USMANU DANFODIYO UNIVERSITY, SOKOTO
(POSTGRADUATE SCHOOL)

AN ASSESSMENT OF UTILIZATION OF HEALTH CARE SERVICES IN BABURA LOCAL GOVERNMENT AREA, JIGAWA STATE

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DEDICATION

This research is dedicated to the entire members of Alhaji Mukhtar Usman Babura family and all the rural populace in Babura Local Government Area who have no access to modern health facilities.

CERTIFICATION

This Dissertation by MUKHTAR, Khalifa Usman (14210205003) has met the requirements, for the award of Degree of Master of Science (Geography) of Usmanu Danfodiyo University, Sokoto, and is approved for its contribution to knowledge.

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ABSTRACT

Utilization of health care services is a product of many factors including demographic, socio-economic and location. This study assesses the factors in the utilization of health care services in Babura Local Government Area of Jigawa State. A total of 150 respondents were administered structured questionnaire. Purposive and cluster sampling methods were used in which five health facilities were selected. Data collected were analyzed using nearest neighbor analysis, descriptive statistics and the chi-square to test the hypotheses. The result showed that health care facilities are not evenly distributed in the area, 30% of the respondents were women aged 15-24 years, and only 7% of the respondents attended both Islamic and Western education. While 30% of respondents were living on less than ₦ 35,000 per annum, about 52% of the respondents live between 0-5 km away from the nearest health facilities. The three hypotheses tested showed significant relationships between distance and health care utilization (X^2 = 207.692), literacy level and health care utilization (X^2= 120.000) and Income level and health care utilization (X^2 =257.143). The study concluded that distance to health facilities affects their utilization. The study recommends that government should ensure more even distribution of health facilities in the study area.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

One of the commanded objectives of creating local government is to bring development nearer to the populace. A vital aspect of development that the creation of local government was expected to offer, is the health care service. In Nigeria, spatial considerations have usually been given insufficient consideration in provision of health care facilities for rural areas (Kamorudeen, 2013). The provision of effective rural health care services is necessity for the overall social and economic development of rural communities in particular and nation in general.

There are many challenges faced by rural communities concerning health care access which include economic destabilization, shortages of medical personnel; as well as transportation and barriers to care (Isaac, 2011). Inadequate infrastructures led to serious impact on the wellbeing of rural inhabitants. It has led to increasing decline in productivity and efficiency of production. Similarly, inaccessibility of public infrastructures especially health care services is contributed by serious poverty in Nigeria more especially in rural areas (Ajala, Sani and Adeyinka, 2005).

Location of health care facility influences utilization and also efficiency more when compared with influence of decision to seek and receive care (Adamu, 2007). There are several factors that influence the utilization of health facilities which include social and economic system, cultural beliefs and practices, status of women, level of education, gender, socio demographic variables and also location of health facilities.

According to Ajaero and Madu (2008) the ease and comfort with which public can utilize health facilities are among the most important variables determining the benefits

individual can obtain from these facilities. The most determining factor of the utilization of health care facilities is distance that the patients must travel in order to obtain treatment. This is more pronounced in rural areas of less developed countries where health facilities are low and majority of patients prefer alternative sources of medicine because they are cheaper and also very easy to access. The rate of distance in utilization levels varies according to the type of facility, socio-demographic variables and illness (Cheptum et. al., 2014).

There are three tiers of health care services that Nigeria operates namely; Primary Health Services, Secondary Health Services and Tertiary Health Services. Primary Health Services are the basic services which fall under the jurisdiction of Local Government Councils such as dispensaries, clinics, health centers, health post and comprehensive health center. On the other hand, the Secondary Health Service handles referral cases from Primary Health Service and includes general hospitals, PHCs and cottage hospitals. This tier of health services is usually under the jurisdiction of State government. The third tiers are the Tertiary Health Services which are supervised by both the state and federal governments. They deal with more difficult and complicated health problems particularly specialized and referral cases from the secondary tier. Such health services include Teaching Hospitals, Federal Medical Centres, Specialist Hospitals and Specialized Hospitals such as Orthopedics, Psychiatric etc. There are few private health facilities in the whole state for instance Babura L.G.A has only one private clinic.

1.2 Statement of Research Problem

People in Nigeria die of minor illness that could have been prevented with proper diagnosis and simple medication (FMOH, 2005). The Nigerian health status indices are

among the worst in the developing world (Kamorudeen, 2013). For instance, 62% of births in Nigeria occur at home, skilled health worker assisted only 39% of births and 56% of women would not receive any postnatal care (Kamorudeen, 2013). In most rural areas, even if these facilities are located within the reach of the people, illiteracy, ignorance, and cultural taboos affect their utilization. For example, it has been observed that many pregnant women only go to the hospital when they have developed complications (Adamu, 2007).

The health care facilities in Babura L.G.A are underutilized at some. The underutilization of the facilities is probably linked to the factors including distance, socio-economic and cultural. These factors constitute the problem for the study.

Hence, the following research questions are addressed in the study:

i Are these health care facilities evenly distributed?

ii What are the socio - demographic characteristics of people utilizing the services?

iii What are the factors that affect the utilization of health care facilities?

iv Are the facilities accessible to the people for proper utilization?

1.3 Aim and Objectives

The aim of this study is to examine people's utilization of health care services in Babura Local Government Area of Jigawa State. This will be achieved through the following specific objectives which are to:

i Examine the spatial distribution of health care facilities in the study area.

ii Determine the socio-demographic characteristics of people utilizing the health care services.

iii Find out the factors that affect utilization of health care services.

iv Examine the health manpower distribution, bed capacity and also the level of utilization of health care services.

1.4 Hypotheses

HO_1: There is no significant relationship between distance to health facility and health care utilization.

HO_2: There is no significant relationship between Educational Attainment of people and health care utilization in the L.G.A.

$HO_{3:}$ There is no significant relationship between income level of people and health care utilization in the L.G.A.

1.5 Justification of the Study

Health care services and facilities in Nigeria are unevenly distributed; few available health care facilities are concentrated in the urban areas at the neglect of rural areas (Kamorudeen, 2013). The importance of health care facilities as part of social services for the improvement of quality of life of rural communities has been overlooked in many rural areas. As a result, the rural people have inadequate access to health care facilities.

A lot of researches on distribution of health care facilities and services were conducted in many states in Nigeria, for example Jigawa State (Adamu and Awaisu, 2003), Bauchi State (Madaki, 1998) and at Local Government level in Gwale, Kano State, (Abba,

2011), Doguwa, Kano State (Idris, 2010), and Dekina, Kogi State, Haruna (2015), have shown that health care facilities are unevenly distributed i.e some locations of the population are at a disadvantage. In particular, existing researches have not paid adequate attention to the effect of distance on the utilization of health care services especially in rural areas where the majority of the Nigeria's population lives, there is need for attention here. This study is therefore justified considering this situation.

1.6 Significance of the Study

Lack of or inadequate health care infrastructure has serious impacts on wellbeing of rural inhabitants. It has led to increasing decline in productivity and efficiency of production. The level of poverty in rural Nigeria has further aggravated poor accessibility to health care facilities (World Bank, 1996; Ajala, Sanni and Adeyinka, 2005). The importance of this study can therefore not be underscored as it explores how health care facilities are distributed. The findings will help to provide effective, adequate, qualitative, accessible and affordable health care services that will improve the health status of the people. Similarly, the study will identify the prospects of health care facilities such that policy makers will contribute in making the facilities more accessible to the people at the grass root. Furthermore, the research findings will help in revealing the available number of health personnel and beds in all the health facilities' in the Study Area.

1.7 Study Area

Babura Local Government Area was created in May 1989 from Dambatta Local Government Area of Kano State. The Local Government Area is located at the north central part of Jigawa State. It is bordered by Sule Tankarkar to the east, Garki to the south east, Danbatta (Kano State) to the south, Kazaure to the west and Baure (Katsina)

to the north (JSMOH, 2010). The geographical location of the Local Government Area is approximately 12° 10^{1} to 12° 14^{1} N Latitude and 8° 30^{1} to 9° 5^{1} E Longitudes. It has an area of about 1037 square kilometers with a total population of 212, 955 people (NPC, 2006).

The dominant ethnic groups are Hausa and Fulani and mostly Muslims. Festivals performed are mostly religious and most important are the two (Eid-Al-Fitr and Eid-Al-Adha). Other ethnic groups that can be found within the study area are Yorubas and Igbos which latter are mostly Christians, they live harmoniously in the area and they engage in trade such as auto mechanic repairs and pharmaceutical business (JSMOH, 2010).

The primary occupation is crop farming practiced at subsistence level, although animal husbandry and some cash crops are produced for commercial purpose. The main crops grown are millet, guinea corn (sorghum), cowpea, rice, groundnuts, sesame and recently water lemon. There is large population of livestock in the area mainly cattle, goat, sheep, donkeys and horses: the last two being used mainly as beast of burden. Other informal sectors activities are mainly artisan and craftsmanship. Examples are carpentry, blacksmithing, leatherworks and masonry. The area has a number of weekly markets in the area such as Babura (Friday), Kuzunzumi (Wednesdays) and Masko (Thursdays). Commodities are traded in these markets with neighboring states and across the border with Niger Republic (JSMOH, 2010).

The Hausa and Fulani who comprised the major ethnic groups in the Study Area do not allow women to seek medical care without the prior permission of their husbands. This practice makes facilities outside the reach to these categories of people (Dansabo, 2002). Most women in the Study Area only go to the hospital when they develop

complications. Other women prefer to be examined by female physicians and others prefer to be assisted by experienced older women or Traditional Birth Attendants (TBAs) during child delivery (Dansabo, 2002).

