature could be as low as 20°C during the months of December and January when the cold dry harmattan wind blows from the Sahara Desert.

The wet season is roughly four months (June to September) and dry season is seven to eight months (October to May). The rainy season sometimes starts in May but early rains in April are not unusual while the bulk of the rainfall comes in June through September. Violent dust storms, followed by tornadoes and lightening, usually herald the onset of the rains in May and June and their retreat in September or early October.

The total annual rainfall ranges from 600mm in the north to 1000mm in the southern parts of the state.

www.cometonigeria.com/searchbyregion/north-west/jigawastate

3.1.4 Soils and Vegetation

Most parts of the State lie within the Sudan Savannah with elements of Guinea Savannah in the southern part. Total forest cover in the State is very much below national average of 14.8%. Due to both natural and human factors, forest cover is being depleted, making the northern part of the State highly vulnerable to desert encroachment. The State enjoys vast fertile arable land to which almost all tropical crops could adapt, thus constituting one of its highly prized natural resources. The Sudan Savannah vegetation zone is also made up of vast grazing lands suitable for livestock production.

3.1.5. Population Growth and Development

About 394,631 people inhabit Dutse LGA according to the 2006 population census (NPC, 2006). Life expectancy as at 2001 was about 52 years with a total fertility rate of about 6.2 children per woman of childbearing age (a little above the national average). Although population of the LGA is predominantly rural (90%), the distribution in terms of sex is almost equal between male (50.8%) and female (49.2%). This pattern of population distribution is same across various constituencies in the State and between urban and rural areas. In terms of age distribution, the National Demographic and Health Survey (DHS, 2003) indicates that 45.2% of the population was made up of young people below the age of 15; 49.0% between the ages of 15 and 59 while 5.8% were people aged 60 and above. This survey reveals a dependency ratio of almost 1;

meaning that there is almost one dependent to every economically active person in the population.

Average household size is about 6.7 almost all of which were headed by males. About 60% of household heads are self-employed with agriculture as their main occupation, and nearly two-thirds of these households were monogamous families. The overall literacy rate is about 37% in 2002 (22 percent for women and 51 percent for men). School enrolment ratio is fairly high with very good improvements in the last few years, even though there is still clear disparity between boys and girls. The original people that inhabit the LGA are Hausa and Fulani people who practice Islamic religion, and also there are other people who migrated from other parts of the country and some of them practice Christianity as their religion. en.wikipedia.org/wiki/jigawa-state.

3.1.6 Health Care Delivery

The delivery of health services in the State had been enhanced through collaborative arrangements with both sectoral ministries and the development partners. The Ministries of Women Affairs as well as the Ministry of Local Government have been involved with various aspects of the services delivered. The ministry of women affairs has been involved with community mobilization and engagement processes, thus ensuring more personnel are deployed in the delivery of health services. The implementation of the Gunduma Health System also received the support of development partners and programmes such as The United Nations Children's Fund (UNICEF), The World Health Organization (WHO), the Department for International Development (DFID) funded programmes such as Partner for Revival of Routine Immunization in Northern Nigeria-Maternal and Neonatal Child Health (PRRINN-MNCH) and Partnership for Transforming Health System (PATHS). The various agencies and programmes

supported various activities and also provided capacity building support to different categories of health personnel. The collaborative arrangements made it possible for Gunduma Health System to leverage additional resources to support the delivery of health services in the State. (Gunduma Health System Report, 2009).

3.1.7 Educational Development in Dutse

Education plays a vital role in the development of every society. In first instance, Dutse is famous in teaching Islamic knowledge especially after the settlement of Fulanis. The first two famous Islamic scholars namely; Malam Salihi dan Malam Lawal and Malam Musa dan Malam Amada were said to have settled in Dutse with the aim of Islamic propagation, hence the establishment of qur'anic schools.

However the aforementioned scholars established other Islamic schools where Islamic injunctions and jurisprudence are taught from elementary to the advanced level. Consequently, this aided the indoctrination of morality in to the minds of the people. People were taught in these schools how to respect one another, as well as parents. Within a short period of time everybody learnt how to interact with his counterpart islamically. Based on the fact that, these scholars have reformed the society, the then traditional authorities decided to hand over the administrative affairs to them. The successors of the scholars of the scholars who ruled after them were said to have continued with the legacies they inherited from their predecessors; in terms of teaching people Islamic injunctions. Nowadays, there are Almajiri and Islamiyya schools in Dutse where pupil learn Qur'anic knowledge and other Islamic injunctions.

It is worthy to note that the coming of the European colonialists in to Northern part of Nigeria, mark the time of the establishment of the western schools. The first western school established in Kano in the year 1909 by Mr. Hans Vinscher was the “western

school of Dan Hausa”. By the year 1935, the first elementary school was established in Dutse during the reign of the then emir of Dutse Sulaiman II (1924-1960). Another middle school was established during the reign of Emir Abdullahi Maikano (1960-1983). From then Dutse began to record the establishment of many schools apart from those mentioned earlier.

The Federal Republic of Nigeria in those days enacted systems of education in the western schools especially the “Universal Primary Education”, and “Universal Basic Education”. The western schools coupled with the Islamic system of education made Dutse the fore-front educationally. (Boyi , 2003)

When we take a look at the post secondary institutions, Dutse is not left behind, because there are post secondary schools like the Jigawa State Polytechnic (College of Business and Administration Dutse) and the Federal University Dutse among others.(Field Survey, 2014)

3.1.8 History of Dutse

Dutse Gadawur was relatively unknown to many people except academics even within the old Kano State. There was little wonder therefore when General Ibrahim Badamasi Babangida announced the creation of Jigawa State and Dutse Gadawur as its capital city. Many people protested the sighting of the capital at Dutse, while there are at that time more prominent towns such as Hadejia, Gumel, Kazaure in the state.

Historical evidences available shows Dutse Gadawur as one of the oldest urban centres within the old Kano State. It was in fact second to Birnin Kano itself. It was inhabited by many ethnic groups long before the 15th century, such as the Fulbe, Genawa, Wangarawa, Kanuri, Hausa and Digawa. Birnin Gija wich is a few kilometers north of Dutse Gadawur is well known to historians as one of the oldest trading centre outside

Birnin Kano. The conquest of the Saifawa by the El-kanemi and taking over the administration at Birnin Gazargamu further brought about a large number of Fulbe immigrants to Dutse Gadawur, namely the Jalligawa and Yalligawa clans.

3.1.9 Ethnic Composition, Religion and Culture

The LGA is mainly populated by the Hausa, Fulani and the Mangawa. There are other settled tribes both from within and outside Nigeria inhabiting in the urban areas of the Local Government Area.

Islam is the predominant religion of the people with over ninety nine percent (99%) of the population being practicing Muslims. Christian religion has its followers with settled tribes forming the larger percentage of its practitioners.

The rich cultural heritage of the people is reflected in their mode of dressing, music, dance, craftsmanship and hospitality. Hausa culture and tradition have overshadowed others but the Fulani, Mangawa, still maintain their culture and tradition in their areas of concentration. These are mostly seen through their mode of dressing, food processing and pattern of settlement.

Festivals: As practicing Muslims the Eid-el-fitr and Ed-el-kabir (sallah) celebrations are the main festivities of the people and these cut across ethnic barriers being a period of celebration for all Muslims all over the world. The Ed-el-fitr is celebrated on the 1st of shawwal which is the ninth month in the islamic lunar calendar to mark the end of the Ramadan fasting while Ed-el-kabir is marked on the 10th of Dhull Hajj, the 12th month of the Islamic lunar calendar. The 12th of Rabiul Awwal which is the 3rd month of the Islamic calendar is marked as a day for maulud celebrations to commemorate the birth of the Holy prophet Muhammad (S.A.W). Other festivals of the people include kokawa (Traditional wrestling) and Dambe (Traditional boxing) mostly performed at the end of

the harvest season. The Sharo (Traditional flogging) is restricted to the Fulani community.

3.1.10 Economic activities and Business Transactions

For every society to attain development, its people must engage in some business transactions that will boost their economy. Dutse is not left behind economically; first of all, majority of Dutse people were domestic farmers. They always eat from what they cultivated. Later on they began to exercise commercial farming to the extent that they export farm products to the neighboring states. Consequently, farming really improved the economy of Dutse immensely. Arts and Crafts have continued to play a dominant role in the socio-economic well being of the people by providing gainful employment and complimenting the economic life of farming families. Some of the arts and crafts are weaving (raffia and cloth), pottery, blacksmithing, tanning, leather works, fishing, knitting barbing and selling of fire woods Others are curving (calabash and wood), traditional textile and architecture as well as rearing of animals.

There are also prominent markets in the city that attract neighboring states. In these markets, people engaged in selling of farm products, animals and the rest. In those days merchants were using donkeys as a means of transporting their goods. But with the invention of modern transportation networks, people find it very easy to go to Kano and other places to either buy or sell their goods, up to 1991 when Jigawa came into being as a state. After the creation of the state, business activities were transformed to take modern form, hence shops and other companies were built, producing variety of goods.

3.2 METHODOLOGY

3.2.1 Reconnaissance Survey

A reconnaissance survey of the study area has been conducted, which enabled the researcher get acquainted and familiar with the area and served as a preliminary assessment visit to the community. During the reconnaissance survey, the hard to reach areas and the best method for data collection as well as the Health Facilities available in the study area were identified. Visit to the State Ministry of Health and the Gunduma Health System was made, in order to get permission to undertake research on health issues and to gather appropriate information and relevant materials that will be of use during the course of the research. Some of the health personnel of some health centres and district heads of the settlements were also visited and some pieces of advice about how to go about the research in the area were also gotten.

3.2.2 Types of Data

Data were obtained from women of child bearing ages 15- 49, from which pregnant women and those that had recent delivery experience have been interviewed. The types of data include; socio-demographic data such as; age, parity (birth order), number of children died and alive, age at first pregnancy, spouse, level of education of the wife and the husband, occupation, income, religion, culture, housing, ANC attendance etc.

3.2.3 Sources of Data

The study will utilize both primary and secondary sources of data.

3.2.3.1 Primary Sources

A structured questionnaire have been administered which asked of the respondent's bio data and socio-demographic data, along side with Focus Group Discussions (FGDs)

with 6-10 members of the target population (women of child bearing age) and also Key Informants Interview (KII) have also been carried out with the district or village heads, to strengthen or back the result obtained from the questionnaire. More so interviews have been conducted with those in charge of the antenatal and maternity section of the medical facilities within the study area.

3.2.3.2 Secondary Sources

Secondary data were obtained through review of related literature (books, journals, and previous researches online materials and conference papers).

3.2.4 Sample Size and Sampling Techniques

According to the National Population Census (2006), Dutse Local Government Area has a total population of 319,882. Using the growth rate of 3% for the state, and with the use of exponential formula the present population (2013) of the study area is projected to be 394, 631.

NPC recommends the use of exponential method of population projection due to the fact that Nigerian Census data suffers inadequacies and that the exponential method gives high variance.

$$P_t = P e^{r \cdot n}$$

Where P_t = population of the year, in this case 2014

P = base year population, in this case 2006

e = exponential

r = growth rate, in this case 3%

n = no of the years interval, in this case 8

So $P_{2014} = 319,882 \times e^{0.03 \times 8} = 394,631$.

Out of which 22% (86,819) are women of childbearing age, (NPC 2009). The sample size is determined using (Yamane, 1967) the sample size formula of:

$$\text{Sample Size} = \frac{N}{1 + N(e)^2}$$

Where N= Total number of population

e= error margin= 0.05 or 5%

So, the Sample Size for this study is $= \frac{394,631}{1 + 394,631 \times (0.05)^2} = 399.9$ approximately 400.

Dutse Local Government Area is the sampling frame from which six out of the eleven wards in the Local Government have been selected using the purposive sampling technique methods. The reason for selecting these wards is due to their remoteness nature. The target population were purely women of child bearing age (among which pregnant women and those that gave birth recently) were interviewed through questionnaire administration and Focus Group Discussions.

3.2.5 Research Design

Dutse Local Government Area has a total population of 394,631 by projection from (319,882), the 2006 National Population Commission's figure of 319,882, which are spread across the 11 wards of the LGA. Table 3.1 shows the total population of Dutse LGA by ward.

Table 3.1: Dutse Local Government Area Total Population by Wards

S/no	Wards	Total population	Percentage%
1	Abaya	39,858	10.1%
2	Chamo	26,440	6.7%
3	Dundubus	28,019	7.1%
4	Duru	35,122	8.9%
5	Kachi	22,099	5.6%
6	Madobi	49,329	12.5%
7	JigawarTsada	31,965	8.1%
8	Sakwaya	53,275	13.5%
9	Karnaya	39,858	10.1%
10	Kudai	31,965	8.1%
11	Limawa	37,095	9.4%
Total		394,631	100%

Source: NPC, 2009 and NPI (Dutse Office, 2012)

The number of questionnaire to be administered will be proportionate to the population of each ward. Thus; - Proportion = $\frac{n}{N} \times 400$ (Yamane, 1967)

Where n = population of the selected ward

N = total population of the selected wards.

The computation of the proportion of the administered questionnaire for each of the selected ward is shown in Table 3.2. The selection of these wards is purposive, due to their remoteness and hard to reach nature.

Table 3.2: Proportion of Sample for the Selected Wards

SELECTED WARDS	POPULATION	PROPORTION	NO.OF SAMPLES
1.CHAMO	26,440	13	52
2.DUNDUBUS	28,019	14	55
3.JIGAWAR TSADA	31,965	15.5	62
4.KUDAI	31,965	15.5	62
5.LIMAWA	37,095	18	72
6.MADOBI	49,329	24	96
TOTAL		100.0	400.0

Source: Reconnaissance Survey, 2013

In each of the selected wards, the Independent National Electoral Commission (INEC's) polling units will be used to select the sampling points systematically, where every third polling unit will be selected, this is considered appropriate for use because it is quite difficult for the researcher to reach all the polling units in the selected wards. Due to the settlement patterns of the rural areas which are clustered in nature a starting point have be chosen to select the households in each sampling point where every fifth house was sampled systematically. In each of the selected households a pregnant woman or a woman that has recent birth experience have been interviewed, this is to avoid sharing the same answers since all women in a house or a compound are likely to have similar characteristics and experiences. A household that does not have either a pregnant or a woman that deliver recently have been skipped to the next house.

Interviewers were trained to help the researcher during the field survey, they went together with the researcher and visit the selected women (respondents) at home and administer the questionnaire after seeking their permission. The respondents' right not to participate was respected. The questionnaire included translation of the key concepts and terms in the local languages (Hausa and Fulfulde). 6 (six) Focused Group

Discussions (FGDs) have been conducted one in each of the selected wards, which involved bringing 6-10 women to represent the target group to discuss on issues based on their personal views, knowledge and experiences concerning the factors that determine their participation in ANC and obstetric care facilities. The discussion went as lively and flexible as possible to encourage participation. In-depth interviews with community heads were carried out to address the questions pertaining the demographic and socio-economic determinants to the use of antenatal and obstetric care services in their communities.

3.2.6 Analytical Techniques

The questionnaire retrieved from the study area passed through different stages of compilation such as:

- a) The answered questionnaires were numbered serially to enable the researcher know the actual number of questionnaires retrieved from the survey.
- b) All questions in the questionnaire were entered and the options to these questions were coded and entered in to computer soft ware using the Special Package for Social Sciences (SPSS) for the analysis.
- c) The SPSS was used for both descriptive and inferential statistical analysis of data gathered in the study.

The descriptive statistics which include frequency tables, percentages and figures in form of bar and pie charts were employed for the purpose of summarizations of data. Results were presented in the form of frequency tables, percentages and charts. Cross tabulation, which is a joint frequency distribution of cases according to two or more classification of variables, was used. These joint frequency distributions have been statistically analyzed using Chi-square (X^2). The (X^2) inferential statistical technique

was used in testing for the significant relationship between variables stated in the hypothesis at 0.05 level of significance and it was calculated using a Statistical Package for Social Science (SPSS) Statistics version 20.