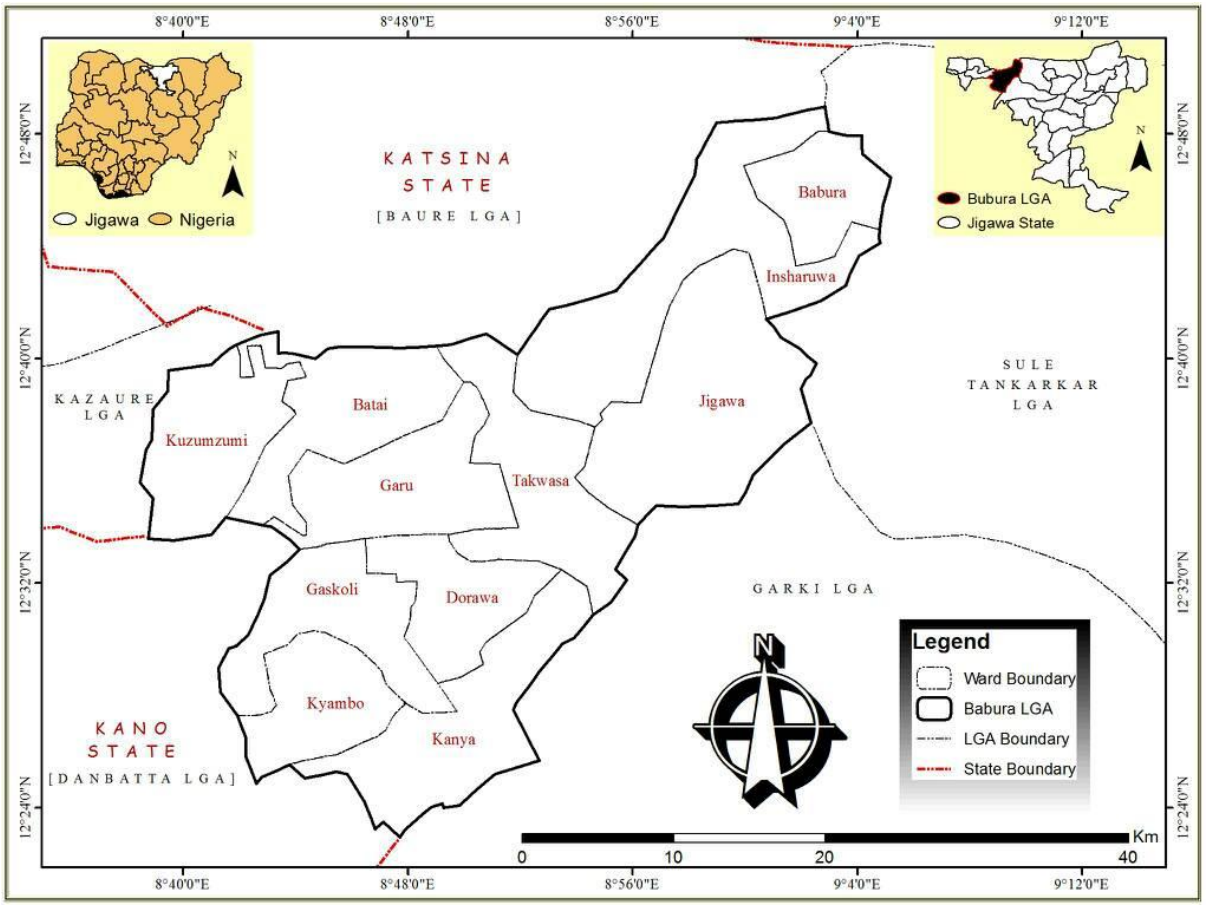

Figure 1.1 Study Area

Source: Modified from Administrative Map of Jigawa State

1.8 Scope and Limitation

The research covered all health care facilities within Babura Local Government Area. A total of 19 health facilities were identified. Furthermore the research is only interested in examining the utilization of health care services in the Babura Local Government Area. Coordinates of each health facility, documented data from the National Population Commission and Babura Primary Health Care Department were sought. Demographic characteristic and socioeconomic status of respondents were limited on

age, gender, literacy, income, occupation and mode of transportation. In spite of the success achieved in carrying out this research a number of challenges were encountered in the process of data collection. In most of the health care facilities located in the rural areas, there was negligence when it comes to keeping attendance records. Also, the attendance record of the selected health facilities for period of 5 years was intended to be used but only data for 4 years were available. Lastly, there were incomplete records especially for age, sex and address of respondents.

CHAPTER TWO

THEORETICAL FRAME WORK AND LITERATURE REVIEW

2.1 Theoretical Framework

This study adopts two relevant approaches to serve as a guide in understanding the issues concerning health care services especially in rural areas. These are; Adamu's (2003) Five Stage Model of Seeking and Receiving Obstetric Care and Lipton's Theory of Urban Bias (1980).

The Five Stage Model of Seeking and Receiving Obstetric Care is a model designed to explain causes of maternal mortality in Northern Nigeria. A patient process of seeking and receiving care begins with the recognition of the health problem, this is called stage I. This is followed by decision making stage where decision will be made on what to do in the short and long run this is called stage II. At the stage III, the patient will start with local medication which is taking rubutu (Quranic verses written on a slate, washed and taken orally, tofi (incantations) or some herbs mixed with some liquid for drinking and massaging. Where there is no improvement, we move to stage IV which is seeking prescription usually by proxy at patent medicine stores or chemists. Stage V, is seeking medical attention from the hospital. This always the last resort.

STAGE I

Recognition of Problem Stage

At this stage the following features determine the perception of any condition brought about by pregnancy or child birth;

i) Severity

ii) Timing

iii) Past experience

STAGE II

Decision Making

At this stage the discussions are based on the following;

i) Understanding of the problem

ii) Options available

iii) Cost involved

iv) Nature of the illness

v) Timing

STAGE III

First Stage Treatment

The cultural context of the complication (i.e. wether it is considered normal and usual) and other considerations like past experience and or costs involved in seeking modern medical care directly by going to the health centre or indirectly by going to the chemist. Most complications can be cured through rubutu or taking herbal medicines. If that fails the next line of actions to for the patients's relative is to go to the chemist in this context at Babura.

SAGE IV

Second Stage Treatment

Here chemists provide some services by proxy. A husband may come and narrate the ordeal of his pregnant wife to an attendant who has not received any formal pharmaceutical training who will then prescribe the correct drug for the woman. At times they even give injections. This kind of treatment by proxy can be very fatal although it does work sometimes. In this way the cost of hospital treatment has been reduced.

STAGE V

Last Stage Treatment

This is the last stage to often embark upon when all other alternatives in stages III and IV fail. It is usually the last option. Even then, it is not all who proceed to it, as cost of hospital care may make them revert back to stage III. At times, patients even abscond from the hospital for a number of reasons ranging from costs of treatment to local perception on the poor quality of care.

Michel Lipton's Theory of Urban Bias is an explanation of distorted and uneven development in the Third World. In the rural health sector for example, few and inferior facilities are allocated to the villages (Lipton, 1980). The allocations of inferior health care facilities to the rural areas are of negative and detrimental effect to the condition of the rural dwellers because the facilities in these areas cannot deal with most of the health problems of the rural people. This situation makes the rural people to desire to seek care from the health facilities located in the urban areas, which are not readily accessible and affordable to them.

The merit of Five Stage Model of Seeking and Receiving Obstetric Care Model indicated different categories of delay that affect utilization of health facilities while Michel Lipton of Urban Bias reveals the unfortunate allocation of inferior health care facilities to rural areas.

2.2 Literature Review

2.2.1 The Spatial Distribution of Health Care Services

Health care resources include practitioners such as physicians, nurses and native doctors, facilities such as hospitals, clinics, health centers and nursing homes, Health Maintenance Organization (HMOs) and the home of indigenous healers; equipment

ranges from body scanners to tongue depressors; and financial support from private, government and charitable organizations. Thus, geographic studies emphasize on the first two resources, personnel and facilities, because the data on such issues have been more accessible (Meade and Earickson, 2005, Adamu and Monguno, 2009).

In a country like Canada, an underserved area in terms of health personnel is based on a variety of measures which include number and type of physicians, population structure and seasonal fluctuation, socio-economic status of the area, local demand for medical care, availability of housing and facilities for physicians, and the areas needs and resources (Anderson and Rosenberg, 1990). Increasingly, States with physicians' shortage are providing scholarship programs for medical students promising to work in small towns and other under-served populations. Another problem in North American States involves the use and distribution of foreign trained physician or International Medical Graduates (IMGs). For instance, Mick, Lee and Wodchis (2000) analyzed data for American Medical Association and discovered that majority of states had disproportionately high numbers of IMGs. The authors found a positive correlation between International Medical Graduates (IMGs) disproportions and low doctor to population ratio (Mick, Lee and Wodchis, 2000).

Africa accounts for a big percentage of global maternal deaths as a result of uneven distribution of health care services between urban and rural areas. In 2013 about 289,000 women worldwide die during pregnancy or childbirth, and of those deaths 62% occurred in sub-Saharan Africa (WHO, UNFPA, World Bank, and UNPD; 2014 quoted in Ighobor, 2014). The report adds that in 2013, maternal mortality ratio in developing countries was 230 women per 100,000 births, versus 16 women per 100,000 in developed countries.

The health care resources are not evenly distributed more especially in Third World countries. The provision of quality, accessible and affordable healthcare therefore remains an important issue globally. However, the Nigerian healthcare indexes are very poor, and that the people are suffering as the healthcare policies and programmes in the country are implemented in a way that those at low socio-economic level of society more especially rural masses suffer segregation (Kamorudeen, 2013).

The problem of geographic mal-distribution of medical facilities in Nigerian regions and of the unavailability and inadequacy of health care services persisted (Adamu, 1997). In 1980, there was an estimated ratio of 3,800 people per hospital bed in the North (Borno, Kaduna, Kano, Niger and Sokoto States); 2, 200 per bed in the middle belt (Bauchi, Benue, Gongola, Kwara and Plateau States); 1,300 per bed in the South East (Anambra, Cross-Rivers, Imo and River States); Dansabo, (2004) and 800 per bed in the South West (Bendel, Lagos, Ogun, Ondo and Oyo States). There were significant disparities within each of the regions in Dansabo, 2004. In a comparison of the distribution of secondary health care facilities (hospitals) between urban and rural areas in 1980, Ityavyer (1987) found that whereas approximately 80% of the population of those states lived in rural regions, only 42% of hospitals were located in those areas.

One factor that is important in the distribution of facilities and amenities in Nigeria is political patronage. A community's share of government's patronage depends to some extent, on the number of prominent or important politicians from the community and or where the community's political sympathy lies. If the leading political figures in a community belong to party in power, their chances of government projects are usually very good (Dansabo, 2004).

According to Kamorudeen (2013), Nigeria's health care services are not based on needs of the consumer's; rather, they are based on ability to pay. This led to denial of majority in terms of accessibility and affordability to quality healthcare services. Report from World Health Organization (2002) also indicates that some health facilities in Nigeria are poorly equipped and lack essential staff, while one third of rural health care facilities lack electricity and this very weak health system contribute to the limited access to the health care services.

Another factor that explains the phenomenon of rural-urban imbalance in the distribution of health facilities derives from Central Place Theory (Christaller, 1933 in Dansabo, 2004). Hospitals are essentially central services and there is always a tendency to locate them in relatively large settlements (i.e. central places). The reason for this is that those large or relatively large settlements usually have some basic infrastructural facilities such as good road connections, pipe borne water supply or electricity, and these considerably reduce the capital costs of establishing new facilities. In addition, large settlements are better able to satisfy the threshold requirements for central services than small settlement. It is however, questionable if these considerations should strictly apply in the location of welfare facilities like hospitals (Christaller, 1933 in Dansabo, 2004).

Jigawa State is one of the 36 States in Nigeria with poor health status indices. Efforts have been put in place by past and present governments to optimize the services delivered in the health facilities including the upgrading of Primary to Secondary levels of care (JSMOH, 2010), and the provision of free drugs for pregnant women and children under (5) years of age. The health status indices of Jigawa State are among the worst in Nigeria, where Jigawa State Strategic Development Health Plan (2010 - 2015) reveals the following rates: infant mortality rate is 101/1000 live births, maternal

mortality ratio is 2000/100,000 lives births, under 5 mortality rate is 166/1000 lives births, incidence of malaria is 11,371/100,000, and HIV/AIDS prevalence is less than 2% (lowest in the country). The Jigawa State Ministry of Health (JSMOH, (2010) reveals the following for the State: Access to Medical services is 53.5%, Number of health facilities are 606, Number of Medical Doctors are 123, Number of Nurses/Midwives are 564, Number of Pharmacists are 61, and the Number of Laboratory Scientists are 44.

2.3 Factors Influencing Health Care Utilization

There are many factors that influence the utilization of health facilities by populations and also determine how populations utilize health facilities, the type of facilities utilized and when the facilities are utilizes. Such factors include socio demographic variables, social structures, literacy level, gender, cultural beliefs and practices, status of women political and economic systems, location and health facilities system of operation. The effortlessness and relieve with which the community can utilize health facilities are among the most important variables determining the benefits individuals can obtain from these facilities (Ajaero and Madu, 2008).

2.3.1 Location

Location is the one of the factors that determines the use of health care service and also determines access to healthcare services (Adamu, 2007).Therefore, health care facility survey is important as it determines how many of a specific type of facility can simply exist in an area, find the best locations for new ones and determine how many to open (Ahmad, 2009). Therefore, according to Green Hut and Mai (2011) location should contain 3 standard analytical components: Location as access, location as externality and definition of the policy context for public facility planning.

In Okene Oba Ward of Kogi State only 6% of females utilize antenatal care services because the ward is located on a hilly area and health care services are downhill. The location of the health care service is not easily accessible to the people of that ward which lead to poor utilization of the centre (Haruna, 2015).

2.3.2 Income Level

Income level is one of the determining factors of utilization of health care services. These factors become particularly important in fee-for-service situation. Generally, poverty, cultural traditions and laws restrict people's access to financial resources and inheritance in developing world. A study conducted by Shamaki (2006) observed that access to health facilities is centered on economic accessibility and pointed out that 25% of the population in extreme poverty lacks access to health services. This shows that there is tendency that patients living farther away from a health facility that are of higher income status and more commonly own cars or motorcycles utilize the services more than those who are of lower economic status. It is common in Nigeria to find the rich and elite travelling abroad to seek for care. To this set of people distance is not necessarily a barrier to seeking care. Financial constraints may lead patients to involve in self-medication as observed in North West Ethiopia (Girma, Jira and Girma 2011).

2.3.3 Occupation

The occupational status is also another factor that affects the utilization of health care services. The type of occupation is related to the economic power which will translate to the ability to access the services if it is cost involving. Those who are employed are likely to utilize health care services. This could be attributed to their level of income since with employment; one is likely to have good financial status as compared to one who is unemployed (Cheptum, *et al.*, 2014). Sometimes, occupation of people played a great role when it come to the utilization of health care services because those who

worked in business or services are mostly like to be users of modern health care services. A study conducted in rural areas of Bangladesh by Chakraborty and Sahoo (2003) observed that about 33.4% of women whose husbands worked in business or services went to qualified medical personnel for treatment compared with 24% among those husbands work in agriculture or as day labourers.

2.3.4 Literacy Level

Literacy level is another factor that is associated with accessing and utilization of health care services. People with high level of education are more likely to utilize the health services more when compared with those who do not have. This could be attributed to the level of knowledge attained with education which enables them to make informed decision and choices. A community based cross sectional study carried out in Ethiopia cited very low institutional based deliveries (12%) and the factors found were lack of knowledge on pregnancy and delivery services (Cheptum, *et al.,* 2014).

Erinosho (1998) in Darna (2007) asserts that, educated persons are more likely to patronize orthodox medicine than their non – educated counterparts. This is due to the following reasons:

(a) Certain patients dislike queuing for cards, registration, physical examination, lab investigation and hospitalization.

(b) The non-literate finds orthodox medicine as cumbersome strange.

A review by Thaddeus and Maine (1990) show that access to medical services increases with increased level of education. Educated populace are more likely to assume responsibility and take immediate and appropriate action to seek for help to their illness than those with no formal education (Erinosho, 1998) in Darna (2007).

Education enlightens, teaches and influences the lifestyle of any individual and this makes a whole world of difference in the attitude and perception of health care services. Unfortunately, people have been disadvantaged the right to education especially those in the rural areas. Thus knowledge is power and when people are not educated, they cannot be blamed for how they think and act or behaved (Evans, 2006).

2.3.5 Culture and Behaviour

Culture plays a significant role in any society. For instance in Northern part of Nigeria a man is seen as the head of the family and as a result, all is subordinate to him. The woman has no right to make any decision on her own without the permission from her husband. Traditional expectation of how male and female should behave can have severe consequences for the health and wellbeing of men as well as women. Socialized expectations of men to be emotionally controlled and self-sufficient can lead to blocked emotions, lack of openness and inability to acknowledge weakness, vulnerability and decreased capacity to receive interpersonal feedback (Balmer, and Liu 2005). Influence of husbands in giving permission to wives before they seek medical help even during pregnancy and delivery affected the utilization of health care services (Adamu, 2007).

In countries as diverse as Nigeria, Ethiopia, Tunisia, India and Korea; studies show that women do not decide on their own to seek care (Thaddeus and Maine, 1990). This practice is done throughout the northern states of Nigeria that makes the facilities out of bound to these categories of the people (Dansabo, 2004). Hence, where women mobility is severely restricted because of such cultural practices, effort to seek timely care may be prevented (Thaddeus and Maine, 1990).

Cultural belief and practices affect utilization of health care services. This could be ascribed to the fear of possible consequences if one went against such traditions. In a

community, it expected that people behave in certain manner. A literature review of many papers found out that cultural beliefs had influence on utilization of antenatal care (Cheptum, *et al.*, 2014).

Other factors that determine the health care utilization is disease recognition and health care services behavior. A study conducted by Abubakar *et al* (2013) on socio-cultural determinants of health seeking behabiour on Kenya coast were by 53 mothers that were interview noted that some illness were best suited to treatment by medical doctors such as malaria, typhoid and fever while others were best best suited to treatment by traditional healers particularly those with mental health symptoms such as hallucination or an anxiety appeared to be uniquely suited by traditional healing.

2.3.6 Health Facility Factors

Health facility factors such as inadequate staffing, lack of equipment or negative staff attitude contribute to the patients not accessing health care facilities. Inadequate staffing may be accredited to unfairness in staffing which may result due to lack of infrastructure. A study on utilization of postpartum care in Philippines found out that utilization of the services was associated with place of delivery. The women who delivered at home were less likely to utilize services (Yamashita, *et al.*, 2014). Negative staff attitude may be as a result of overworking and staff experiencing tiredness. For staff to take pleasure in their work there should be ease of access to equipment so that they can be able to provide their services efficiently. In a situation where this is a challenge, it may create a risk of lack of interest in their work and fatigue when they always have to improvise.