CHAPTER FOUR

DATA ANALYSIS AND DISCUSSION OF RESULTS

4.1 DEMOGRAPHIC AND SOCIO-ECONOMIC CHARACTERISTICS OF THE RESPONDENTS

This section presents the socio-demographic characteristics of the respondents which comprise of residential area, religion, age, marital status, age at first marriage, number of children ever born and number of children dead and alive, the highest level of formal educational attainment, occupation of the respondents, husbands' highest formal educational attainment, occupation and monthly income.

Table 4.1: Socio-economic Characteristics of Respondents in the study area

A. Age	Frequency	Percentage (%)
15-19 years	8	2.0
20-24 years	69	17.3
25-29 years	61	15.3
30-34 years	98	24.5
35-39 years	92	23.0
40-44 years	58	14.5
45-49 years	14	3.5
Total	400	100.0
B. Religion	Frequency	Percentage (%)
Islam	371	92.3
Christianity	27	6.7
Traditional Religion	2	0.5
Total	400	100.0
C. Marital Status	Frequency	Percentage (%)
Single	2	0.5
Married	326	89.5
Divorced	33	8.3
Widowed	7	1.8
Total	400	100.0
D. Type of Marital Union	Frequency	Percentage (%)
Polygamy	326	81.5
Monogamy	72	18.0
Single	2	0.5
Total	400	100.0
E. Number of Co-wives	Frequency	Percentage (%)
Two	122	37.4
Three	126	38.6
Four	70	21.5
Five and above	8	2.5
Total	326	100.0
F. Occupational Status	Frequency	Percentage (%)
Yes	205	51.3
No	195	48.7
Total	400	100
G. Type of Occupation	Frequency	Percentage (%)
Farming	46	22.4
Business Professional	55	26.8
Civil Service	22	10.7
Hand Crafts	80	39.0
Student	2	1.1

Total	205	100.0
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Source: Field Survey, 2014

4.1.1 Age of the Respondents

Table 4.1A shows the distribution of respondents according to age. The respondents who fall within the age of 30-34 years have the highest proportion of 24.5%, followed by those within the age of 35-39 year (23.0%) which could mean that the study area is highly dominated by middle aged women of reproductive age within the age of 30 to 39 years. The age groups 15-19 years, 20-24 years, 40-44 years and 45-49 years accounted for 2.0%, 17.3%, 15.3%, 14.5% and 3.5% accordingly.

4.1.2 Religion of the Respondents

The distribution of respondents by religion as shown in Table 4.1B indicates that Muslims are in the majority (92.3%), this is so because the study area is mostly occupied by the indigenes which are predominantly Muslim. The Christians are mostly migrants from other parts of the country, and they pursue economic interest and hence the favourable areas for them is urban centres which the study covered less that is why the population of the Christians is 6.7% and 0.5% of the respondents are traditional worshippers.

Literature revealed that religion has variable pattern of association with health service utilization, with significant association in some settings and none in others (Gyimah *et al*, 2000).

4.1.3 Marital Status of the Respondents

Table 4.1C indicates that 89.5% of the respondents in the study area married, 8.3% are divorced, and 1.8% are widowed while 0.5% of the respondents are single. The highest percentage of married women is normal in the study area as most of the women do not attend school.

The relatively high percentage of divorced women in the study area could be due to the fact the Islam permits divorce when a couple feels that they cannot stay together for some tangible reasons.

4.1.4 Type of Marital Union

Table 4.1D shows the distribution of respondents by type of marital union. In all, 81.5% of the respondents are in polygamy union, 18.0% are in monogamous union while 0.5% are those that are not married.

4.1.5 Number of Co-wives

The respondents who indicated they are in a polygamy union were asked how many women are married to their husbands on table 4.1E. Majority (37.4%) indicated two wives. 38.6% of the respondents indicated that they are three, 21.5% said they are four while 2.5% indicated they are five and above.

4.1.6 Occupation of the Respondents

Table 4.1F shows the distribution of respondents by employment status and by type of occupation. The result indicates that 51.3% of the respondents are employed, and 48.7% are not working. As it was revealed in the table almost half of the population are not employed which signifies that they are less empowered and as such may not be able to

afford many of the hospital expenses more especially if they are in the polygamous union and the husband is earning less.

Furthermore, on table 4.1G the result indicated that 22.4% are farmers, 26.8% are into business, 10.7% are civil servant, and 39.0% are engaged in hand crafts, 0.5% students.

Dependence on men for economic survival has been a principal barrier to women's control over their reproductive behavior in developing countries. Empowering women with more economic participation and control in their households and communities might be the key to their achieving control over their own reproductive health. Employment can increase women's economic autonomy and reproductive health status because it raises awareness and provides new ideas, behavior and opportunities through interaction with other people outside the home and community (Sharma *et al*, 2007).

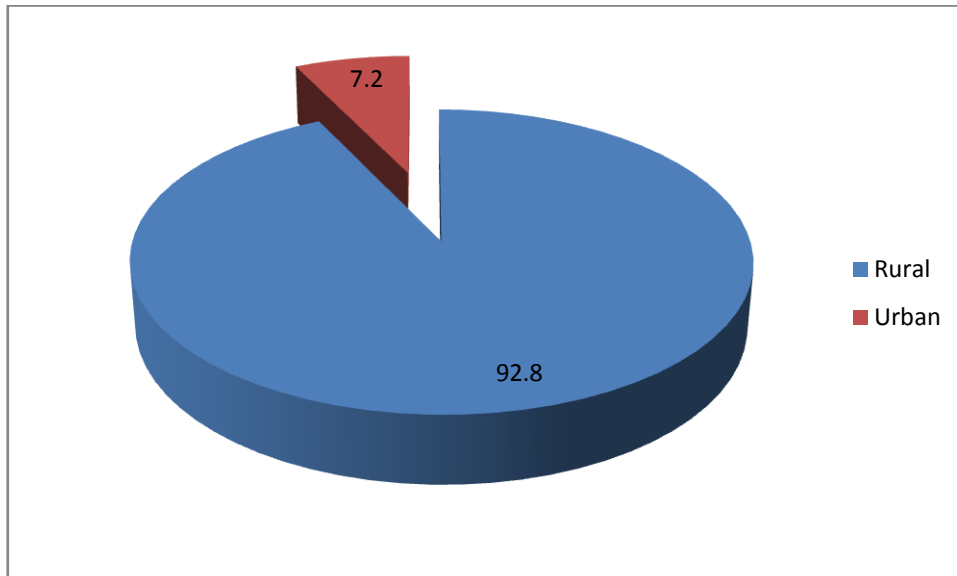
Another study in Kenya (Magadi *et al*, 2000) reported that the antenatal care visits tend to start earlier for women in paid employment. They are likely to have greater knowledge about pregnancy and childbirth due to freedom of movement outside household. They also tend to seek information on services available for pregnancy care during work.

However, employment may not necessarily be associated with greater use of maternal health care, like a study in Nepal by (Sharma *et al*, 2007), who documented that non-working women may be better off than working women. In the context of developing countries, women's work is largely poverty induced and is likely to have a negative impact on utilization of maternal health services.

4.1.7 Place of Residence of the Respondents

Figure 4.1 shows that most of the respondents are rural dwellers constituting 92.8% of the sampled population, and 7.2% are from rural areas.

Figure 4.1: Distribution of Respondents by Residential Areas



Source: Field Survey, 2014

Place of residence can also be an important determinant of the use of modern health care resources for childbirth. A higher proportion of births in urban areas occur in modern health care facilities compared to rural areas (Paul and Rumsey 2002). A study in Morocco also indicated that residence is the strongest predictor of use of maternal health care, with urban women two or three times more likely to use health services (Obermeyer, 1993). Wong *et al*, in a study in Philippines reported urban and rural women differed significantly in the types of prenatal care most frequently used. For the urban women the most frequently used type of care tended to be modern public (40.2%), while rural women frequently used traditional practitioners (45%). Overall, about 38% of the rural and 59% of the urban women had modern prenatal medical care (Wong *et al*, 1987). The importance of place of residence in determining women's use of maternal health care can be explained through the availability of health facilities. It is undeniable that generally, medical facilities are more readily accessible in urban than rural areas. In addition, urban women tend to be more educated and therefore, have greater knowledge about the benefits of maternal health care.

4.1.8 Educational Attainment of the Respondents

Figure 4.2 presents the distribution of respondents by educational attainment. About 60.5% respondents had Qur'anic education, 27.8% have attended primary school, 7.5% had secondary school education, and 3.0% had tertiary education.

Education serves as a proxy for information, cognitive skills, and values; education exerts effect on health-seeking behavior through a number of path ways. These pathways include higher level of health awareness and greater knowledge of available health services among educated women, improved ability of educated women to afford the cost of medical healthcare, and their enhanced level of autonomy that results in improved ability and freedom to make health-related decisions, including choice of maternal services (Hodgkin, 1996; Elo, 1992; Celik and Hotchkiss, 2000; Becker *et al*, 1993; Stewart and Sommerfelt, 1991; Schultz, 1984; Raghupathy, 1996; Caldwell, 1981). Educated mothers are more likely to take advantage of public health-care services than other women (Orubuloye and Caldwell, 1975; Caldwell, 1979). Education may also impart feelings of self-worth and confidence as well as reduce the power differential between service providers and clients, thereby reducing the reluctance to seek care (Chanana, 1996; Starrs, 1998).

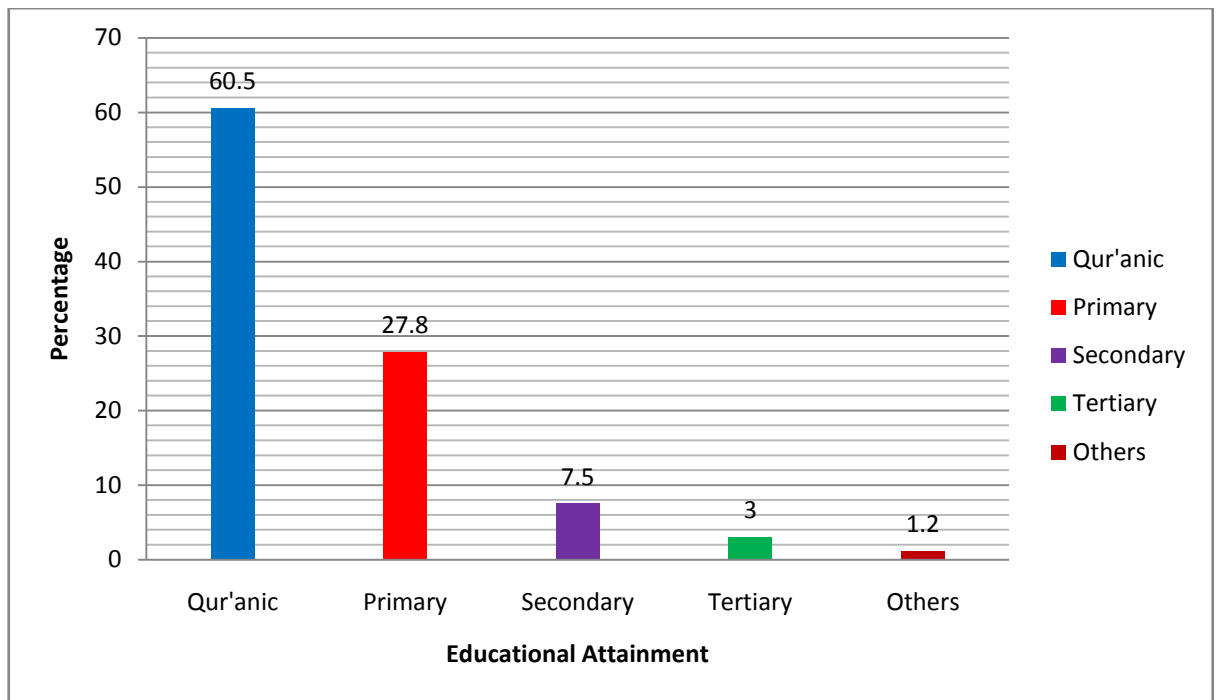


Figure 4.2: Distribution of Respondents by Educational Attainment.

Source: Field Survey, 2014

Literatures revealed relationship between educational attainment and maternal death. It was found that women with no formal education had a two-fold risk of maternal death compared to women who had attended school. Thaddeus and Maine (1994) opined that formally educated women are better able to break away from traditions to utilize modern means of safeguarding their own health. This is in accordance with Caldwell and Caldwell's (1999) study of gender implications for women's survival in South Asia. They found that educated women were better able to utilize health facilities available in the community to their advantage.

4.1.9 Spouse Level of Education

Table 4.2 shows spouse level of education. The result indicates that 24.5% of the women said their husbands have Qur'anic education, 16.8% said their husbands have attended primary education, 23.3% said their husbands have attended secondary school, and 31.0% had tertiary education.

Table 4.2: Respondents' Spouses' Level of Education

Spouse educational attainment?	Frequency	Percentage
Qur'anic	98	24.5
Primary	67	16.8
Secondary	93	23.3
Tertiary	124	31.0
None	18	4.5
Total	400	100.0

Source: Field Survey, 2014

Spouse education could have a positive influence on attendance at not only ANC and OBSC but the hospital in general when needs arise. Educated men are more likely to encourage their wives on accessing ANC and OBSC than uneducated men. Husband's education also reflects tastes and preferences for health-care utilization. The husband's attitudes towards modern care could, for example, influence the wife's decision of whether or not to seek modern health-care services. Caldwell has suggested that men with higher educational attainment may play a more important role in child-care decisions than men with less schooling (Caldwell, 1990).

A study in India reported that matriculate education has the largest and statistically significant impact on the probability of health care use. It increases the probability of

pre and post natal care use by 10 percent and 8 percent respectively and the probability of the use of trained help at the time of delivery by 7 percent (Shariff and Singh 2002).

4.1.10 Spouse Occupational Status

Spouse occupation in Figure 4.3 shows that 9.8% of the women said their spouse are civil servants, 12.3% are into trading, 64.3% are into farming and cattle rearing while 13.8% of the respondents said their husbands are into other forms of occupation like tailoring, carpentry, pottery etc.

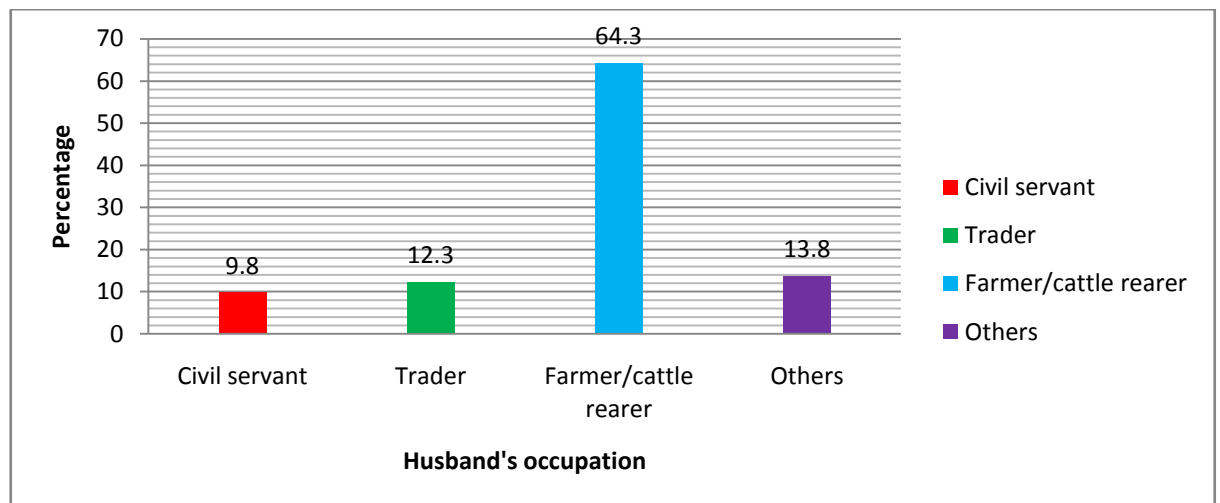


Figure 4.3: Spouse Occupation

Source: Field Survey, 2014

The civil servants has the least percentage, indicating that the women that will have support from their husbands to attend hospitals will also be least since being engaged in civil service means one has some higher level of education which is one of the positive factors of the utilization. The husband's occupation can represent family income as well as social status, and it is well established that increased income has a positive effect on the utilization of modern health care services (Elo 1992).