2.3.7 Distance

The road distance separating patients from the nearest health facility has been shown to be an important barrier in seeking health care. For instance in South Africa it has been

shown that 96% of the patients use nearest clinic (Le Sueur, 1997). This shows that distance separating potential patients from the nearest health facility has been shown to be an important role in seeking health care. In Jimma zone Southwest Ethiopia it was observed that those individuals located less than or equal to 10 km from nearest health centres or hospitals had 2.9 times higher chance of using health services as those residing 10 km away (Girma, Jira and Girma 2011). Thaddeus and Maine (1990) argue that distance exerts dual influence; long distance can be an obstacle to reaching a health facility; and they can serve as disincentive to even trying to seek care. The effect of distance thus becomes stronger when combined with lack of transportation and poor roads. Accessible roads and means of transportation ease the problem of accessibility and utilization of the services. A review by (Thaddeus and Maine 1990) indicates that a patient with Eclampsia wait for 13 hours before transport to the hospital could be found.

Accessible roads and means of transportation relieve the problem of utilization. Good quality transportation network will serve as an incentive to motivate the community to utilize the available health care facilities (Dansabo, 2004). The scarcity of transportation in developing countries is cruel realism which affects people in dispersed settlements. in addition, absence of transportation was associated with a 0.05 chances of service utilization as compared to those who perceived the transport cost expensive (Girma, Jira and Girma 2011).

The research on effect of distance, socio-economic and cultural practices on the utilization of health care resources was not conducted in the study area. Hence, this constitutes the gap.

CHAPTER THREE

RESEARCH METHODS

3.1 Introduction

This section is designed to presents the various methods used in the process of data collection and analyses. Such essential details include: data sources of the study, study population, sampling frame, method of sampling, method of data collection, and data analysis.

3.2 Data Sources for the Study

Data were obtained from primary and secondary sources: through questionnaire administration to sample respondents, a GPS was used to collect the coordinates of each health care facility. Data from the Ministry of Health (Jigawa State) about the location, name and types of health care facilities in the study area included one general hospital; one model primary health centre, fourteen primary health centers, one clinic, one dispensary and one health post. Population data was obtained from the National Population Commission (NPC, 2006).

3.2.1 Study Population

The target population of the study comprised of patients patronizing the health care facilities as at the time of this research within the study area.

3.2.2 Sampling Frame

The list of all health care facilities within the Local Government Area obtained from the Babura Primary Health Care Department served as a frame for this study. This provided the basis for determining the sample of facilities.

3.2.3 Method of Sampling

Purposive sampling was used to select the general hospital since it is the only one in the study area. Cluster sampling was used in selecting other health care facilities. The latter were divided in to two clusters; i.e. model primary health center and primary health centers in to one cluster and clinic, dispensary and health post in to other cluster. Three health care facilities were selected using random sampling technique from first cluster and one from second cluster making the total number of five health facilities selected which comprised of Babura General Hospital, Danhalili Primary Health Centre, Tashar Dankyambo Primary Health Centre, Lamintani Primary Health Centre, and Gaskoli Dispensary.

Respondents were selected using accidental sampling technique. According to Babbie (2004), there are many situations in social science research which do not allow the use of probability sampling method because there is no list containing the names of the subjects and such a list is difficult to develop. Therefore, the use of an accidental sampling technique is often recommended. Thus, 30 respondents were selected from each of the the five health facilities visited making the total number of 150 respondents.

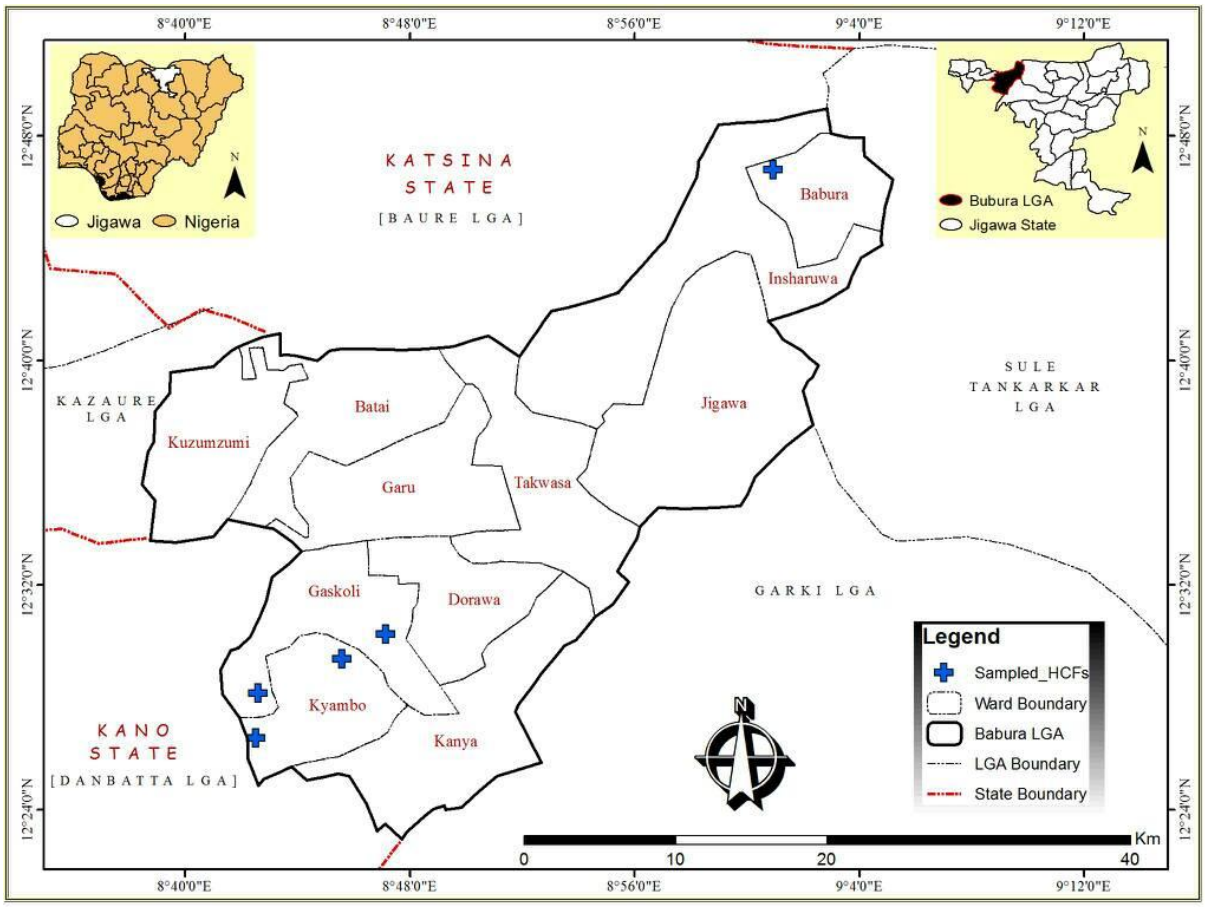

Figure 3.1: Sampled Health Facilities
Source: Fieldwork, 2016

3.2.4 Methods of Data Collection

The first step in conducting this study involved collecting information from records in government files from Babura Primary Health Care Department in Babura Local Government Area in order to identify all the settlements with health care facilities in the study area. Furthermore, visits were made to all wards in the study area to find out the availability or otherwise of the health facilities so that no settlements with health care facility is excluded.

The second step involved taking coordinates of all the health care facilities by using Global Positioning System (GPS). Some vital information such as type, status, type of services provided, number of beds, number of personnel and their qualifications of health personnel of all the health facilities in the study area were also collected.

The third step involved collection of data from the attendance register of facilities in the study area. Purposive sampling was used to select the general hospital since it is the only one in the study area. Cluster sampling was used in which the other health care facilities were divided in to two clusters; i.e model primary health centre and primary health centers in to one cluster and clinic, dispensary and health post in to other cluster. Three health care facilities were selected using random sampling technique from first cluster and one from second cluster making the total number of five health facilities selected.

The fourth step involved collection of data from respondents through the questionnaire and interview schedule to sample respondents found within the health facilities during five visits with the assistance of two research assistants

All the respondents were reached direct through the service of two research assistants who were monitored and guided through the exercise. A total of 150 respondents were sampled and interviewed. At (Babura General Hospital), (Danhalili Primary Health Centre), (Tashar Dankyambo Primary Health Centre), (Lamintani Primary Health Centre), and (Gaskoli Dispensary)., 30 respondents were selected and interviewed. The researcher was opportuned to get all the desired number of respondents.

3.2.5 Methods of Data Analysis

The analysis of nearest neighbour was done by using the extension of Arc GIS 10.1 in the spatial analyst tool and average nearest neighbour. The analysis of nearest neighbour was used to show the spatial pattern of distribution of health facilities in the study area The neighbour scale provided by the soft ware gives the interpretation of the of the location pattern. Clustering occurs when all dots are very close to the same point Rn= 0, Dispersed (random) distribution occurs when there is no pattern at all Rn=1, Regular

pattern are perfectly uniform with an Rn value of 2.15 which means that each place is equidistance.

The data generated were presented using descriptive statistics which involved the use of tables, frequencies and percentages. In order to test the hypotheses, chi-square statistics was used to show whether or not there are significant relationships between distance, literacy level and income level of people, and their utilization of health care services. The Data presentation and hypotheses testing were done with the aid of the statistical package for the social sciences (SPSS, version16).

In analyzing responses to the questionnaire, frequencies and percentages were used.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter is concerned with the analysis of data collected from the field and discussion of results on the utilization of health care facilities (HCFs) in Babura Local Government Area of Jigawa State Nigeria. The research analyzed the spatial distribution of the facilities, determined the health man power distribution, bed capacity, and examined the factors of health care utilization.

4.2 Spatial Distribution of Health Facilities in Babura L.G.A

The study of the distribution of health care facilities is important as it enable us to establish a pattern to show the distribution of health facilities in the study area.

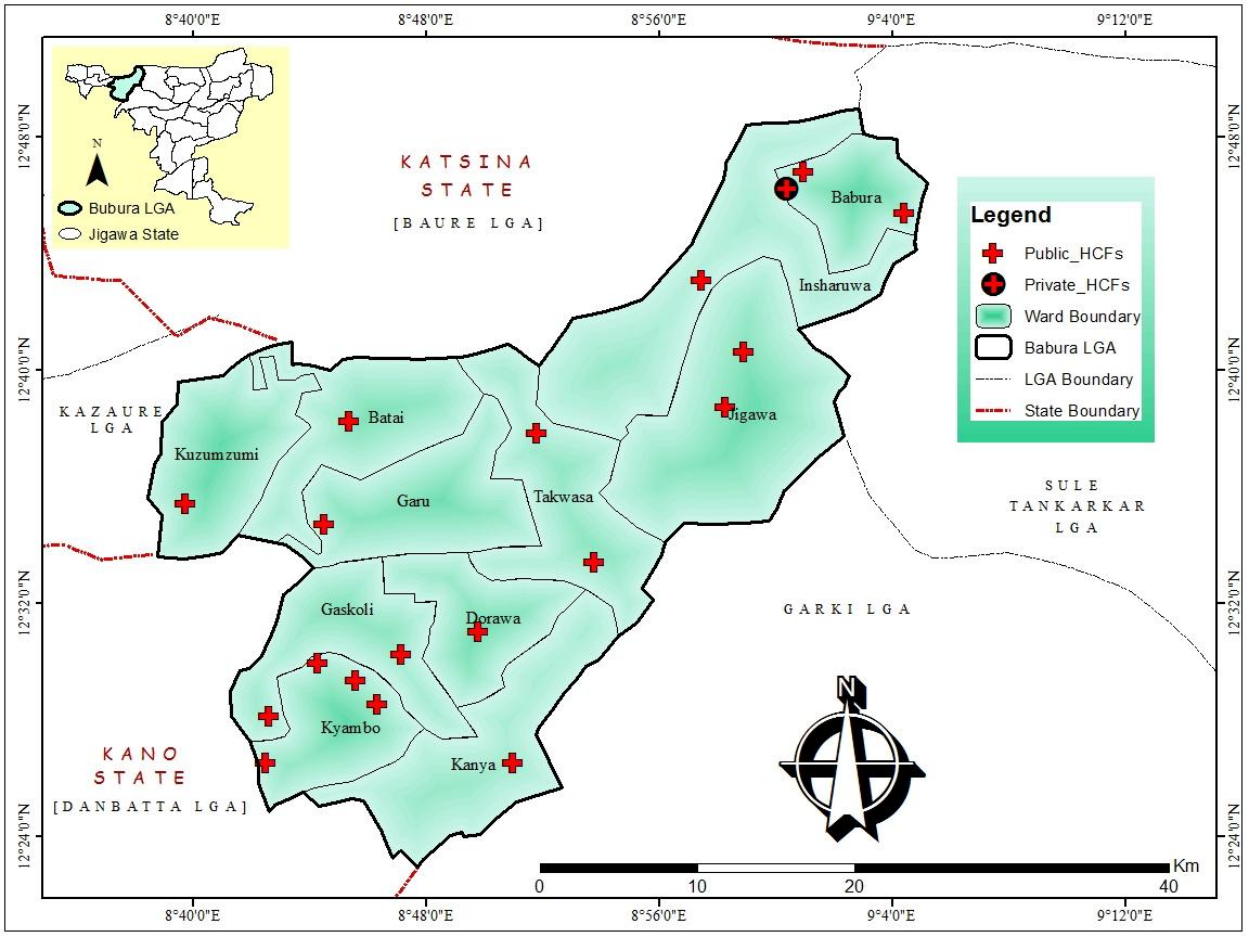

Figure 4.1: Distribution of Health Facilities by Ownership
Source: Fieldwork, 2016

The figure 4.1 shows the name, ward and location of all the health facilities in Babura Local Government Area of Jigawa State. It can be seen that all the wards have one or more health facility (ies) and Kyambo ward has the highest number of health facilities all of which are of primary health care status. Babura ward has three health care facilities. One is General hospital, one is private clinic and the other one is primary health care. Jigawa, Gaskoli and Takwasa wards have two facilities each and remaining wards of Kanya, Batali, Garu, Kuzumzumi, Insharuwa and Dorawa have one facility each. The table shows that the Kyambo ward has the highest number of health facilities. In this study we find that the health care facilities are provided, but are not evenly distributed spatially. For example, Kyambo ward has 4 health care facilities which is the highest number in the Local Government Area.

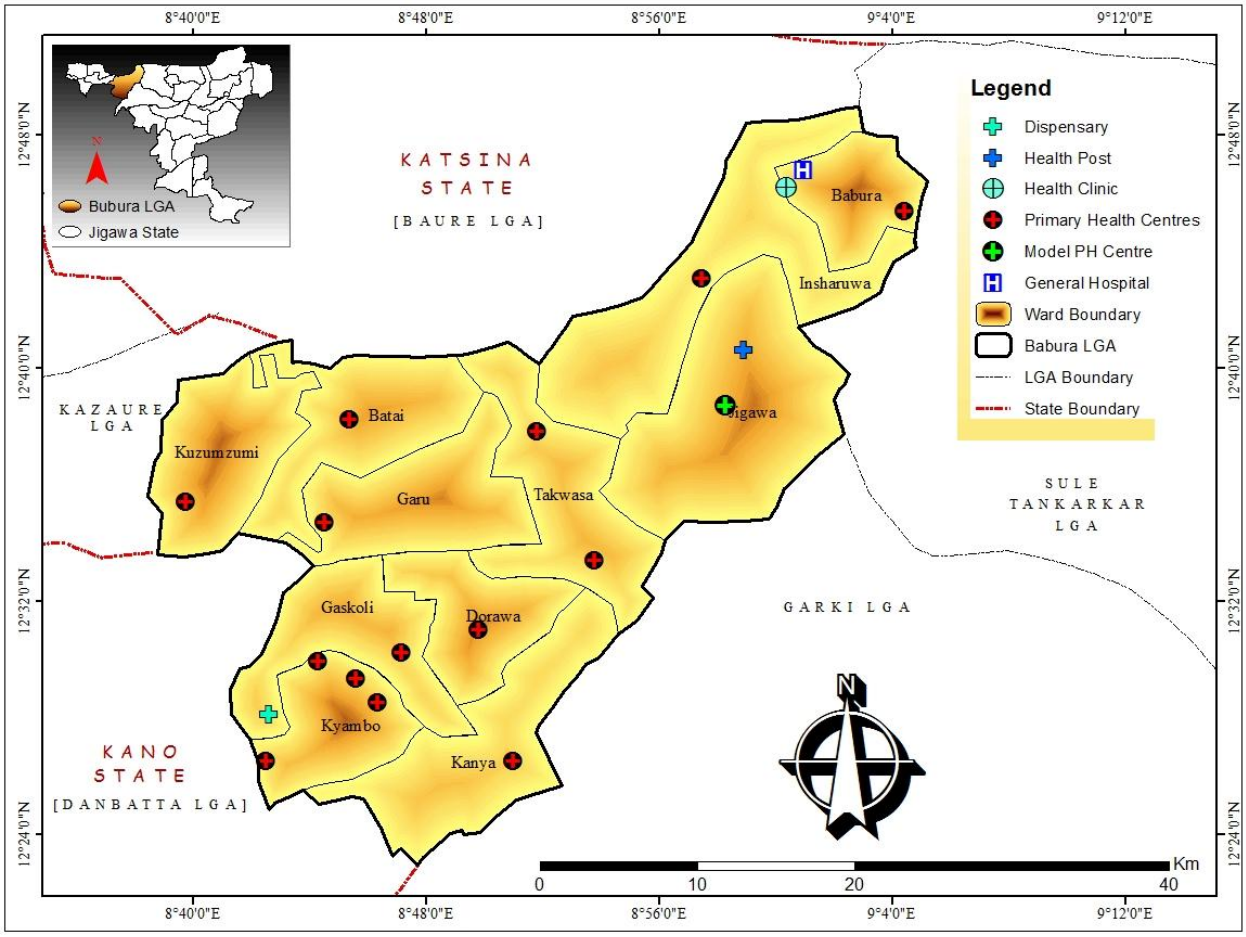

Figure 4.2: Distribution of Health Facilities by Type
Source: Fieldwork, 2016

From figure 4.2 it can be seen that 18 out of the 19 health facilities were owned by the public meaning they are maintained and managed by the state government or the local government itself while the remaining one (Albha clinic) is owned and maintained by a private individual, be it a personal or organizational. All the health facilities in the study area were functional. This shows that majority of the health facilities are public because majority of the people in the rural areas cannot afford to pay fees for services in the private clinics. This is line with what Shamaki (2006) observed, that access to health facilities is centered on economic accessibility and pointed out that 25% of the population living extreme poverty lack access to health services. Also health workers, if not living nearby, usually shun away from working in the rural areas. Furthermore, running a private clinic requires enormous sum of money and skill that might not be obtainable in the rural areas.