Differential utilization of health services by different occupational groups also depicts occupation as one of predisposing factors. An empirical research by Paul and Rumsey (2002) in rural Bangladesh showed result that fathers employed in non-farm occupations chose trained personnel for delivery more frequently than fathers who were farmers or members of other educations. Furthermore, another study in Bangladesh reported that women whose husbands work in business or services are most likely to be the users of professional healthcare services to treat their complications (Chakraborty *et al*, 2002).

4.1.11 Respondents' Spouse income

Figure 4.4 shows the distribution by spouse income. The result presented on the chart indicates that 26.3% of the spouses earn between 10,000-20,000 naira, 22.0% of the respondents earns below 10,000 naira, 4.5% and 5.5% of the respondents said their spouse earns 31,000-40,000 naira and 41,000 naira above respectively.

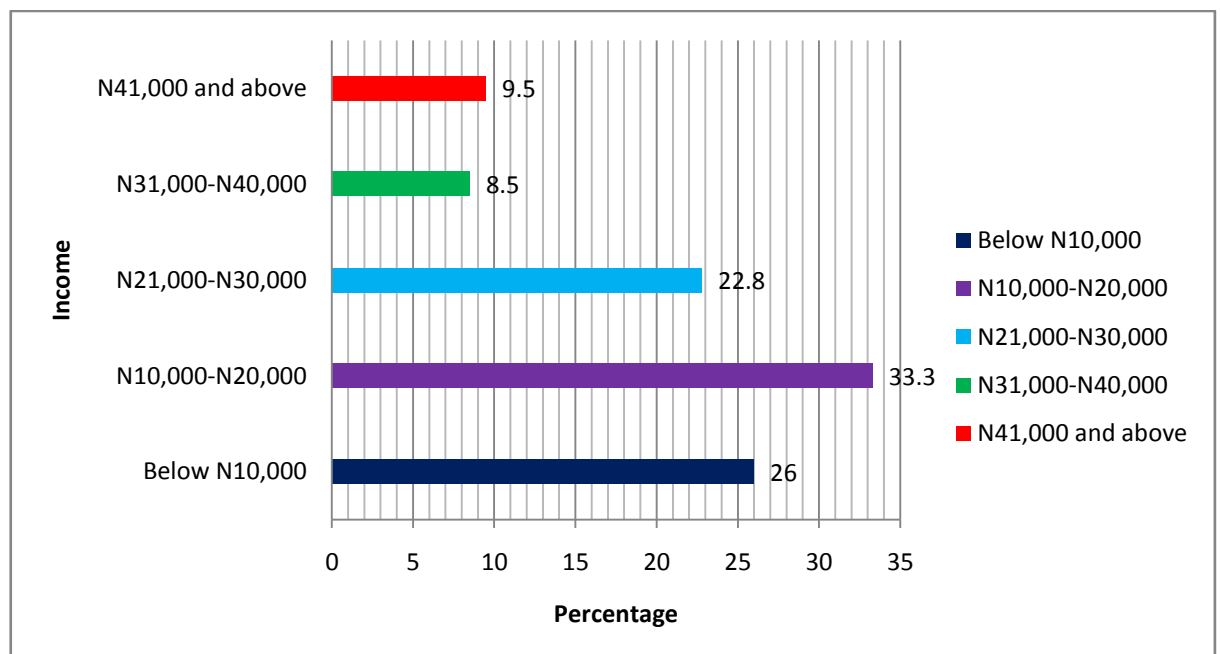


Figure 4.4: Percentage Distribution of Respondents by Spouse Income

Source: Field Survey, 2014

Even though, the service in the health post is given free of charge, it incurs costs when complicated delivery is referred to health center. In addition mothers from low socio-economic status could have limited access to information about maternal health care, low self esteem, and low health seeking behavior. Other studies have shown comparable results with this (Berhane *et al*, 2001; Chakraborty *et al*, 2003; Pembe *et al*, 2008; Yanagisawa *et al*, 2006; Mrisho *et al*, 2007).

4.1.12 Age at first Marriage

Figure 4.5 shows the respondents' age at first marriage. The result shows that most of the respondents (61.3%) got married at the age of 15-19 years followed by those who got married before the age of 15 years with 22.5%. Also 8.3% got married at the age of 20-24 years, and 5.5% married at age 25-29 years.

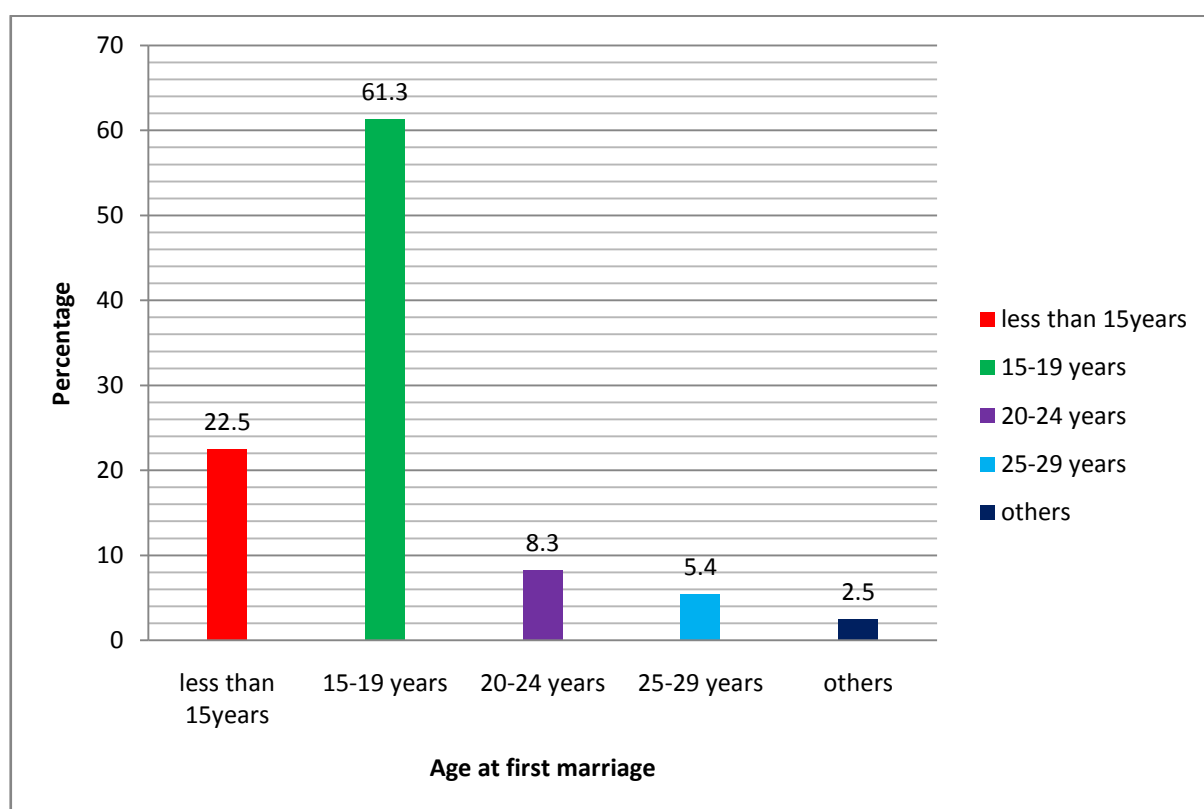


Figure 4.5: Percentage of Respondents by Age at First Marriage

Source: Field Survey, 2014

The facts that age group 15-19 have greater percentage indicates that women in the study area were married before the age of years. The implication for the health of women is that girls who marry and become pregnant before the age of 20 years have higher chances of dying or developing complications (Igbuzor, 2006).

4.1.13 Number of Children ever born and Children Surviving.

Table 4.3 shows the responses concerning the number of children ever born. A total of 78 or 19.5% of the respondents have given birth to 1-2 children, 37.5% have between (3-4) children, 23.5% indicated that they have given birth to (5-6) children, and 24.5% have more than seven (7) children.

The risk of a woman of dying in pregnancy and childbirth depends on the general reproductive health of the mother and the number of pregnancies she has had in her lifetime. The higher the number of pregnancies, the greater the lifetime risk of pregnancy related deaths (WHO, 2005).

Table 4.3 Respondents' Number of Children Ever born and Children Surviving

Number of Children	Ever born		Surviving		Difference	
	Frequency	Percentage	Frequency	percentage	Frequency	Percentage
1-2	78	19.5	107	26.8	29	40.3
3-4	150	37.5	136	34.0	14	19.5
5-6	74	18.5	81	20.3	7	9.7
7+	98	24.5	76	19.8	22	30.5
Total	400	100	400	100	72	

Source: Field Survey, 2014

Also, Table 4.3 shows the distribution of respondents by number of children surviving. The result shows that 25.7% of the respondents had between one and two (1-2) surviving children, 40.0% of the respondents indicated they had between three and four (3-4) surviving children, 15.3% of the respondents indicated they had between (5-6) surviving children and 9.0% have more than children surviving.

High birth order reduces the likelihood of utilization of Antenatal and Obstetric Care (Hibobv 2011, Titelay *et al*, 2010). A possible explanation of this may be as during the first pregnancy females are more conscious and cautious and therefore more try to seek Antenatal health care while with the passage of time they experienced confidence from previous pregnancies and negatively affect the probability of seeking care for subsequent pregnancies. but those women that gave birth severally and have limited number children surviving may likely visit health centre when pregnant for the fear of losing the baby or the pregnancy.

CHAPTER FIVE

DETERMINANTS OF ANTENATAL AND OBSTETRIC CARE USE

5.1 KNOWLEDGE AND SOURCE ABOUT ANC

Table 5.1 shows that 95.5% of the respondents are aware of ANC, 4.5% of the respondents are not aware of ANC.

Table 5.1: Respondents' Knowledge about ANC and, Sources of Knowledge

Awareness of ANC	Frequency	Percentage
Yes	382	95.5
No	18	4.5
Total	400	100.0
Sources Knowledge		
Electronic media	180	45.0
Print media	18	4.5
Hospital	42	10.5
Friends	84	21.0
Relations	58	14.5
No response	18	4.5
Total	400	100

Source: Field survey, 2014

Table 5.1 also shows that most of the respondents got to know about ANC through electronic media which accounted for 45.0%, then followed by those who got information through friends with 21.0%. Respondents whose source of knowledge of ANC came from print media and relations accounted for 4.5% and 14.5% respectively. Those that know it through hospital are 10.5%. The electronic media have the highest percentage as the source from which the respondents' knowledge about ANC and OBSC comes. This is normal because media is known to create awareness among the

masses, and therefore, comprehensive health promotion through raising awareness using the mass media could help to improve uptake of ANC services (Simkhada *et al.*, 2006).

In a study on prenatal health promotional needs of immigrant women in Winnipeg, Mugweni

(2009) identified lack of knowledge of available resources as the main contributor to nonattendance at ANC clinics. The participants in the study expressed the need for increased awareness of ANC services. This could be achieved through the media. Thus the media performs the necessary functions of providing information that empowers users to action and are an alternative source people rely on for health information about new health risks, disease outbreak and healthy living. The WHO (2005) also recognized that the media both print(newspaper, magazines etc.) and the electronic (radio and TV) have very important roles in driving public opinion and actions to raise their awareness regarding promotion of maternal and child health care. The media have also been recognized as powerful mechanisms to promote the awareness and education of public issues and can probably influence decisions of government and policy makers on health policies and medical care (Evans and Ulasevich, 2005). Therefore, the mass media play a central role in informing the public about health and medical issues (Thorson, 2006).

5.1.1 Access to Radio Programme on Safe Delivery

Table 5.2 shows that 77.3% of the respondents have access to radio out of which 55.8% indicates they listen to the Hausa version of the programme “safe delivery for pregnant women” in Jigawa state where 38.7% indicated that the programme influence them and their decision makers on accessing ANC facility, 17.3% of those who listen to the programme said it has not influenced them nor their decision makers while 22.7% of the respondents don’t have access to radio in the study area. Hence the no response

percentage of 44% accounts those who said they don't have radio and those that have but do not listen to the programme.

Table 5.2: Access to Radio Programme on Safe Delivery for Pregnant Women

Access to Radio	Frequency	Percentage
Yes	309	77.3
No	91	22.7
Total	400	100.0
Ever listened to Radio Programme on Safe Delivery?		
No Response	91	22.7
Yes	223	55.8
No	86	21.5
Total	400	100.0
Influence of the Radio Programme on Decision Making		
No Response	177	44
Yes	154	38.7
No	69	17.3
Total	400	100.0

Source: Field survey 2014

Radio is a powerful mass medium, which has proven effective in disseminating consistent messages. Moreover, radio is not only physically accessible, is also inexpensive medium and effective in stimulating listener's imagination. It can be mentioned here that access to the media is almost universal in the study area. Women's knowledge about the health care facilities is also important factor in utilizing the health services. Matsumura and Ghubhaju (2001) argued that, one of the major contributing factors in the low utilization of health service is lack of awareness among people of the

availability and importance of maternal health care. Media represents a powerful communication tool for raising awareness among the people.

In addition, Jato *et al*, (1999) illustrated that the women exposed to media sources are more modern contraceptive users. From this result it is clear that media exposure women are more concerned about the reproductive health issues including antenatal care.

5.1.2 Patronage of Hospital

Table 5.3 shows respondents' attendance to hospital when pregnant. The result shows that 62.0% of the respondents visit the hospital when they are pregnant, 38.0% did not attend. Among those who said they go to the hospital when they are sick, 39.1% said they visit the hospital only when they are sick, 53.6% said they visit the hospital for regular ANC check up, and 7.3% went for OBSC.

Table 5.3: Attendance to Hospital when Pregnant

Visit to hospital when pregnant	Frequency	Percentage
Yes	248	62.0
No	152	38.0
Total	400	100.0
Reason for going to Hospital		
When I am sick	97	39.1
For regular ANC checkups	133	53.6
For OBSC	18	7.3
Total	248	100.0

Source: Field Survey, 2014

5.1.3 Decision to Access ANC facility

Table 5.4 reveals that 38.8% of the respondents said the decision to visit ANC facility is a personal decision, 44.8% of the respondents said their husbands made the decision on whether to access ANC facility or not, and 5.0% said their in-laws decide on whether they access ANC facility or not, 11.5% are for joint decision, that is those that decide with their husbands or friends.

Table 5.4: Responses on Decision to Access ANC facility

Decision to use ANC Services	Frequency	percentage
Myself	155	38.8
My husband	179	44.8
My in-laws	20	5.0
Myself and my husband	46	11.5
Total	400	100.0

Source: Field Survey, 2014

Most of the participants stated that their husbands and their parents were the decision makers for their health and the selection of delivery place. They pointed out that a woman should ask permissions for her husband before she goes to the health facility. Some did not know whether delivery needs a decision since they did not know when their delivery day was. All the participants agreed that most of the time decisions were made by their husbands and relatives.