Table 4.1 Distribution of Health Facilities by Type of Services Rendered

S/NO	Name of Health Facility	Ward	Type of Services Rendered
1	Babura General Hospital	Babura	With the exception of Orthopaedic cases Babura General Hospital handles all kind of services.
2	Jarmai Primary Health Centre	Babura	Antenatal, Outpatient cases.
3	Albha Clinic	Babura	Antenatal, Outpatient and Inpatient.
4	Batali Primary Health Centre	Batai	Antenatal and Outpatient cases.
5	Dorawa Primary Health Centre	Dorawa	Same as {4).
6	Garu Primary Health Centre	Garu	Same as (4).
7	Gaskoli Dispensary	Gaskoli	Same as (4).
8	Tashar Dankyambo Primary Health Centre	Gaskoli	Same (4).
9	Insharuwa Primary Health Centre	Insharuwa	Same as (4).
10	Jigawa Model Primary Health Centre	Jigawa	Antenatal, Outpatient and Inpatient.
11	Gurfai Health Post		Same as (4).
12	Kanya Primary Health Centre	Kanya	Antenatal, Outpatient and Inpatient.
13	Kuzumzumi Primary Health Centre	Kuzumzumi	Same as (4).
14	Kyambo Primary Health Centre	Kyambo	Same as (4).
15	Danhalili Primary Health Centre	Kyambo	Same as (4).
16	Dozau Primary Health Centre	Kyambo	Same as (4).
17	Lamintani Primary Health Centre	Kyambo	Same as (4).
18	Takwasa Primary Health Centre	Takwasa	Same as (4).
19	Masko Primary Health Centre	Takwasa	Same as (4).

Source: Fieldwork, 2016

Table 4.1 gives the summary of the services rendered by each health facilities in the study area. All the health facilities offer Outpatient Services and Antenatal Services, 18 offer Routine Immunization Services, 17 offer Outreach Services, 7 offer Community Management of Acute Malnutrition (CMAM), 5 offer Tuberculosis and Leprosy Control Programme (TB and TB DOTS), 4 offer Family Planning and Inpatients Services 3 offer Laboratory Services, 2 offer Drug Revolving Fund and only 1 offer Health Information Management System (HIMS), Integrated Monitoring and Childhood Illness (IMCI), Gynaecology and Obstetrics, Physiotherapy, Prevention of Mother to Child Transmission (PMTCT), Theatre, Ultrasound Scanning, X-Ray, Dental Clinic and Postal (DNC). Babura General Hospital offers the widest range of services followed by Jigawa Model Primary Health Centre. This has implication in terms of utilization since only Babura General Hospital offer various services where other health facilities do not offer such as Eye Clinic, Integrated Monitoring and Childhood Illness (IMCI), Pharmacy, Physiotherapy, Prevention of Mother to Child Transmission (PMTCT), Gynaecology and Obstetrics. Patients must opt for the use of the services which are not accessible to many patients, more especially those from dispersed settlements.

4.3 Spatial Pattern of the Health Facilities in Babura L.G.A of Jigawa State

It should be mentioned in the passing that mere aggregating the raw data in the presented tables and figures cannot adequately portray the degree of spatial pattern of the Health Facilities. However, Average Nearest Neighbour of the Health Facilities is computed for the L.G.A and the results are shown in Figure 4.3;

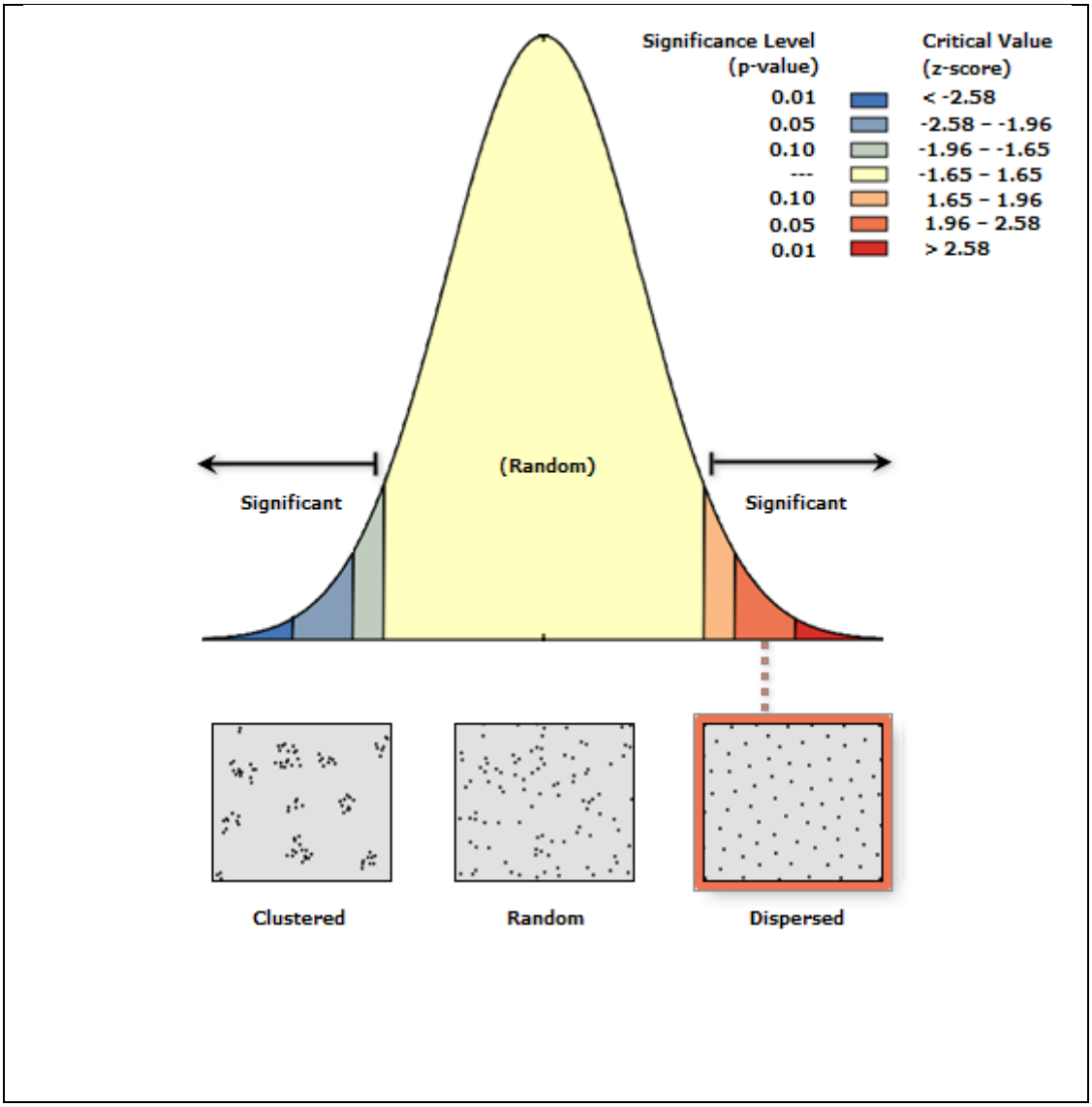

Figure 4.3: Average-Nearest Neighbour Summary of Babura L.G.A
Source: Field work, 2016

Average Nearest Neighbour Summary

Observed Mean Distance: 0.049173

Expected Mean Distance: 0.038077

Nearest Neighbor Ratio: 1.291403

Z-score: 2.365167

P-value: 0.018022

The outcome of the spatial statistical analysis returned five values within the software interface: Observed Mean Distance, Expected Mean Distance, Nearest Neighbour Ratio, z-

score and P-value respectively and then automatically calculated for the L.G.A the average nearest neighbour ratio by dividing the observed average distances by the expected average distances with expected average distances being based on a hypothetical random distribution with the same number of facilities covering the L.G.A.

Figure 4.3 also shows that there is less than 1% (0.01 level of significance) likelihood that the spatial pattern of the distribution of health care facilities in Babura Local Government Area is dispersed and this could be as a result of random chance. This might be as the result of the fewer number of health facilities. Haruna (2015) used Near Neighbour Analysis and found that the spatial pattern of distribution of health facilities in Dekina L.G.A of Kogi State, Nigeria is clustered towards a particular section of Dekina L.G.A. This is in contrast with what is obtainable in Babura L.G.A of Jigawa State.

4.4 Health Manpower Distribution

The mere establishment of health facilities alone without the required manpower is not enough to influence the utilization of health care services. Collier *et al* (2002) have demonstrated that the utilization of health care services is dependent not only on the distance to the nearest facility but also on the quality of the health care services provided. There is hence the need to examine the distribution of cadres of health workers as they constitute the back bone of health care facilities.

Table 4.2 of health manpwer

The Table 4.2 shows manpower strength working in all the health establishments of Babura L. G. A. The table signified that health care facilities in the L.G.A were faced with shortage of manpower looking at cadres of 180 for the whole of the Local Government Area. According to the WHO standard, the ratios for the African Region are: Doctor to population is 1:10,000, Nurses/midwives 1:4000, Pharmacist 1:330 and one (1) Lab Scientist for 100 people.

There are a total number of only 4 doctors, 26 nurses, 4 midwives, 2 medical lab scientist, x-ray technicians, physiotherapist, Anesthetic nurses, Pre-operative nurses, Ophthalmic nurses, and Dieticians, 1 Environmental Health Officer and Plaster Technician all of which are in Babura General Hospital which shows uneven distribution throughout the L. G. A.