In one of the interviews, a village head stated:

We are the deciders in all matters of our family. Women must always accept our decision because they trust us. Mothers want to give birth at health facility. But we don't allow them to go. My sister in-law was in labor when I arrived at her home. Families and neighbors were gathered and praying. I was shocking

and asked them what was going on. They told me that she was in labor for two days and the position of the baby was not normal. I had an experience from my family how this is dangerous. So I decided to take her immediately to the health centre. As a result, she gave birth after one hour. When she got pregnant for the second time, and knew her delivery time was approaching she came to my home and told me that her husband might not be willing to take her to the health facility. So she asked me to convince him to let take her to the health facility when labor starts. This means some of our wives prefer the health facility for their delivery but they don't have the power to decide. The decision depends on our willingness (Dan Tauya village head, 2014)

5.1.4 Perception about ANC

In Figure 5.1, about 73% of the respondents were of the opinion that the community considers antenatal care as useful for pregnant women, 27% of the respondents do not see any importance associated with ANC. This corroborated the general perception of the opinion of the participants in the FGDs as one of the participants said:

It is very important because it is a way of detecting if the woman is healthy or if the position of the baby is right. I have a friend who had a breached case and while in labor the baby's hand came first instead of the head and consequently she had to be operated. So going for antenatal is very important. (Larai in Dan Tauya village, 2014).

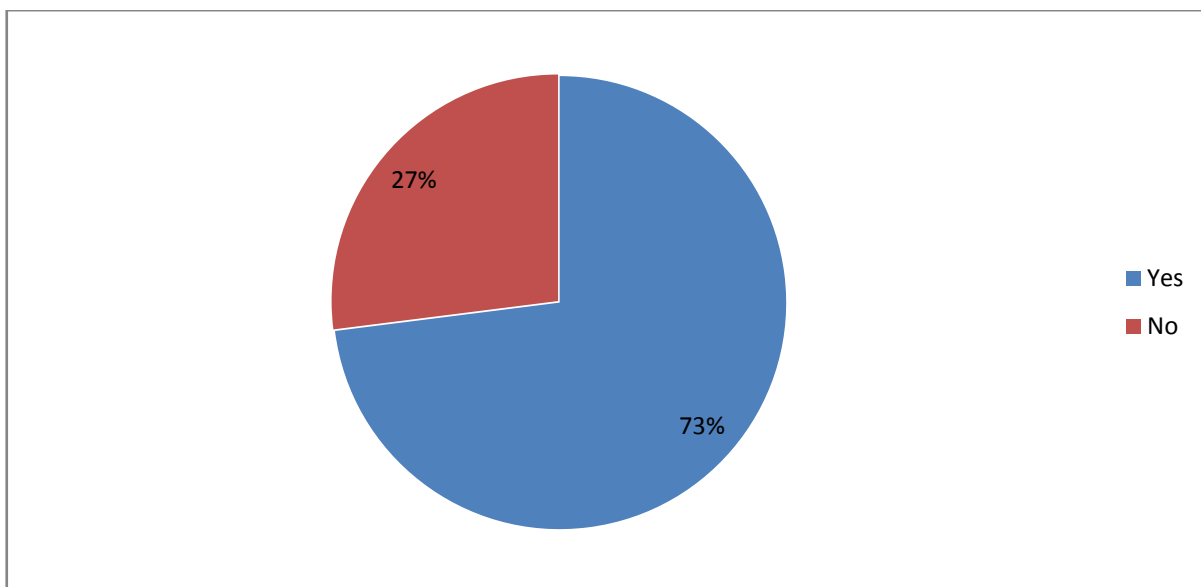


Figure 5.1: Respondents' perception about importance of ANC

Source: Field Survey, 2014

The majority of the women interviewed attended ANC. Nearly all women perceive ANC services to be important and expressed complete trust in Health Care Providers and the care they receive. However, a few women do not understand the importance of care provided. The most commonly mentioned assistance given to pregnant women included advice about care of their pregnancies; assessment of fetal vital status; ascertainment of fetal position; maternal vaccination; provision of vouchers for bed nets to prevent malaria; blood tests to diagnose disease and assess health status. As a routine part of ANC, women receive a clinic card which is crucial in case of an unforeseen complication that requires hospital attendance. The following excerpts describe HCPs and women's varied perceptions of the benefits of ANC:

ANC services are quite helpful. For example, when I was pregnant my baby was lying in the wrong position and they helped her turn for a safe delivery"

(FGD, Sakwaya village mother with a 4th- month-old baby girl 2014).

I am just afraid of being denied services when I need them, so one must just go to ANC to get the clinic card.

If you do not have a card, they will not accept you when there is a problem. Otherwise, we could just rest at home" (FGD, woman, in 9th month of pregnancy).

The women are happy about the services provided and they perceive them to be helpful. Those who get referral do say thanks to us for the prior advice given although there are some who still give birth at home" (In-depth-interview, in charge of HCP in Warwade village, 2014).

5.1.5 ANC Attendance.

Table 5.5 shows that 49.8% of the respondents attend ANC when they are pregnant, and 50.2% said “No” they don’t attend ANC when pregnant.

Table 5.5: Distribution of Respondents according to ANC Attendance.

Attendance to ANC	Frequency	Percentage
Yes	199	49.8
No	201	50.2
Total	400	100.0
Stage at which Respondents Attend ANC		
First trimester (1 st 3months)	132	66.8
Second trimester (2 nd 3months)	60	30.2
Third trimester (Last 3months)	7	3.0
Total	199	100.0

Source: Field Survey 2014

Those who attend ANC when pregnant were asked at what stage of pregnancy they attend ANC and 66.8% of them said at first trimester, 30.2% said at second trimester while 3.0% said at third trimester.

5.1.6 Reasons for Non Attendance to ANC

Table 5.6 shows that 22.4% of the respondents attributed their reason for non attendance at antenatal clinics to be lack of motivation by their husbands, 9.5% indicates that they find it difficult to access the centre, 18.4% gave their reason for non attendance to ANC centres to be cultural barriers, 13.4% also said it is their non challant attitudes, 7.5% of the respondents are ignorant of ANC, and another 7.5% believed they are well and healthy and so no need to attend ANC, 10% attributed their non attendance to distance from their residence to ANC centre, 11% said that high cost is responsible and 0.5% of the respondents gave other reasons. The no response stands for those that attend the ANC and therefore will not answer the question that require reasons for non attendance and they are 49.8% %

Husband's encouragement to seek maternal health care seems to be a considerable predictor on utilization of delivery and skilled birth attendants. Unfortunately, the majority of mothers were not encouraged by their husbands to seek care during pregnancy and childbirth. Women encouraged by their husbands were however more likely to use health facility for delivery service and assisted by skilled birth attendants though it was not found statistically significant.

The qualitative study explores majority of women requests permission from their husbands and relatives to go to the health facilities. Thus decision to seek maternal health care was associated with husbands and relatives willingness. In any case the husband seems to be the most key person in the decision-making process. It could be related also with women's economic status since they are dependent on men. This finding has also been described elsewhere (Mrisho *et al*, 2007, and Pembe *et al*, 2008).

Table 5.6: Respondents' Reason for Non Attendance at ANC Centres

Reasons for Non Attendance at ANC	Frequency	Percentage
Lack of Motivation by my husband	45	22.4
Non Accessibility	19	9.5
Cultural barriers	37	18.4
I don't care attitude	27	13.4
Ignorance	15	7.5
I am well/healthy	15	7.5
The cost is high	20	10.0
Distance	22	11.0
Others	1	0.5
Total	201	100.0

Source: Field Survey, 2014

As can be seen in Table 5.6, antenatal care services are available in developing countries but utilization of these existing services is poor. The utilization of these services depends upon availability and accessibility of these socio-demographic, communication factors of care provided to the women (Irma, 1992)

In developed countries, utilization of antenatal care facilities has become a routine. Prevalence of utilization is approximately 100% bringing the maternal mortality rate to a significantly lower level of 0.3% per live birth (Harrison, 1997). In developing countries maternal mortality has been little affected by modern maternity due to poor utilization of these services.

5.2: AVAILABILITY OF ANTENATAL AND OBSTETRIC CARE SERVICES

Availability of health care facilities in all the Health Centres is therefore crucial for the success of Antenatal and Obstetric care utilization. The Health Facility Field Survey in the study area revealed that there are two Secondary Health Facilities facility in Dutse Local Government Area, namely:- Dutse General Hospital and Rasheed Shekoni Specialist Hospital. Apart from that there are Health Posts (H/P), Dispensaries and Basic Health Centres (BHCs).

5.2.1: Types of ANC and OBSC Facilities in the Study Area

All the Health Facilities in 6 sampled wards are listed below on table 5.1 with the number of staff and type of services provided in each centre.

Dutse General Hospital and Rasheed Shekoni Specialists Hospital normally receive referrals from the BHCs. The Basic Health Centres on the other hand receive referrals from dispensaries and Health Posts (H/P). The dispensaries and Basic Health Centres are normally headed by Community Heath Officers (CHOs), while the Health Posts are headed by the community Health Extension Workers (CHEWs). As can be seen from the table 5.7 all the Health Facilities in the study area provide ANC but few of them provide OBSC (^delivery care). (Field Survey, 2014).

Table 5.7: Types of Facility, Number of Staff and Services Provided

Wards	Type of Facility	Number of Staff	Services Provided
1.ABAYA			
Abaya	Basic Health Centre	3	ANC
Tabobo	Health Post(H/P)	2	ANC
Kyaran	H/P	1	ANC
Dagwaje	H/P	1	ANC
2.JIGAWAR TSADA			
Jaudi	Dispensary	2	ANC
Dan-tauya	H/P	1	ANC
Takur Site	H/P	3	ANC
3.DUNDUBUS			
Buju	Dispensary	1	ANC
Kacha	H/P	1	ANC
Bombem	H/P	1	ANC
Dundubus	Dispensary	2	ANC
4. DURU			
Duru	BHC	2	ANC
‘Yar Gaba	Dispensary	2	ANC
Wangara	Dispensary	2	ANC
Darau	H/P	1	ANC
MADOBI			
Madobi	Dispensary	2	ANC
Hamayayi	BHC	3	ANC& Delivery
Kwadiya	Dispensary	2	ANC
Baranda	H/P	2	ANC
Rasheed Shekoni	Secondary Health Centre		ANC and Delivery
Albarka Clinic	Private Hospital	3	ANC & Delivery
6.SAKWAYA			
Sakwaya	BHC	3	ANC &Delivery
Jidawa	Dispensary	1	ANC
Warwade	Dispensary	2	ANC
Zobiya	H/P	1	ANC

Source: Field Survey 2014

The 27 government health facilities in the 6 selected wards of the LGA are located within the villages and settlements as shown in the health facility distribution map on figure 5.2. With the exception of Dutse General Hospital and Rasheed Shekoni Specialists Hospital, all others are Primary Health Facilities which provide immediate basic care to the community, however the number of personnel to cater for the medical

needs of the people in the study area is inadequate and therefore the aims of providing the facilities are not met. It was cited in the previous literature that Primary health care centres were designed to provide medical, antenatal and preventive health services to the people in and around their immediate localities. According to Onokerhioraye (1982) primary health care centres are designed to provide and coordinate preventive, promotive and curative services at home, villages or community level.

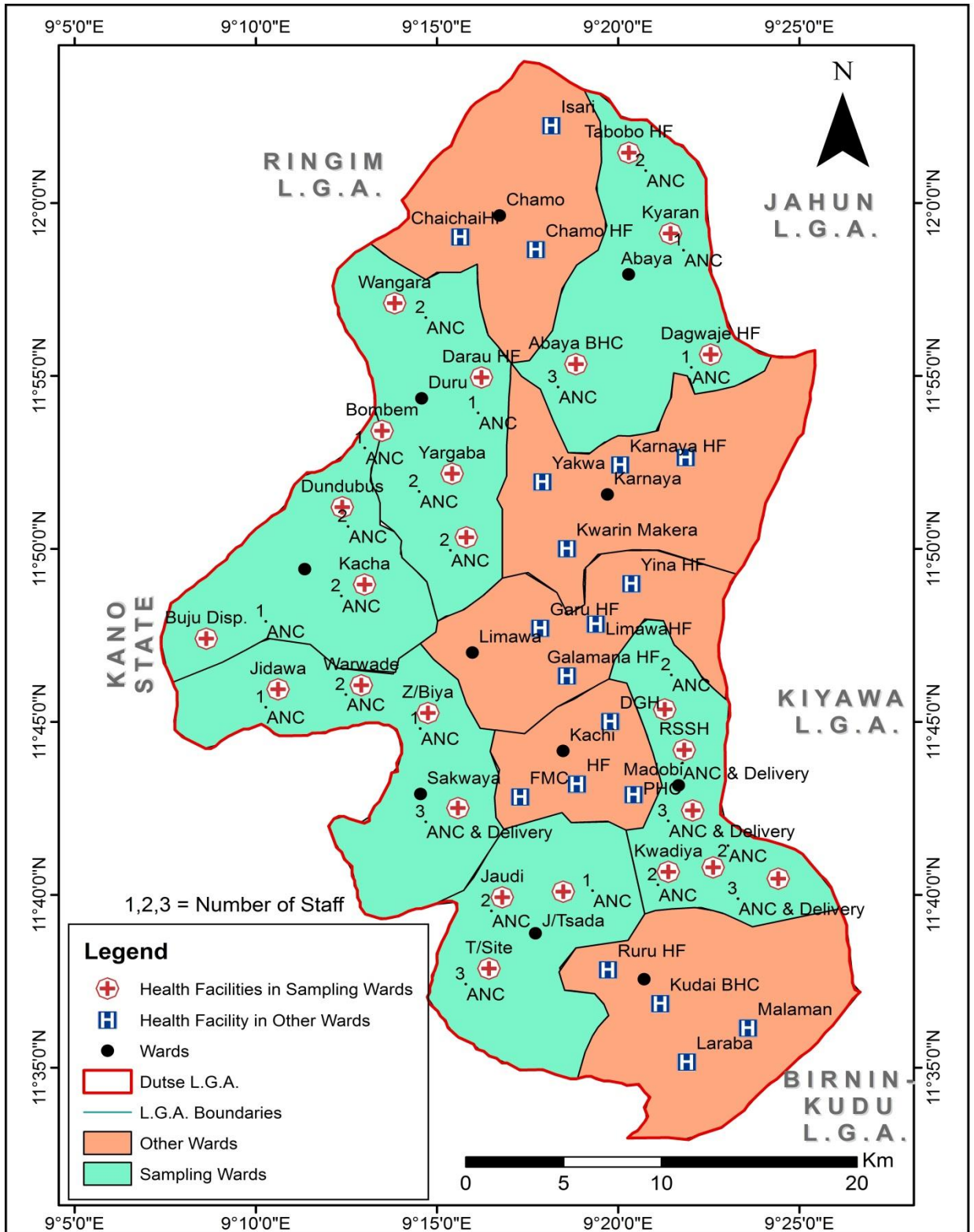


Fig 5.2: Map of Dutse Local Government Area, showing Health Facility

Source: Modified from the administrative map of Jigawa State

The survey discovered that not all the centres provide its full function. The inability of the centres in the study area to meet with these functions is largely due to the serious shortage of personnel in the study area as revealed in the table 5.17 above, this situation is confirmed by findings from Bisallah (2002), who stated that most of the health care centres in Nigeria today suffer a dearth of medical personnel, and this situation is worsened at the Local Government Level, as most of them do not have medical record staff and laboratory technician medical. Most pathetic is the antenatal function. The increase cases of still births, maternal mortality and infant mortality in the area is partly due to the ineffectiveness of the health centres that are charged with such responsibilities particularly in the rural areas.