Table 4.3 Distribution of Beds in the Health Establishments in Babura L.G.A

S/NO	Name of Health Facility	Number of Active Beds
1	Babura General Hospital	82
2	Jarmai Primary Health Centre	3
3	Albha Clinic	6
4	Batai Primary Health Centre	2
5	Dorawa Primary Health Centre	2
6	Garu Primary Health Centre	15
7	Gaskoli Dispensary	4
8	Tashar Dankyambo Primary Health Centre	2
9	Insharuwa Primary Health Centre	2
10	Jigawa Model Primary Health Centre	22
11	Gurfai Health Post	2
12	Kanya Primary Health Centre	12

13	Kuzumzumi Primary Health Centre	4
14	Kyambo Primary Health Centre	1
15	Danhalili Primary Health Centre	2
16	Dozau Primary Health Centre	2
17	Lamintani Primary Health Centre	2
18	Takwasa Primary Health Centre	2
19	Masko Primary Health Centre	2
Total		**169**

Source: Record Department, Babura General Hospital

Similarly, Table 4.3 shows the number of active beds available in the health establishments of Babura Local Government Area. The distributions of active beds are uneven which closely resembles the distribution of manpower across the heath establishments. Out of the total of 169 beds 82 were in the Babura General Hospital while only 87 were distributed among the other health facilities. Hence, inpatients are only admitted at Babura General Hospital, Jigawa Model Primary Health Centre, and Kanya Primary Health Centre, and others offer outpatient services.

4.5 Factors of Health Care Utilization

This section presents the demographic characteristics of the respondents and socio-economic background of respondents which include: age, gender, occupation, literacy level, annual income level and mode of transportation.

4.5.1 Demographic Characteristics

a) Age Distribution

Table: 4.4: Age Distribution of Respondents

Characteristics Age (Years)	Frequency	Percentage (%)
15-24	45	30
25-34	36	24
35-44	30	20
45-54	24	16
55 and above	1 5	10
Total	**150**	**100**

Source: Fieldwork, 2016

The age distribution of respondents showed that those between age bracket of 15-24 years were greater in number with 30%, followed by those between the age bracket of 25 -34 years with 24%. The least were those of 54years and above representing 10%. This is for the fact that majority of the respondents were women in the reproductive age group of 15-24 years of age.

b) Gender

Table 4.5: Gender of Respondents

Sex	Frequency	Percentage (%)
Male	69	46
Female	81	54
Total	**150**	**100**

Source: Fieldwork, 2016

As per gender, female constitutes 54% while male constitute 46%. This is in line with the population composition of the local government as females constitute the majority and the services most probably attracted females due to kind of services being offered as gynecology, antenatal, family planning etc. There were no specialized male services being offered. Women are more prone to illness due to peculiar reproductive health needs. Moreover, women would likely to accompany their children to health institutions where they seek treatments for themselves too.

4.5.2 Socio-economic Status

a) Occupation

Table 4.6: Occupation of Respondents

Occupation	Frequency	Percentage (%)
Farming	115	77
Trading	27	18
Civil Servant	8	5
Others (Specify)	0	0
Total	**150**	**100**

Source: Fieldwork, 2016

On the occupational status of the respondents, 115 (77%) were engaged in farming 27 (18%) in trading, while 8 (5%) were civil servants. Therefore, the table shows that majority of the respondents were farmers and the farming is on subsistence form. This affects their utilization to the health facilities because the type of occupation is related to economic control which will interpret the ability to access the health services. This corroborates the findings of Cheptum, *et al.*, (2014) who observed that utilization of

health facilities could be attributed to the level of income since with employment; one is likely to have good financial status as compared to one who is unemployed.

b) Educational Attainment

Table 4.7: Educational Attainment of Respondents

Literacy Level of Respondents	Frequency	Percentage
Islamic Education	125	83
Western Education		
i Primary	10	7
ii Secondary	6	4
iii Higher Education	2	1
iv None of the above	0	0
v All of the above	7	5
Total	**150**	**100**

Source: Fieldwork, 2016

As far as educational attainment is concerned, the respondents fell under six categories: 125 (83%) of them were literate in Islamic education, out of the 25 (17%) who were literate in western education, only 10 (7%) attended primary school, only 6 (4%) attended secondary schools, only 2 (1%) attended tertiary institutions while 7 (5%) have both Islamic and Western education.

However, it is obvious from the table majority of the respondents had no minimum level of western education and this makes some of them not utilize health facilities present in the area. This is in line with what Erinosho (1998) in Darna (2007) asserts that, educated persons are more likely to patronize orthodox medicine than their non – educated counterparts. This also corroborates the findings of Girma (2011), Thaddeus

and Maine (1990) which stated that access to medical services increases with increase of level of education.

c) Annual Income

Table 4.8: Income (per annum) of Respondents

Income (per annum)	Frequency	Percentage (%)
Less than ₦35, 000	55	37
₦ 35, 000 - ₦108,000	43	29
₦108,001 - ₦216,00	17	11
₦216001- ₦324,001	24	16
₦324,001 and above	11	7
Total	**150**	**100**

Source: field work, 2016

On the annual approximate income, the table shows that the income level of respondents varies. Out of the total respondents 55 (37%) earned less than ₦35, 000 per annum, 43 (29%) earned between ₦35, 000 to ₦108, 000 per annum, 17 (11%) earned between ₦108, 001 to ₦216, 00 per annum, 24 (16%) earned between ₦216, 001 to ₦324, 001 per annum and then finally 11 (7%) earned ₦324, 001 and above per annum. Because of the poverty level of the respondents some feel shy to mention their approximate annual income simply because the amount they earned is meager. In view of the fact many people do not utilize the health facilities present in the study area. This corroborates the

studies by Shamaki (2006), Girma (2011) and Thaddeus and Maine (1990) indicate that economic status affects utilization of health services.

d) Mode of Transportation

Table 4.9: Mode of Transportation of Respondents

Transportation	Frequency	Percentage (%)
On foot	37	25
Bicycle	5	3
Motorcycle	82	55
Car/Bus	24	16
Others (Specify)	2	1
Total	**150**	**100**

Source: Fieldwork, 2016

Finally, the Table 4.9 also shows the mode of transportation by the respondents. It reveals that 82 (55%) used motorcycles, 37 (25%) used their foot, 24 (16%) used cars/bus 5 (3%) used bicycle and only 2 (1%) fall in to category of other specify. It is clear that majority of the respondents used motorcycles.

Having examined the data on demographic characteristics and socio-economic background of the respondents we shall now consider other factors in the utilization of available health services by respondents.

4.6 Decision to Visit Health Facility

Table 4.10 Persons that Grant Permission to Health Facility

Person that grant permission	Frequency	Percentage
Self decision	45	30
Husband decision	60	40
Parents	41	27
Other specify	4	3
Total	**150**	**100**

Source: Fieldwork, 2016

Table 4.10 shows the persons that are in charge in giving permission to the health facility. It reveals that 45 (30%) self decision, 60 (40%) husband/wife decision, 41 (27%) parents and only 4 (3%) chose other specify which were not indicated in the questionnaire such as permission from guardians like brother, sisters, uncle etc. This result shows that husband decision has the highest percentage. This is line with studies by Theddeus and Maine (1990), Adamu (2007) and Dansabo (2004) which indicated that wives do not decide to seek care on their own unless with consent of her husband's.

4.7 Types of Services Received by Respondents in the Last 5 Years

Table 4.11 Types of Services Received by Respondents in the last 5 years

Services received by respondents in last 5 years	Frequency	Percentage
Antenatal	99	66
Routine immunization	5	3
Laboratory	6	4
Outpatient	30	20
Inpatient	8	5
Other specify	2	1
Total	**150**	**100**

Source: Fieldwork, 2016

Table 4.11 presents the type of services received by respondents in the last 5 years. The result indicates that Antenatal has the highest percentage with 99 (66%) followed by Outpatient with 30 (20%), 8 (5%) Inpatient, 6 (4%) Laboratory, 5 (3%) Routine Immunization while the least services were those that not specify in the questionnaire with 2 (1%) which include family planning, gynecology etc. The result shows that the majority of respondents received antenatal services. This is for the fact that majority of respondents were women in reproductive age group of 15-24 years of age.

4.8 Perception of Quality of Services Provided

Table 4.12 Perception of Quality of Services Provided

Perception about standard of services	Frequency	Percentage
Satisfactory	36	24
Fair	110	73
Bad	3	2
Don't know	1	1
Total	**150**	**100**

Source: Fieldwork, 2016

Table 4.12 shows that 110 of respondents representing 73% of the respondents said that the services rendered in the health facilities are fair; 36 (24%) accepted that the services rendered are satisfactory and fair; only 3 (2%) said the services are bad while only 1 (1%) said that they don't know. The implication of this is that majority of the respondents have confidence in the services provided by the health centeres in the study area. This corroborate the finding of Collier *et al* (2002) who demonstrated that the utilization of health care services is dependent not only on the distance to the nearest facility but also, on the quality of the health care services provided.

4.9 Opinions of Respondents on the Improvement of Health Sector

Table 4.13 Opinions of Respondents on Improvement of Health Sector

Opinion of respondents on how to improve Health sector	Frequency	Percentage
Provide free drugs	93	62
Provide adequate equipment	16	11
Provide adequate staff	29	19
Positive staff attitude	7	5
Other specify	5	3
Total	**150**	**100**

Source: Fieldwork, 2016

Data in Table 4.13 shows that 93 (62%) responses indicated that providing free drugs is the best option to improve health sectors; 29 (19%) of respondents said that adequate staff; 16 (11%) of respondents said adequate equipment; 7 (5%) of respondents said positive staff attitude; while 5 (3%) of respondent chose option that were not specify in the questionnaire like adequate beds, constant power supply, cleanliness etc. The result shows that the majority of respondents indicated that providing free drugs is the best option to improve health sector because the greater part of people are living below $1 per day. This is line with what Shamaki (2006) observed, that access to health facilities is centred on economic accessibility and pointed out that 25% of the population living in extreme poverty lack access to health services.