And this is further confirmed by the In-depth interview conducted with one of the in charge of a health facility:

A health personnel in charge of the outpatient section said: my partner in charge of the ANC section has not been around for more than a month now, she is taking care of her two children that had fracture as a result of an accident, and since then we have not been conducting ANC in this facility. when the women (pregnant women) come I usually refer them to a village closer to where we are here, which is quite a long distance from here, and we are not sure whether they go or not.(Health personnel in charge of Warwade PHC).

The finding agrees with the report given by the WHO, who stated that: The current number of skilled attendants is critically insufficient. An estimated 700,000 midwives are needed worldwide to ensure universal coverage with maternity care, but there is currently a 50% shortfall. In addition, 47,000 doctors with obstetric skills are required, particularly in rural areas. Worldwide, 4.3 million health workers are lacking (WHO, 2007).

Ojeifo (2005) investigated the analysis of Spatial Distribution of Health care facilities in Edo State. Findings showed that 178 (44.5 percent) of the patients often travel outside their locality to obtain primary health care despite the fact that they have these facilities in their locality. This high figure is mainly as a result of inadequate facilities and personnel as indicated by 73 percent of the respondents. Though there were other reasons such as personal, this accounted for 11.2 percent and preference to other facilities, which accounted for 15.8 percent. The study revealed that inadequacies of medical equipment exist in the most primary health centres of the study area where little or no equipment was found. In the case of other primary health care centre the facilities are very bad and obsolete. The author also identified that 21 sterilizers, 1 vacuum extractor and 1 set of delivery forceps were found in the study area. Other equipment includes 38 circumcision scissors, 37 thermometers, 40 child and adult scales and 37 delivery tables.

5.2.2 Availability of Basic Components of Antenatal and Emergency Obstetric Care Services

Basic components of ANC include; Intermittent Preventive Treatment for Malaria, Insecticide Treated Net for Pregnant Women and Prevention of Mother to Child Transmission of HIV. That of Emergency Obstetric care include; Antibiotics for the Treatment of Uncomplicated Sepsis, Vacuum Extraction, Manual Vacuum Aspiration, Treatment for Pre-eclampsia and Eclampsia, Post Abortion Care Services, availability of Magnesium Sulphate, availability of Misoprostol and Anti Shock Garment.

The following equipment or instruments are used during antenatal visits and labour. They include; Blood pressure machines, fetoscopes and portable dopplers (fetal monitors) for monitoring heart beats of growing babies in the womb, blood pressure

cuffs, scales, hospital/examining gowns, IV catheters, amniocentesis needles etc. Others are used during labour, they include anesthesia equipment delivery kits, episiotomy kits (one of the surgical interventions during labour), kits for caesarean section (surgically-assisted delivery) and dry heat sterilizers, womb examination kits, gynaecological cleaning and diagnosis tools, manual suction machines and gynaecological surgical sets (Knom, 2003).

The two Secondary health centers in the LGA namely Dutse General Hospital and Rasheed Shekoni Specialist Hospital had basic equipment for Comprehensive Emergency Obstetric Care (CEmOC), the Basic Health Centres, Dispensary and Health Posts were ill equipped to provide Basic Emergency Obstetric Care (BEmOC) but had basic items such as blood pressure gauges, stethoscopes, syringes and needles. Among the Basic Health Facilities that offer deliveries they have curates (vacuum aspirators) for removal of retained products of conception, long arm gloves for reducing the chances of infection such as HIV and Hepatitis, parental sedatives to treat eclampsia, bag and mask or tube and mask for resuscitation of the new born but none have partograph which is a simple graphical tool for monitoring labour. All the mentioned equipments are the standard (Sibai, 2005; Tsu and Shane, 2004). Furthermore the facilities are without stable electricity and clean water, no piped water in the maternity but rely on boreholes, raising the risk of infection. More so none of the Basic Health Centres had emergency vehicle in case of referrals and other purposes.(Field Survey, 2014).

Adebiyi (2002) remarked that as much as 35% of Nigeria population is presently not covered by any form of modern facility due to inadequate distribution.

5.2.3 Distribution of Respondents by Type of Health Centre Visited

The result on Table 5.8 indicates that 36.2% of the respondents attend dispensary, 31.7% attend Health post, 15.0% attend Secondary Health Centre, and 14.6% go to Basic Health Centre and remaining 2.5% attend private hospital. The fact that the greater percentages of the women 36.2% and 31%, visit dispensary and Basic Health Centre revealed that those are the nearest health centres.

Table 5.8: Distribution of Respondents by Type of Health Centre Visited

Type of Health Centre	Frequency	Percentage
Dispensary	72	36.2
Basic Health Centre	63	31.7
Secondary Health Centre	30	15.0
Health Post	29	14.6
Private Hospital	5	2.5
Total	199	100.0

Source: Field Survey, 2014

During the antenatal period, the most common services women perceived to be important and reported were routinely provided included: weight measurement, physical examination, provision of drugs and insecticide-treated nets. Despite health education in most health facilities, some of these services are poorly understood by pregnant women. The most problematic area was around medication as reflected in some common statements by mothers:

I was given three big white tablets, and told to swallow on the spot. I was also given red tablets and a net, but I was not asked about birth preparedness (FGD, woman in 7th month of pregnancy, during the FGD).

5.2.4 Distance to ANC Facility

The result in table 5.9 shows that 19.3% of the respondents indicates that their distance to ANC facility is less than 1km, 34% are of the opinion that the ANC facility is 1-2 Kilometres away where they stay, 12.8% said the ANC facility is about 3-4 Kilometres away from their houses, 13.2% stay within the distance of 5-6 Kilometres away from a nearest health facility, 20.7% said that the ANC facility is at a distance that is >7 Kilometres. The 20.7% of the respondents that have health facilities located at more than 7Km indicates that the women that are in hard to reach areas have to trek or use any other available means within their capability to reach to the health facility. The hard to reach terrain always make a distance that can be reached within few minutes to extend up to a longer time, using motor cycles or cattle carts, and which will in turn hinder the attendance to ANC.

Table 5.9: Responses on Distance to ANC facility

Distance to ANC Facility	Frequency	Percentage
<1km	77	19.3
1-2km	136	34
3-4km	51	12.8
5-6km	53	13.2
7+	83	20.7
Total	400	100.0

Source: field survey, 2014

Ibrahim *et al*, (2000) argued that travelling for hours on road, by bus, or for longer hours trekking to nearest health facilities are obvious impediments to utilization of health services including maternal care in pregnancy.

Distance to health facilities, inadequate transportation, socio-cultural beliefs and the need for immediate and specialized services have hampered women's ability to access these services in many low- and middle-income countries, including Nigeria (Wall, 1998, Gabrysch, Campbell, 2009; and Mubyazi *et al.*, 2010).

5.2.5 Means of going to ANC Facility

Figure 5.3 indicates that 30% of the respondents trek to the ANC centre, 26% make use of commercial motor cycle as means of transportation to the centre, 8% make use of private motor cycle as means of transport, 7% make use of commercial car as means of transport to the ANC centre while 5% and 24% use private car and cattle cart respectively as their means of transport to the ANC centre. The percentage of respondents that trek is greater due to the fact that most of the hard to reach areas are not accessible by cars due to the poor nature of the terrain, and even the motor cyclists find it difficult to reach to some settlements, and as a result, the charges to some health facilities are not affordable by the pregnant women and so they resort to trekking as their best option.

There is a lot of sand along the way to the hospital, motor cyclists stop more than five times for us to come down so that they will be able to move further, we sometimes fall down together with the motor cyclist! You see it is risky for pregnant woman to slide down from a motor cycle that is why they charge us much. Some of us that are able to trek, when we go out early in the morning we will not come back till late afternoon around 4:30pm which is discouraging. But the cattle cart is of great help to us. (A 40year old participant in Jutai village)

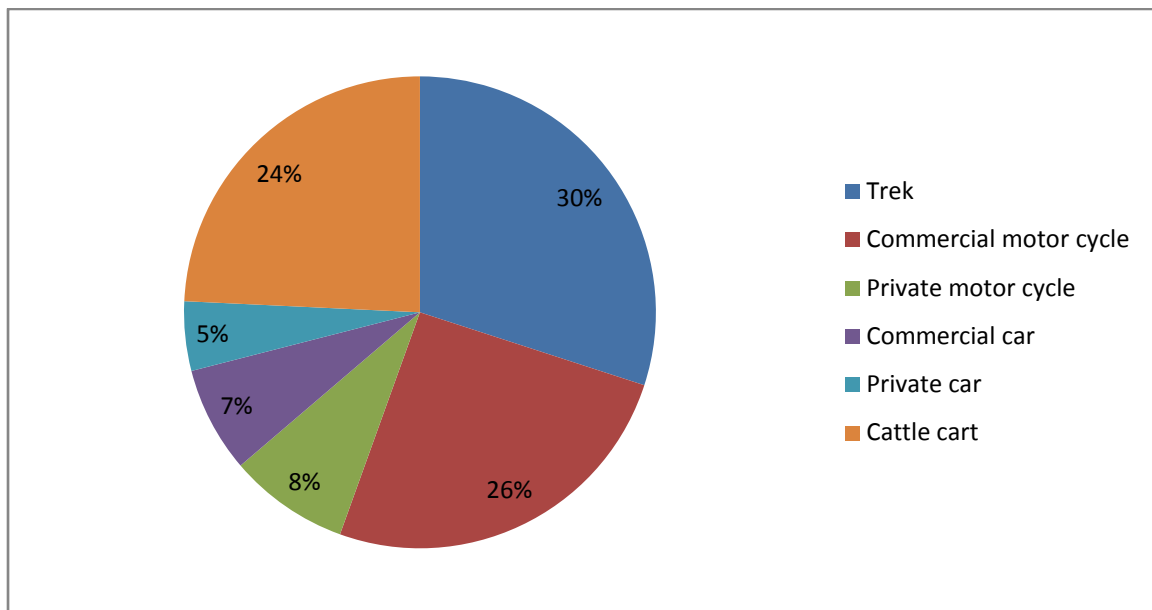


Figure 5.3 Respondents' means of going to ANC Centre

Source: Field Survey, 2014

5.2.6 Cost of Going to the Health Facility

Figure 5.4 shows that 35.0% of the respondents said it cost them about 50 to 100 Naira to the health facility, 23.0% said it cost them about 100 to 200 Naira to go to the health, 42.0% said they spend more than 200 Naira to go to the health facility centre all the women have a rough idea about what it costs to go to a health facility even though some of them do not attend. They may have known the places for some other reasons. The money that most women spend for transport to health facilities are high and these women are not economically empowered, so as a result trekking serve as the best option for them as we saw in Figure 4.6 above.

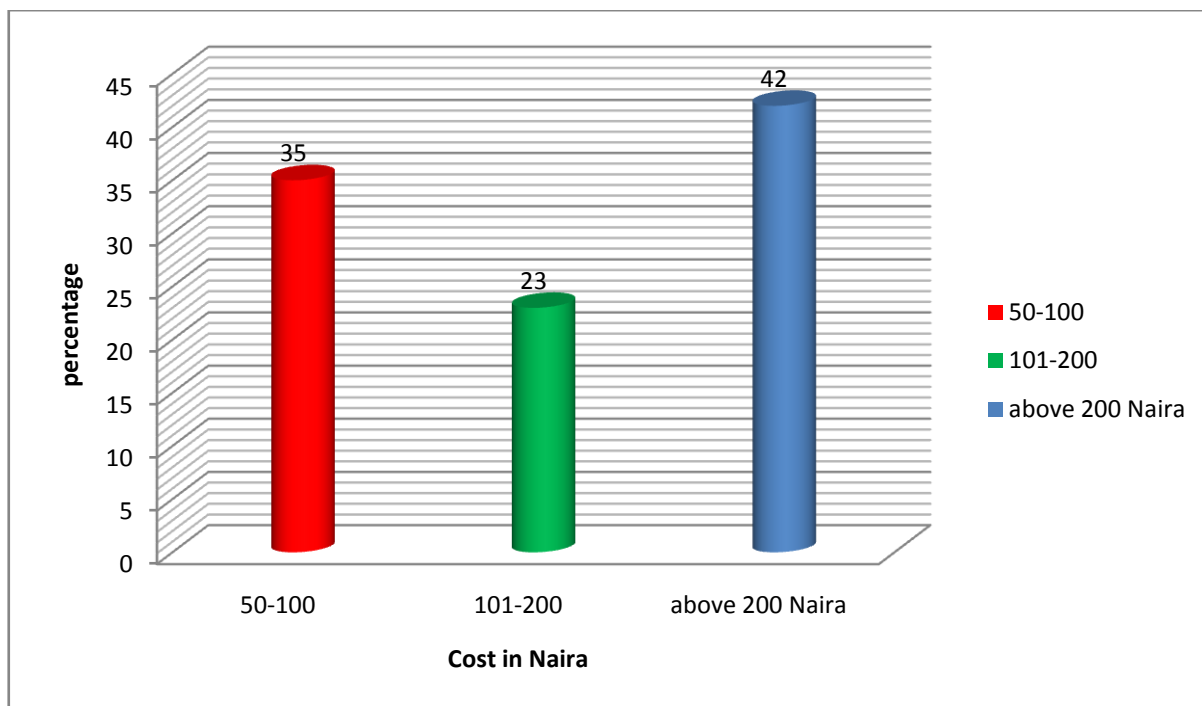


Figure 5.4: Respondents view on the cost of going to ANC facility

Source: Field Survey, 2014

Most of the women have the intension of going for ANC but even if they take heart and trek once the hardships they encounter will not allow them to continue with subsequent visits. So therefore distance and cost of transportation to the health facilities are some of the major barriers to the use of ANC in the study area.

A woman during the FGD said:

when we ask our husbands for money if they have they will give us and if they don't have they will tell us, some of us that are doing small business at home use their money and some that are strong and feel they can trek they trek to the hospital.(Abu- a 32year old participant in FGD in Kadirawa village).

A possible explanation to this finding is that poor mothers are unlikely to afford the cost of transport and other medical costs. Even though, the service in the health post is given free of charge, it incurs costs when complicated delivery is referred to health center. In addition mothers from low socio-economic status could have limited access to

information about maternal health care, low self esteem, and low health seeking behavior. Other studies have shown comparable results with this (Berhane *et al*, 2001, Chakraborty *et al*, 2003, Pembe *et al*, 2008; Yanagisawa *et al*, 2006; Mrisho *et al*, 2007).

5.2.7 Quality of Treatment Received and Attitudes of the Health Care Staff

Table 5.10 reveals the responses on the treatment received and attitudes of health care staff at ANC centres. About 46.8% said the treatment given to them is very good, 24.6% are of the opinion that treatment is good while 21.1% said they receive average treatment from the health workers and the remaining 5% and 2.5% are for poor and very poor treatment respectively.

Also, pertaining the attitudes of staff 47.2% said they are friendly, 27.1% said they are harsh and 25.6% said they are supportive.

Table 5.10: Responses on Quality of Treatment Received and Attitude of Staff

Perception	Frequency	Percentage
Very Good	93	46.8
Good	49	24.6
Average	42	21.1
Poor	10	5.0
Very Poor	5	2.5
Total	199	100.0
Attitudes of Staff		
Friendly	94	47.2
Harsh	54	27.1
Supportive	51	25.6
Total	199	100

Source: Field Survey 2014

A woman told the researcher during the focus group discussion:

Because of our number at times some of us will be asked to go back home and come back the next day. It is not the fault of the workers because she does not have any assistance. And most of us may not be able to come back the next day because of one reason or the other.(A 30year old woman in FGD in Duru ward)

Another woman said: at times the man in charge of outpatients section will have to come and help her when he is less busy with either recording of our weight or taking our blood pressure.

Attitudes of the workers

The workers are friendly, and the jovial nature of some of them encourages us well. Honestly we don't have problem with our ANC workers. We like them because they give us good advice pertaining to the wellbeing of ourselves and that of our unborn babies. This statement is from a woman in FGD. (Hajja from tilori village)

Another woman stated that the attitude of the workers is not always encouraging for at times they embarrass us when we go late, or when we mistakenly go on the

wrong day, which discourage us and whenever we see that we are late we prefer not to go fear of the way they treat us.(Babar Mairo from Kyaran village)

5.2.8 Availability and Cost of Drugs

Table 5.11 reveals that 82% said the drugs are available while 17.6% stated that the drugs are not available. Also, about 51.8% of the respondents said that the drugs are free of charge, while 48.2% said the drugs are not free. There is a government policy for free medical care for pregnant women and children under five years in Jigawa State. But that policy does not always ensure availability. From the percentage that indicated that the drugs are not free, they were asked on the cost of the drugs, 11.5% showed that the drugs are expensive while 26% said the cost is moderate and 62.5% indicated that the drugs are cheap. As one of the women in FGD said:

At times when we go to the pharmacy to collect drugs prescribed to us during ANC, we usually get the cheap ones available and they will tell us that the rest have finished. We have to go out and buy with our money if we have. And at times the nurses ask us to pay 50Naira for urine test or 10Naira for syringe. (lami in Baranda village).

Table 5.11: Availability of Drugs and Cost

Availability of Drugs	Frequency	Percentage
Yes	164	82.4
No	35	17.6
Total	199	100.0
Free Drugs?		
Yes	103	51.8
No	96	48.2
Total	199	100
Cost of Drugs		

Expensive	11	11.5
Moderate	25	26.0
Cheap	60	62.5
Total	96	100

Source: Field Survey, 2014

5.2.9 Distribution by Waiting Time.

Table 5.13 shows that there is a long waiting time for pregnant women during ANC. Long waiting hours in hospital could be as a result of lateness to work by the medical personnel, registration procedure, organisation of waiting hall and waiting at the pharmacy stores (Olumide and Ajayi, 1999). This situation is explained by one of the women during the FGD

The long time waiting on queues actually discourage us from going for ANC , and we have some other things to at home, so we do not want to normally leave work at home and be wasting time in the hospital.(Yamuna, at Tilori village).

Table 5.12: Time spend on Queues

Waiting Time on Queues	Frequency	Percentage
30 minutes	33	16.6
30minutes-1hr	53	26.6
2hrs-3hrs	60	30.2
4hrs-5hrs	32	16.1
6hrs-7hrs	19	9.5
>7hrs	2	1.0
Total	199	100.0

Source: Field Survey, 2014

Another woman also had this to say:

When we go very early we usually have our ANC on time. But at times we have to do some work at home

before going out to the hospital, which makes us go late and due to the fact that there is only one person in charge of ANC we usually stay long on line which discourages us from going. (a 6months pregnant woman in Duru village)

5.3 FREQUENCY OF ANC UTILIZATION

5.3.1 Seeking for Advice on Maternal Health

Table 5.14 reveals that 45.3% of the respondents seek advice from the hospital, 12.0% said they seek their health advice from traditional birth attendants, 29.0% attested that their health advice is sought from family members, 8.3% said they seek their health advice from co-wives, 5.5% advice from other people. This signifies that although there has been increasing effort on antenatal care services in the LGA by different governments; however most women are reluctant to attend ANC either because of their negative belief towards seeking care at the hospital which is connected with their level of education or they lack the understanding of its value over what a TBA usually offers. This also indicates that some women relied on non professional advice which could increase risks of maternal death.

Table 5.13: Respondents' Place of Seeking Advice on Maternal Health

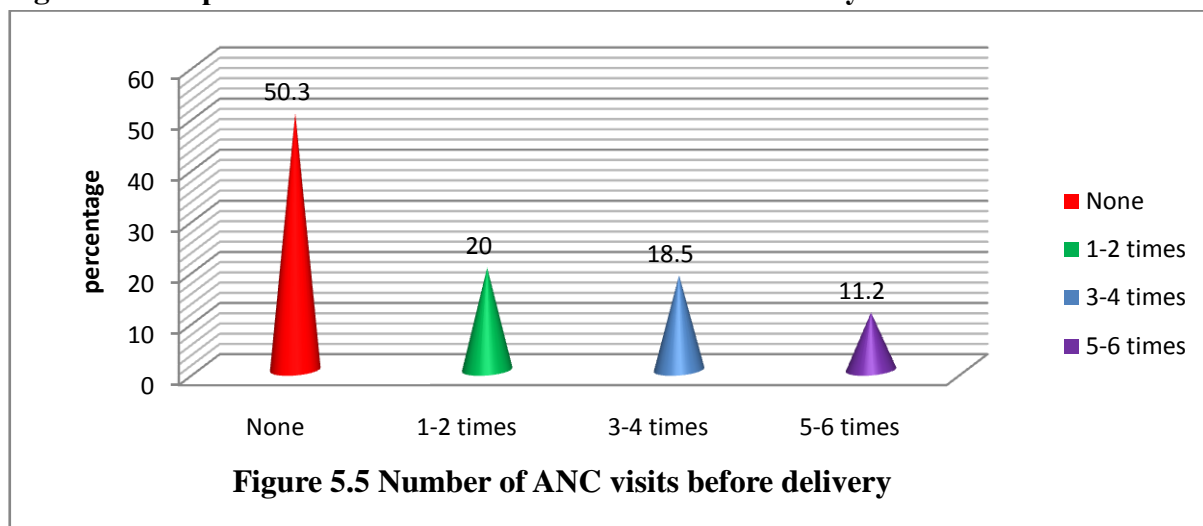
Place of Seeking Advice	Number	Percentage
Hospital	181	45.3
Traditional birth attendants	48	12.0
Family members	116	29.0
Co-wives	33	8.3
Others	22	5.5
Total	400	100.0

Source: Field Survey, 2014

5.3.2 Number of ANC Visit before Delivery

Figure 5.5 shows that 50.3% did not visit the hospital for ANC before delivery, 20% have between one and two (1-2) visits for ANC before delivery, 18.5% said they visit the hospital for ANC around three to four (3-4) times before delivery, 11.2 % visit the hospital for ANC between five to six (5-6) times before delivery. Empirical evidence shows that four visits are sufficient for uncomplicated pregnancies and more are necessary only in cases of complications (Villar *et al*,2001); hence the World Health Organisation recommends at least four ANC visits in the course of pregnancy. The proportion of pregnant women in low- and middle-income countries who had at least one antenatal care visit increased from less than 55% in the early 1990s to almost 75% in a decade. Although this is an improvement, the recommended norm of four antenatal visits is still not accessible to many pregnant women worldwide: for example, 55% of those in sub-Saharan Africa (WHO, 2005).

Figure 5.5 Respondents' Number of ANC visits before delivery



Source: Field Survey, 2014

5.3.3 Place of Delivery

Table 5.15 shows that 24.3% give birth in the hospital, 73.8% said they give birth at home, 26.5% give birth in traditional birth centres while 1.8% are for others which may be from herbalist, sooth sayer or any other place . Most of the respondents believed that giving birth at home is the success of their pregnancies, going to the hospital for delivery is the last thing they want to hear, and that happens only during extreme complications. Most of them do not know that attendance at ANC is not always enough because majority of the fatal complications occurs during or shortly after delivery (Iyaniwura and Yussuf, 2009).

AbouZahr in 2003, presented the role of assisted skilled birth attendants in preventing direct and indirect cause of maternal deaths such as, infection, shock, blood loss, convulsions, and surgical procedures, such as caesarean delivery. It is therefore important that pregnant women have skilled obstetric attendance during delivery, but almost all the respondents in the study area deliver at home and this may be the reason why prevention of maternal mortality in the study area have a long way to go despite all

efforts by the state government in providing awareness in electronic media on safe motherhood initiative in the state. When the proportion that gave birth at the hospital were asked why they do so, 41.3% of them said they give birth in the hospital because it is safer, 47.4% said it is good to deliver in the hospital, 11.3% give birth in the hospital because of the fear of complications.

The ones that delivered or plan to deliver at home alone or with TBA gave the following reasons: 16.3% said they gave birth at home because of the distance of their areas to the hospital, 17.4% said the cost involved in the hospital birth is the reason for their giving birth at home, 18.4% said the attitude of the hospital worker discourage them from going for delivery in the hospital, 15.8% are of the opinion that it is easier to give to give birth at home, 10.0% said it is the culture of the area to give birth at home, 22.1% said it is God's will that makes them deliver at home.

The respondents' expressions made it clear that deep rooted traditional, cultural and religious practices were negatively influencing the health seeking behavior of the mothers. They perceived that the health facility is only for complicated labour. They strongly emphasized that the delivery was up to the will of God, not up to the continuous support of health professionals. It was also generally perceived that pregnancy and child birth were a normal phenomenon. They did not consider that it required special attention. This could be the explanation for why the majority of mothers gave birth at home and the reason for low maternal health care utilization.

The participants identified lack of knowledge and awareness of the community and access to information on maternal health care issues as barriers to use maternity care. Majority of the mothers had a more positive attitude and information about the advantages of ANC than to the OBSC. They pointed out that the BHCs were teaching

them about maternal health care in their home. Despite this, majority of them were not aware about pregnancy related complications and advantages of obstetric care. They also witnessed when mothers die at home during delivery; they believed these deaths occurred due to the unwillingness of God. This was consistence with other studies elsewhere (Shariff *et al*, 2002; Babar *et al*, 2004).

Table 5.14: Respondents' Place of Delivery

Place of Delivery	No	%
others	7	1.8
Hospital	97	24.3
Home	190	47.5
Traditional Birth Attendant	106	26.5
Total	400	100.0
If hospital, why?		
It is safer	40	41.3
Is good to deliver in the hospital	46	47.4
Fear of complications	11	11.3
Total	97	100.0
If home, why?		
Distance	31	16.3
Cost	33	17.4
Attitude of the Hospital workers	35	18.4
It is easier at home	30	15.8
It is the culture of the area	19	10.0
God's will	42	22.1
Total	190	100.0

Source: Field Survey, 2014

We cannot tell our husbands to take us to the hospital to give birth, our concern is how our husbands can get the money to buy the naming ram and the clothes we will wear on the naming day, so when we are in labour we just pray for our safe delivery at home for we know that going to the hospital means spending and our husbands are not rich enough.

(Ladidi, a 4month pregnant woman during FGD)

Another woman exclaimed that: hospital! This is always a bad news for us, the general culture of this area is to deliver at home, when we hear that a woman is taken to the hospital to deliver we are not always happy, we pray for her and we pity her and the husband, we know that there is problem and the husband will have to spend a lot of money.

During a key informant interview KII, (a village head in Dantauya village) told the researcher that a car has been donated for them by Haihuwa Lafiya Initiative to be used among three neighbouring settlements for carrying pregnant women to the hospital when in labour, and there was a strong resistance by some men who refuse to allow their wives to be taken to the hospital to deliver. There was a case of a man that strongly disallowed his wife to go to the hospital and that was how the wife died at home.

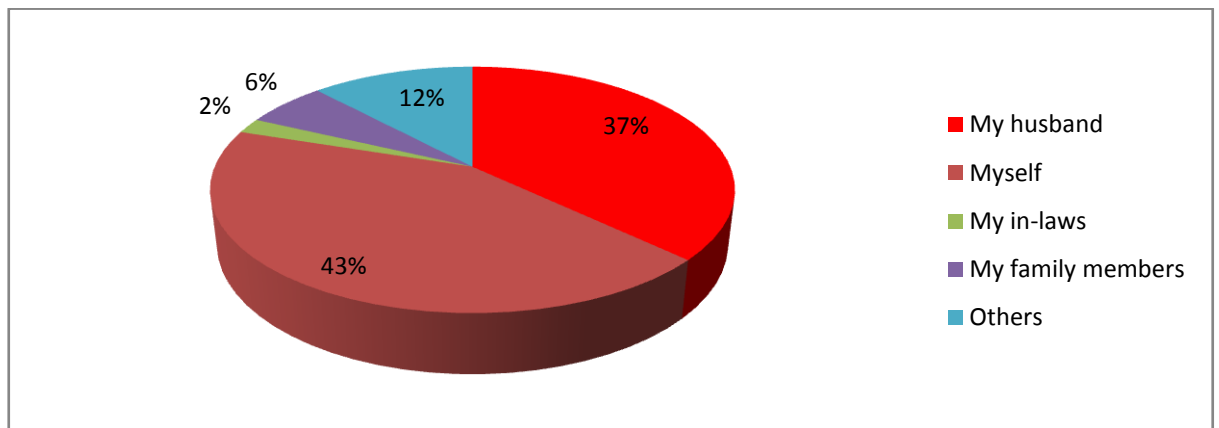


Figure 5.6: Decision Making on Where to Give Birth

Source: Field Survey, 2014

5.3.4 Responses on Decision about Where to Give Birth

Figure 5.6 indicates that 36.8% of the respondents said their husbands make the decision on where they give birth, 42.8% of the respondents said they make the decision themselves, 2.5% said their in-laws make the decision on where they give birth, and 5.5% of the respondents said their family members make the decision while 12.5% are for others.

5.3.5 Post-natal Clinic Attendance (PNC)

Table 5.16 shows that 36.5% agreed that they do go for post-natal clinic, 63.5% said “No”. Those who don’t attend post-natal clinic gave their reasons for not attending as follows; 31.5% said post-natal clinic is not necessary, 48.4% said they don’t need it, 20.1% said they can take care of themselves and their baby at home without going for post-natal clinic.

Table 5.15: Distribution of Respondents by Attendance to Post-natal Clinic

Attendance at Post-natal Clinic	Number	Percentage
Yes	146	36.5
No	254	63.5
Total	400	100.0
If no, why?		
Is not necessary	80	31.5
No need	123	48.4
I can take of myself and my baby at home	51	20.1
Total	254	100.0

Source: Field Survey, 2014

Although in nearly all FGDs and in-depth interviews, respondents reported to have attended ANC services, the trend was not the same for PNC. The majority of those who gave birth at home did not seek PNC services, but they reported attending three to seven days after childbirth. However, in several FGD sessions, women with babies as old as two or three weeks had not yet taken their baby for PNC. Their reasons for the delay were mainly due to waiting for the baby's cord stump to fall off, to allow the mother and baby to regain energy lost during childbirth, lack of money and distance to the health facility. The period between the birth of a child to 40 days after is believed to be the period when a mother and her baby need to be secluded and therefore will not allow to

go out, she will totally stay at home taking care of herself and her baby until she regains energy. PNC was usually perceived as a service for children of all ages, lasting well beyond 42 days after delivery. Respondents in the study area did not make a distinction between the care in the first six weeks and the Expanded Programme on Immunisation (EPI) which is one component of PNC. This confusion may exist because EPI immunizations begin shortly after birth and are first administered during the PNC period. Some of the respondents viewed postnatal care as very important, justifying taking the child out of the home even during the seclusion period; some respondents reported that a newborn would be taken to the health facility by relatives, and the mother would be left at home to regain her energy lost during childbirth. Even those women who give birth at health facilities are discharged very soon after birth. A baby is usually taken for follow-up well-baby care services provided through EPI once per month after the first visit.

There are women who give birth today and decide to take their babies to the health facility the day after. There are also those who give birth on the way to the health facility and decide to take the baby directly to the health facility. However, the majority are those who give birth at home and wait till after 40 days before they take their children for PNC services" (KII with health care provider).

There are those who take three to four days and others take up to one week to take their newborn for their first PNC visit. Other women say that they don't have enough energy to go for PNC while some mentioned other physical barriers as an obstacle. Those who live close to the health facility do come within one week while those who live far away may take up to two to three weeks" (Health Care Provider)

5.3.6 Pregnancy Related Complication

Table 5.17 shows the distribution of respondents by having pregnancy related complications, where 32.3% indicated that they have complications, 67.7% said they

have never experienced pregnancy complications. Among the proportion that have complications, 28.7% said it was bleeding they had, 25.6% said they experienced eclampsia, 38.8% said they experienced hypertension, 6.9% said they had other complications apart from the ones mentioned. Among those that indicated they had complications, 78.3% of them said they go to hospital for their treatment, 21.7% of the respondents go to traditional birth attendant for their treatment. This confirms the documented statement by Tsegay, (2010) who stated that; Maternal health care coverage is therefore far lower than the global targets, especially for mothers from developing countries. They are still suffering from pregnancy related complications. Around 80% of all maternal deaths are direct obstetric deaths. WHO reports that, between 11% and 17% of the deaths occur during the delivery and between 50% and 71% in the postpartum period. About 45% of postpartum deaths occur during the first 24 hours, and more than two thirds during the first week (WHO, 2005).

Table 5.16: Distribution of Respondents having Pregnancy Related Complication

Complications	No	%
Yes	129	32.3
No	271	67.7
Total	400	100.0
If yes, state the nature		
Bleeding	37	28.7
Eclampsia	33	25.6
Hypertension	50	38.8
Others	9	6.9
Total	129	100
If yes, where do you go for treatment?		
Hospital	101	78.3
Traditional birth attendant	28	21.7
Total	129	100.0

.Source: Field Survey, 2014

5.3.7 Obstetric Complications Diagnosed at Dutse General Hospital

Obstetrical complications are a life threatening medical conditions that occur in pregnancy during or after labor and delivery. There are a number of illnesses and disorders of pregnancy that can threaten the wellbeing of both mother and child. Obstetric complication may also occur during active labor , and after delivery (postpartum).

Table 5.17 Obstetric Complications Diagnosed at Dutse General Hospital in 2012

Diagnosis	Number of patients	Percentage
Retained placenta	115	13.6
Eclampsia /Pre-Eclampsia	459	54.2
Antepertum Hemorrhage	67	7.9
Complications of Abortion	149	17.6
Sepsis	7	0.8
Anaemia	50	5.9
total	847	100

Source: Field Survey, 2014

From table 5.18 above, it can be seen that eclampsia and pre-eclampsia are the most frequent obstetric complication in the study area, and it is a serious complication that needs the foetus to be delivered almost immediately through cesarian-section that is the surgical delivery of a foetus through an incision in the uterus. In a situation where by this type of complication occur in remote areas where the availability and accessibility of the basic emergency obstetric care is not there, the patient may have to be referred, and delay may occur which may lead to maternal and child mortality.

5.3.8 Distribution of Respondents' cases of Maternal Mortality in their Areas

Table 5.19 reveals that 63.0% of the respondents said they have heard cases of maternal death in their area, 20.5% of the respondents said they haven't heard cases of maternal death in their area.

Table 5.18: Respondents' Cases of Maternal Mortality in their Area

Are there Cases of maternal death in the Area	Number	Percentage
Yes	252	63.0
No	148	37.0
Total	400	100.0

Source: Field Survey 2014

5.3.9 Record of Maternal Mortality in Dutse General Hospital

Table 5.20 shows that 50% of maternal death that occur at Dutse general hospital are caused as a result of pre-eclampsia and eclampsia which is a highly serious emergency case, but the immediate facilities in most of the communities in the study area are ill equipped to render the needed help.

Table 5.19: Record of Maternal Mortality in Dutse General Hospital and the Causes in 2014

Diagnosis	Number of Death	Percentage
Prolonged Labour	1	3.3
Antepertum Hemorrhage	3	10.0
Retained Placenta	1	3.3
Pre-eclampsia/Eclampsia	15	50
Ruptured Uterus	2	6.7
Anaemia	8	26.7
Total	30	100

Source: Field Survey, 2014

It is estimated that approximately 71% of Nigerians have access to a PHC facility located within a 5km radius of their home (Thaddeus and Maine, 1994). However, many of these PHC centres are not functional due to frequent stock-outs, a lack of equipment, essential supplies and qualified staff (Thaddeus and Maine, 1994). This may have necessitated referrals from the remote areas to General Hospital.

Table 5.20: Places of Occurrence of Maternal Mortality

Place of Maternal Death	Number	Percentage
No Response	167	41.8
Hospital	28	7.0
Home	203	50.8
Others	2	.5
Total	400	100.0

Source: Field Survey, 2014

5.3.10 Places Where Maternal Mortality Occur

Table 5.21 shows that 7.0% of the respondents said that most cases of maternal death take place at the hospital, 50.8% of the respondents said maternal deaths take place at home, 0.5% of the respondents said maternal death takes place in other places while 41.8% of the people did not respond.

5.4 SOCIO-ECONOMIC FACTORS THAT DETERMINE THE USE OF ANTENATAL AND OBSTETRIC CARE SERVICES

Table 5.21: Age and ANC Attendance

Age	Attendance at ANC					
	Yes		No		Total	
	Number	%	Number	%	Number	%
15-19 years	52	13.0	36	36.7	98	24.5
20-24 years	30	7.5	19	27.5	69	17.2
25-29 years	51	12.8	41	44.6	92	23.0
30-34 years	34	8.5	43	70.5	61	15.2
35-39 years	24	6.0	41	70.7	58	14.5
40-44 years	4	1.0	7	87.5	8	2.0
45-49 years	4	1.0	14	100.0	14	3.5
Total	199	49.8%	201	50.2%	400	100.0
X² = 60.581,		P		Level of Significance:- 0.05		
df = 6,		value				
		= .001				

Source: Field Survey 2014

5.4.1: Statistical Test for Age versus ANC Attendance

Table 5.22 shows the distribution of respondents' attendance to ANC centers by age of respondents. The result indicates that 13% of respondents between the age of 15-19 years attend ANC, 7.5% between the age of 20-24 years attend ANC, 12.8% between the age of 25-29 years attends ANC, 8.5% between the age of 30-34 years attends ANC, 6.0% between the age of 35-39 years attends ANC while 1% between the age 40-44 years attends ANC. 1% between the ages 45-44 years attends ANC. The p value of 0.001 which is less than the level of significance (0.05) reveals that there is a strong relationship between the age of a respondent and the use of antenatal care, and that the null hypothesis/ H_0 should be rejected. The result shows that ANC attendance reduces with increase in age. As the age increases, the percentage of those who attend ANC reduces.

Women between the ages 15-39 years attend ANC more than the older women that fall between age 40- 49 years which is a clear indication that age is related with ANC attendance as older women who have experienced early pregnancies in their life have lower likelihood of ANC attendance, and also due to the fact that the older women would have almost completed child bearing. As age of women increases the ANC utilization decreases. This agrees with the findings of Simkhada *et al*, (2001) who noticed that age had statistically significant negative effect on adequate attendance and utilization of ANC and OBSC, women in the older age tend to use ANC less than women in younger age.

Table 5.22: Children ever born and ANC Attendance

Number of Children ever born	Attendance at ANC Centre					
	Yes		No		Total	
	Number	%	Number	%	Number	%
1-2 children	74	18.5	56	14.0	130	32.5
3-4 children	46	11.5	32	8.0	78	19.5
5-6 children	43	10.8	51	12.8	94	23.5
7+	36	9.0	62	15.5	98	24.5
Total	199	49.8%	201	50.2%	400	100.0
X²=14.574, df =3		P value =		Level of Significance= 0.05		
		.002,				

5.4.2: Statistical Test for Children ever born versus ANC Attendance

Table 5.22 reveals the distribution of respondents' according to ANC attendance by number of children ever born. The result shows that those who ever born between 1-2 children has the highest percentage (18.5%) of attendance at ANC. Those who gave birth to 7 children and above have the least percentage of attendance 9%. A p-value 0.002 which is less than the level of significance (0.05) indicates that there is strong association between the number of children ever born and attendance to ANC, and H_0 is rejected. This result also shows that attendance to ANC decline with increase in the number of children ever born. Thus, it can be concluded that Females with high birth order reduce the likelihood of utilization (Hibobv 2011, Titelay *et al*, 2010).

A possible explanation of this may be as during their first pregnancy females are more conscious and cautious and therefore more try to seek Antenatal health care while with the passage of time they experience confidence from previous pregnancies and negatively affect the probability of seeking care for subsequent pregnancies.

The other possible explanation for the low utilization of maternal health care services among higher parity women could be due to resource and time constraints because of their large family size and caring of their children and other house work load. In addition, high parity women could have more experience on child birth and they might think delivery is normal and develop self-reliance and preferred to give birth at home with mothers and relatives assistance.

Table 5.23: Distance and ANC Attendance

Distance	ANC Attendance					
	Yes		No		Total	
	Number	%	Number	%	Number	%
<1KM	101	25.1	6	1.5	133	26.6
1KM	50	12.5	10	2.5	63	15.0
2KM	15	3.8	19	4.8	39	8.6
3KM	20	5.0	32	8.0	42	13.0
4KM	7	1.7	7	1.8	44	3.5
5KM+	6	1.5	127	31.8	79	33.3
Total	199	49.8%	201	50.2%	400	100.0%
$\chi^2 = 144.869$, d/f =5,		Level of Significance= 0.05,		P value = 0.001		

5.5.1: Statistical Test for Distance versus ANC Attendance

Table 5.23 shows the distribution of respondents on ANC attendance by distance to ANC facility. The result reveals a decline in ANC attendance with increase in distance. About 25.1% that reside less than 1Km to the centre indicated that they utilize ANC, 12.5% who cover a distance of 1Km utilize ANC facilities, 3.8% within the distance of 2Km to the centre indicated that they utilize ANC facilities, 5.0% of the respondents who resides within 3Km to the centre indicated that they utilize ANC facilities, 1.7% of the respondents within the distance of 4Km to the centre indicated that they attend ANC while 1.5% of the respondents who resides within 5Km and above indicated that they attend ANC centre. The p-value (0.001) indicates the existence of a strong and significant relationship between distance to ANC centre and attendance to ANC centre, and null hypothesis H_0 is rejected. Thus, we can conclude that the attendance to ANC centre is dependent on the distance covered to ANC centre. This is obvious in the above result where those who cover 5Km and above has the highest percentage (31.8%) of none attendance while those who cover short of less than 1Km has the smallest percentage (1.5%) of none attendance.

The FGD participants pointed out as a main barrier the long distance from their home and the difficulty of transporting a woman in labour for one-two hours due to difficult terrain and inaccessible roads.

I was in a serious labour and I could not give birth at home after all the manipulations by the traditional birth attendants in the village, the next option after i became so weak was to go to the hospital, i could not climb a bike and there was no car in the village, so they use cattle cart to carry me out to the nearest motorable road which is quite far from here. From there we got a car that took us to the hospital where nurses tried hard to bring out the baby which was already dead! But thank God who saved my life, because i thought i was going to die. Many with the kind of my problem could not survive to tell the story (
A35year old woman in F

Table 5.24: Respondents' Occupation and ANC Attendance

Occupation	ANC Attendance					
	Yes		No		Total	
	Number	%	Number	%	Number	%
Hand Craft	68	17.1	127	32.0	195	48.8
Farming	33	8.3	13	3.3	46	11.5
Business Professional	39	9.8	16	4.0	55	13.8
Civil servant	22	5.5	0	0.0	22	5.5
Full time housewife	35	8.8	45	11.2	80	20.0
Student	2	0.5	0	0.0	2	0.5
Total	199	49.8%	201	50.2%	400	100.0
$\chi^2 = 35.725, \text{ d/f} = 4$		Level of		P value = .001		
		Significance				
		=0.05				

Source: Field Survey, 2014

5.5.3: Statistical Test for Occupation versus ANC Attendance

Table 5.24 shows that most of those who indicated that they attend ANC centres when they are pregnant are those who are engaged in one form of occupation or the other.

17.1% of those that attend have hand crafts as their occupation, while there are 8.3% of farmer who also attend, we have 9.8% from business professionals, 5.5% of civil servant, full time house wives constitute 8.8%.

The result obtained shows that there was a significant relationship between the respondents' occupational status and the use of antenatal care. The p value of 0.001 is less than the level of significance (0.05) and therefore the null hypothesis is rejected. Careful observation on the percentages revealed that all civil servants and all students in the study area attend ANC which means a strong significant relationship exist between occupation and the use of antenatal care where the use of ANC is more likely among certain type of occupation than others.

A significant percentage of those that do not attend fall among women that engaged in hand craft occupation which is 32%. Most of the activities that these women do are the wide range of hand craft and labourious works, ranging from mat and hand fan making, the act of gathering farm produce and removing grains of (maize, sorghum, millet, ground nut and beans) from their shafts. The hand grinding of grains using pestle and mortar, brooms gathering, hand sewing of local caps for men and sewing using sewing machine. Most of these works are stressful and time consuming and the fact that the ANC sessions in all the health centres are observed during the morning period and also the works requires one to do during the morning time will not give them chances of going for ANC more especially if they get tired from the work and will have to trek a long distance couple with the heaviness of the pregnancy. 11.2% is the highest

proportion of those that do not attend ANC and they are full time house wives, their non attendance may be due to fact that they rely totally on their husbands and their fore may not get all the financial and moral support that will encourage them to go from the husbands. However from among the farmers and business professionals there are certain proportions that do not attend indicating that they may either be ignorant of the importance of ANC or they are carried away with their activities since farmers and business professionals can not complain of lacking money.

Table 5.25: Respondents' Educational Attainment and ANC Attendance

Education Attainment	ANC Attendance					
	Yes		No		Total	
	Number	%	Number	%	Number	%
Qur'anic	23	5.3	219	55.3	242	60.5
Primary	26	6.5	83	21.3	111	26.8
Secondary	28	7.5	2	1.0	30	8.5
Tertiary	12	3.0	0	0.0	12	3.0
Others	5	1.2	0	0.0	5	1.2
Total	199	49.8%	201	50.2%	400	100.0
X² = 32.433, d/f = 4, Level of significance = 0.05				P value = .001		

Source: Field Survey, 2014

5.5.4: Statistical Test for Education Attainment versus ANC Attendance

Table 5.25 shows respondents' attendance at ANC centre by level of education. The result shows an increase ANC attendance with increase in educational level. Those with Qur'anic education had the least attendance only 5.3% out of 60.5% attend, 6.5% out of 26.8% of those with primary education attend ANC, 7.5% out of 8.5% of those with secondary education attend ANC, all of those with tertiary education and other qualification attend ANC i.e 3% & 1.2% respectively also attend ANC. The p-value =0.001 is less than the level of significance reveals that a strong significant relationship exist between respondents' educational attainment and attendance to ANC. Thus, it indicates that women with high qualification are likely to attend ANC more than those who with low qualification.

There are reasons of why education influences the use ANC, delivery service and skilled attendant. Educated women are expected to have knowledge and awareness about the advantages of the interventions and pregnancy related complication. They are more likely to seek modern health care than those who are not. Education is likely to improve the general status of women and help them to build up confidence to make decisions about their own health. The other finding of the current study is that having educated family member who at least attended a secondary education has an important predictor on selection of skilled delivery. Women who had educated family member/s are more likely to select health facility as a delivery place. A main explanation for this could be that an educated family member in the household could influence positively the mother and their family. Firstly, they have reproductive health education on their formal education. Secondly, they could have better access to information through reading and following media about maternal health care. Consequently they could have

better knowledge about the advantages of maternal health care and pregnancy related complications.

A compilation of demographic and health survey (DHS) data of more than 50 developing countries by Carr (2004), showed that women with limited formal education and knowledge of health care services are less likely to use basic health services, such as, antenatal care, immunization, and family planning.

Table 5.26: Spouse Income and ANC attendance

Spouse Income	ANC Attendance					
	Yes		No		Total	
	Number	%	Number	%	Number	%
Below ₦10,000	19	5.8	75	22.2	104	26.0
₦10,000- ₦20,000	39	9.0	91	20.2	133	33.2
₦21,000- ₦30,000	74	18	27	5.5	91	22.8
₦31,000- ₦40,000	28	8.0	6	1.5	34	8.5
₦41,000 and above	39	9.0	2	0.5	38	9.5
Total	199	49.8%	201	50.2%	400	100.0
X² = 79.065, Level of	d/f = 4		P value = .001			
Significance = 0.05						

Source: Field Survey, 2014

5.5.5: Statistical Test for Spouse Income versus ANC Attendance

Table 5.26 shows the distribution of respondents' spouse income by their attendance at ANC. The result indicates that ANC attendance increases with increase in spouse income. It was observed that 5.8% of the respondents whose spouse earn below 10,000 naira attends ANC, 9.0% of the respondents whose spouse earn between 10,000 to 20,000 attends ANC, 18% of the respondents whose spouse earn between 21,000 to 30,000 naira attends ANC, 8.0% of the respondents whose spouse earn 31,000 to 40,000 attends ANC while 9.0% of the respondents whose spouse earn 41,000 and above attend ANC.

The $p\text{-value}=0.001$ which is less than the level of significance indicates that a strong significant association exist between spouse income and ANC attendance of women and thus the H_0 should be rejected The result further indicates that whenever there is an increase in spouse income level, we should be expecting a corresponding increase in the number of women attending ANC.

From the various interviewed conducted with the respondents, it was well understood that majority of mothers were poor. This might be the main reason for the selection of home delivery. Cost of treatment, transport, and other out-of pocket costs were mentioned as constraints. Poor basic infrastructures (road, ambulance, health facilities and their equipment), lack of decision making power, lack of women empowerment, inequity, low educational status and less attention to basic women health and basic rights were discussed as the result of poverty.

A study from India have pointed out that the low utilization of maternity services seems to be due to low levels of household income, high illiteracy and ignorance, and a host of traditional factors (Shariff *et al*, 2002). A similar study in Pakistan described poor

socio-economic status, lack of physical accessibility, cultural beliefs and perceptions, low literacy level of the mothers and large family size as the leading causes of poor utilization of primary health care services (Babar *et al*, 2004).

Most of the time the reason why we don't use the health facility is because of our economic problems, we knew our economic status because we are poor so even though we need to go to health facility we can't pay all the costs of transport and medication. So we need to select home where we didn't have those costs"
(A 37year old woman participant in FGD)

CHAPTER SIX

SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1 SUMMARY OF FINDINGS ANC CONCLUSION

In general, the study has revealed that mothers in this area were not considerably utilizing ANC, and OBSC care services in the study area. Family education, low parity, income, decision making power were enabling factors for utilization of the ANC and OBSC services. Economic and transport problems, illiteracy, high parity, lack of autonomy, religion, cultural and traditional believes were found as disabling factors. The results from the chi-square analysis confirmed maternal education as a significant determinant for both ANC and OBSC care utilization, it is implicated that enormous variations on use of maternal health care among the educated and non-educated mothers exist. Therefore the policy makers are needed to exert special effort and attention to improve formal education for mothers and girls, especially secondary education.

The findings of this study will assist in planning and selection of interventions on improving maternal health care with short and long term point of view. The main issues for sustainable effects are increasing community awareness at the grassroots level. In the long run, increase knowledge on maternal health care through community conversation, strengthening of PHC workers and active community participation and provision of intensive health education by use of local radio and community health workers will be important.

This study could be generally applicable to other areas of the State since the settlements are similar in health service delivery. The identified problems could be useful in developing and implementing effective interventions to improve the quality of maternal health care services at the primary health care unit. It could help to improve maternal

health and consequently reduce maternal deaths which would lead to achieve the MDG5.

6.2 RECOMMENDATIONS

Policy makers and health planners need to recognize the determinants of maternal health care service use. More efforts should be given by the government to educate mothers, to improve men involvement and religious leaders, to strengthen community participation, to increase political commitment and to boost accessibility to maternal health care services. Emphasis should also be given for capacity building for skilled birth attendants and PHCs.

Efforts should be put in place to reduce women's dependence on men for economic survival, so they should be empowered with more economic participation and control in their households. These could be done through educating them which enable them become more autonomous, therefore increasing the women's age at first marriage to at least 18years will give them chance to complete their secondary school and which will in turn play a significant role in reducing maternal mortality. More so women job vacancies should be secured for the educated women in order to enhance their economic empowerments.

Increasing knowledge and awareness about ANC and OBSC as well as the risk and complications associated to pregnancy is extremely necessary. This could be achieved through the use of media (electronic and print). The present Radio Programme titled: “ Haihuwa Lafiya” is good but still needs more complimentary programmes.

One of the reasons for non-attendance at ANC is lack of accessibility to the health centers. Health facilities should be made available and accessible to all; they should be

distributed spatially and in a strategic manner so that no settlement or village should see it as too far from them, at least within the standard distance given by the WHO, which is 5kilometre radius. This can encourage mother's participation.

Traditional Birth Attendants TBAs are highly accepted by the community since majority of the births were assisted bythem and play an important task in providing maternal health care information. Hence, most of the former TBAs who took training were becoming old, and the new ones are not taken formal TBAs training. Accordingly, refreshment training and motivation will be crucial to strengthening the programme. The government and other non-governmental organization should make efforts to increase community based health education, awareness creation and improve better access to information for mothers regarding maternal health care, this could be done through seminars, workshops, conferences, short courses etc.

However, the quality of health workers (especially maternal health care) services being provided at the health posts requires urgent assessment. Most of the health centers in the study area do offer only ANC services, four (4) out of the (25) health facilities offer delivery care due to either shortage of staff or equipments. To improve ANC and OBSC utilization, Health Posts and Health centers should be fully operational and increase the capacity to adequately provide all the services. Therefore it is also urgent to facilitate and supervise the existing services, guidelines and protocols to be practical.

Community participation should be strengthened through the implementation of health committees in collaboration with the existing Gunduma Health System available in the State in order to arrange local transport as there is existing safe motherhood that is Haihuwa Lafiya Initiative that donated cars to some of the wards. Although the cars are not well managed by the people but they are serving to some extent when the needs

arise. There is therefore the need to motivate the community to seek maternal health care. Additionally involvement of communities' stakeholders on planning, implementing, monitoring and evaluation of the existing facilities is important to create sense of ownership.

Traditional beliefs, religious beliefs and other harmful practices were negatively influencing the community and mothers in utilizing the ANC and OBSC facilities. Accordingly, efforts should be made by the government to create awareness regarding the disadvantages of the traditional harmful practices through campaign in the media mobilizing the general public and involvement of elderly mothers and religious leaders.

6.3 RECOMMENDATION FOR FURTHER STUDIES

Finally, further studies will need to explore the existing maternal health care services utilization and the current performance of PHCs and its impact on reduction of maternal mortality. More qualitative studies need to be carried out to get women's perspectives on the provision of maternity care services and what interventions would be appropriate.

There is also need to employ other methods of analysis that are more powerful than the Chi-Square, so as to know strength of relationship between the variables so future researchers should take note of that.

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APPENDIX A

DEPARTMENT OF GEOGRAPHY, FACULTY OF SCIENCE, AHMADU BELLO UNIVERSITY, ZARIA

Dear Respondent.

This questionnaire is from a Masters student of Ahmadu Bello University, Faculty of Sciences, and Department of Geography who is conducting a research on; Demographic and Socio-economic determinants of the use of Antenatal and Obstetric Care Services in Dutse Local Government Area of Jigawa State. The exercise is purely for academic purposes and your responses will be treated with utmost confidentiality and anonymity.

SECTION A: RESPONDENTS BIO- DATA

1 Age

A.15-19[] b. 20-24[] c. 25-29[] d. 30-34[] e. 35-39 [] f. 40-44 [] g. 45-49 []

2. Religion:

a. Islam [] b. Christianity [] c. traditional []

3. Marital status:

a. single [] b. Married c. Divorced [] c. Widowed []

4. Residential area :

a. Rural area b. Urban

5. Type of marital union:

a. polygamy b. monogamy

6. If in Polygamy Union, how many of you are married to your husband?

a. 2[] b. 3[] c. 4[] d. 5 and above []

7. What is your highest education attainment?

a. Qur'anic [] b. Primary [] c. secondary [] d. Tertiary [] Others[]

8. Are you working?

a. Yes [] b. No []

9. If yes, what is your occupation?

a. Farming [] b. business professional [] c. Civil servant [] d. hand craft []

e. student

10. What is your husband's highest educational attainment?

a. Qur'anic [] b. Primary [] c. Secondary [] d. Tertiary [] e. None

11. What is your husband's occupation?

- a. Civil Servant b. Trader c. Farmer / Cattle rarer d. Others Specify

12. Which of these monthly income distribution applies to your spouse?

- a. Below N10, 000
b. N10, 000- N20, 000
c. N21, 000-N30, 000
d. N31, 000-N40, 000
e. N41, 000 and above

13. Age at first marriage a. >15 b. 15-19 c. 20-24 d. 25-29 e. others

14. Number of children ever born a. 1-2 b. 3-4 c. 5-6 d. 7+

15. Number of children alive a. 1-2 b. 3-4 c. 5-6 d. 7+

SECTION B: NATURE OF ANTENATAL CARE PROVIDED

16. Are you aware about antenatal care?

- a. Yes b. No

17. If yes what is your source of knowledge of the ANC?

- a. electronic media b. print media c. hospital d. friend e. relations

18. Do you go to the hospital when you are pregnant?

- a. Yes b. No

19. If yes, what is the reason for going?

- a. When I am sick b. For regular ANC checkups c. for OBSC

20. Who among your family members has the final decision as to whether to access ANC an

facility or not?

- a. myself b. my husband c. my in-laws d. Myself and my husband

21. Do you think antenatal care is important?

- a. Yes b. No

22. Do you attend ANC centers when pregnant?

- a. Yes b. No

23. If yes, at what stage of pregnancy do you start your ANC visits?

- a. First 3months b. Second 3months c. last 3months

24. If no, why?

- a. Lack of motivation by my husband [] b. Non Accessibility [] c. Cultural barriers []
d. I don't care attitude [] e. Ignorance [] f. I am well or healthy []
g. The cost is high [] h. Distance i. others (specify).....

25. If yes, which type of ANC center do you attend?

- a. dispensary [] b. basic health centre [] c. secondary health centre []
d. health post e. Private hospital []

26. Do you have access to Radio?

- a. Yes [] b. No []

27. If yes have you ever listened to the radio programme (haihuwalafiya: a hausa Version of safe

delivery for pregnant women) offered in radio jigawa?

- a. Yes [] b. No [] c. no response []

28. If yes do their programmes influence you or the decision makers from Among your family members on accessing an ANC facility?

- a. Yes [] b. NO []

29. How far is the ANC facility from your house?

- a. >1Km b. 1-2Km c. 3-4Km d. 5-6Km e. 7Km+

30. What is your means of going to the centre?

- a. trek [] b. commercial motor cycle [] c. private motor cycle [] d. commercial car []
e. private car [] f. cattle cart []

31. How much does it cost you to go to the health facility?

- a. 50-100 naira [] b. 101-200 naira [] c. above 200 naira []

32. quality of treatment received

- a. Very Good [] b. Good [] c. Average [] d. Poor [] e. Very Poor []

33. availability of drugs at the centres

- a. available [] b. not available []

34. Are the drugs free of charge?

- a. Yes [] b. No []

35. cost of drugs

a. expensive [] b. Moderate [] c. cheap.

36. What can you say about the attitude of the workers?

a. friendly [] b. harsh [] c. supportive []

36. Time spent on queues during ANC visit?

a. 30mins [] b. 30mins -1hr [] c. 2hrs-3hrs [] d. 4hrs-5hrs [] e. 6hrs-7hrs [] f. 7hrs+

SECTION C: FREQUENCY OF ANC UTILIZATION.

37. Where do you seek advice on your health and the health of your unborn baby?

a. Hospital [] b. Traditional birth attendant c. Family members [] d. Co-wives []

e. others specify[]

38. How many ANC visits do you make before delivery?

a. None [] b. 1-2 times [] b.3-4 times [] c.5-6 times []

39. Where do you give birth?

a. Hospital [] b. Home [] c. Traditional Birth Attendant [] d. others (specify).....

40. If hospital, why?

a. it is safer [] b. is good to deliver in the hospital[] c. fear of complication[]

d. My husband force me [] e. I have a facility close to me[]

41. If home, why? a. distance[] b. cost[] c. attitude of the hospital workers.

d. it is easier at home[] e. it is the culture of the area[] f. God's will

42. Who makes decision on where you give birth?

a. My husband [] b. myself [] c. My in-laws [] d. My family members []

43. Do you go for post-natal clinic?

a. Yes [] b. No []

44. If No why?

a. is not necessary [] b. No need []

c. I can take care of myself and my baby at home []

45. Have you ever had pregnancy related complications?

a. Yes [] b. No []

46. If yes, state its nature?

a. bleeding [] b. eclampsia [] c. hypertension [] d. others (specify)

47. If yes where did you go for treatment?

a. hospital [] b. traditional birth attendant []

48. Have you ever had cases of maternal death in your area?

a. Yes [] b. No []

49. Where does such death usually take place?

a. Hospital [] b. Home [] c. Others specify.....

APPENDIX B

KEY INFORMANT INTERVIEW GUIDE

1. What can you say about the level of formal educational attainment of mothers in this area?
2. What do you think about the nature of ANC services provided in this area?
3. What would you say on women's educational attainment and their perception of ANC in this area?
4. To what extent does the level of a woman's formal education influence her understanding and use of ANC services in the area?
5. How frequent do mothers use ANC services in the area?
6. Do women in this area have right to make decision as to whether to go the hospital when the need arises?
7. Do women in this area deliver in the hospital or at home?
8. What can you say about the health facilities in your hospital?
9. How frequent do you have maternal death in this area?
10. What are the major causes of maternal deaths in the area?
11. Do you think these deaths are preventable?
12. In your own opinion, what are the best measures to be taken in order to prevent these deaths
13. Do you think distance can prevent women from using ANC facility in this area?
14. Does your culture allow women to access ANC facility?
15. What is your major problem with regard to the ANC facility in this area?

APPENDIX C

FOCUS GROUP DISCUSSION GUIDE

TOPIC: DEMOGRAPHIC AND SOCIO-ECONOMIC DETERMINANTS OF THE USE OF ANTENATAL AND OBSTETRIC CARE SERVICES IN DUTSE LGA, JIGAWA STATE.

S/No.	General Questions	Probe for business activities
1	What do you think about the topic that we gathered here to discuss on the determinants of the use of ANC and obstetric care utilization?	Probe to find out whether ANC & Obstetric care is affected by demographic and socio-economic factors.
2	What do you think is the major cause of ill-health among women of child bearing age in this area?	Probe to find out the level of awareness of health related issues.
3	Who do you normally seek permission from when the need to go to the hospital arises?	Probe to know whether spouse or other members of the family have influence on the participant's health issues.
4	Who takes decision in the family concerning: <ul style="list-style-type: none">• Your treatment• Where you deliver during child birth<ul style="list-style-type: none">• Children health/school• Visits and travels• Type of food consumed	Probe to find out the people involved concerning health issues in the family with regard to: <ul style="list-style-type: none">• Treatment during pregnancy and child birth• School enrolment and age

	<ul style="list-style-type: none"> • Marriage of your children 	at marriage
5	How far do you travel from your home before reaching an ANC facility?	Probe to know whether participants are living within the WHO recommended distance to a health care facility.
6	What is your perception on how health care personnel treat patients at facility centers?	Probe to find out the impression patients have on the health workers.