4.10 Distance to Health Facilities

Table 4.14: Distance to Health Facilities

Distance (km)	Frequency	Percentage
0 – 5km	78	52
6 – 10km	42	28
11 – 15km	28	19
16km and above	2	1
Total	**150**	**100**

Source: Fieldwork, 2016

Table 4.14 shows that the respondents varied in respect to distance to nearest health facilities. The majority of the respondents i.e. 78 (52%) live within 0 – 5km to the nearest health facility. A total of 42 (28%) indicated living 6 – 10km, while 28 (19%) indicated living between 11 -15km and only 2 of the respondents representing (1%) indicated living beyond 16km and above to the nearest health facilities. In the same vein, as far closeness of modern health facilities to respondents' residence; 80 (53%) said the General Hospital is closer to them, while 63 (42%) said primary health centre is closer to them, 3 (2%) the local government dispensary is closer to them and only 4 (3%) said none of the modern health facilities is closer to them. This means that there are areas where none of the modern health facilities is closer to them and this may lead to people in those areas not utilize the health facilities. This is in line with what Girma (2011) observed in Jimma zone, Southwest Ethiopia that those individuals located less than or equal to 10 km from nearest health centres or hospitals had 2.9 times higher chance of using health services as those residing 10 km away. This is also in line with what Le Seuer (1997) observed in South Africa that 96% of the patients use the nearest clinic. This is also corroborate the finding of Thaddeus and Maine (1990) that stated

distance exerts dual influence; long distance can be an obstacle to reaching a health facility; and they can serve as disincentive to even trying to seek care.

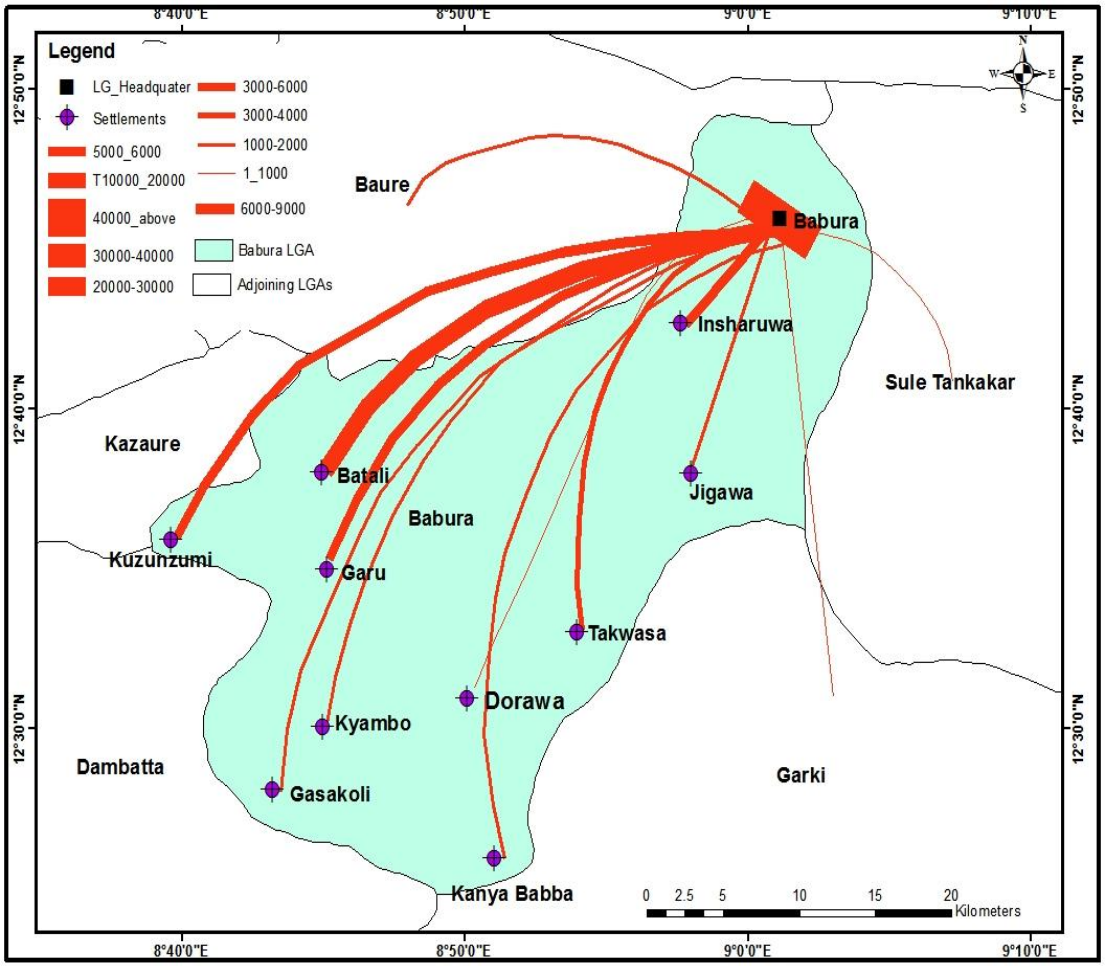

Figure 4.4 Flow Chart of People Utilizing Babura General Hospital from 11 Wards of the L.G.A and Neighbouring L.G.A

It obvious from figure 4.4 that the residents of Babura ward utilize the health facility more than people from all wards in all the year, and this is because the facility is located in Babura ward. Also the utilization of the neighboring wards such as Insharuwa, Garu, Jigawa, kuzumzumi, Batali, Takwasa, is higher than that in Dorawa. Kanya, Kyambo and Gaskoli. This is in line with what Girma (2011) observed in Jimma zone, Southwest Ethiopia that those individuals located less than or equal to 10 km from nearest health centres or hospitals had 2.9 times higher chance of using health services as those

residing 10 km away. This is also in line with what Le Seuer (1997) observed in South Africa that 96% of the patients use the nearest clinic.

In the same figure also show that accessing of Babura General Hospital varies among the neighboring local governments. The proximity of Babura General Hospital to the residents of Baure L.G.A in Katsina State is a factor that accounts high utilization. In addition to Baure Sule Tankarkar and Garki residents were also seen as patients at the hospital. This is in line with what Girma (2011) observed in Jimma zone Southwest Ethiopia that those individuals located less than or equal to 10 km from nearest health centres or hospitals had 2.9 times higher chance of using health services as those residing 10 km away. This is also in line with what Le Seuer (1997) observed in South Africa that 96% of the patients use the nearest clinic.

4.11 First Treatment Mode when Ill

Table 4.15 First Treatment Mode when Ill

Treatment Mode	Frequency	Percentage
Use of traditional herbs	50	33
Buy drugs from chemist	70	47
Go to health Facility	30	20
Total	**150**	**100**

Source: Fieldwork, 2016

Table 4.15 shows the line of action taken by respondents when illnesses occur. It is shows that 70 (47%) buy drugs from chemist/shop, 50 (33%) use traditional herbs and 30 (20%) go to hospital. This is in line with what Adamu (2003) observed in Kano that the first treatment mode when illness occur begins with local medication then buying drugs from chemist.

Table 4.16: Cross Tabulation of First Treatment Mode in Ailment and Reason for Choosing Mode of Treatment

Treatment of ailment	It most effective	It is only means available	It is the cheapest affordable	It is nearest means	Total
Use of tradition herbs	11	5	7	27	50
Buy drugs from chemist/shop	17	8	6	39	70
Go to hospital	22	1	3	4	30
Total	**50**	**14**	**16**	**70**	**150**

Source: Fieldwork, 2016

Table 4.16 is complimentary to the Table 4.15 which shows the reason why the respondents to take line of action mentioned above. Of the 70 (47%) respondents who buy drugs from 39 of them said they choose buying drugs from the chemist because it is the nearest facility 17 said it is the most effective, 8 said it is the only means available while the remaining 6 said that it is the cheapest affordable. Whereas out of the 50 (33%) respondents that choose the use of traditional herbs, 27 said it is the nearest means, 11 said it is the most effective, 5 said it is only means available and 7 said that it is the cheapest affordable. In the same view out of 30 (20%) respondents that choose to go to hospital 22 of them said it is the most effective, 3 said it is the cheapest affordable, 4 it is the nearest means and 1 said it is the only means available.

From Table 4.16, it is obvious that majority of the respondent choose to go to hospital believe that it is the almost effective whereas majority of those who choose to used traditional herbs or buy drugs from chemist shop do that simply because it is the nearest means. This means that if the hospital is situated within the reach of this category of

people they would definitely opt for the use of those facilities. This is in line with what Girma (2011) observed in Jimma zone, Southwest Ethiopia that those individuals located less than or equal to 10 km from nearest health centres or hospitals had 2.9 times higher chance of using health services as those residing 10 km away. This is also in line with what Le Seuer (1997) observed in South Africa that 96% of the patients use the nearest clinic.

4.12 Hypotheses Testing

This section tested the hypotheses developed for the study. In testing the research hypotheses, chi-square was used. The results of the hypotheses tested are presented as follows;

Ho_1: There is no significant relationship between distance and health care utilization.

Table 4.17 Relationship between Distance Covered and Health Care Utilization

		Utilization of Health care facilities	
		Frequency	Percentage
Distance	0-5km	78	52
	6-10km	42	28
	11-15km	28	19
	16 and above	2	1
	Total	150	100%
Chi-square Coefficient 207.692	Degree of freedom 6		

Table 4.17 presents a summary of the chi-square results on the relationship between distance and the health care utilization. The chi-square coefficient of 207.692 with the 6 degrees of freedom at 0.05 alpha value obtained is greater than the table chi-square value. Therefore, the null hypothesis is rejected and the alternative one accepted that there is a significant relationship between distance and health care utilization. This test

reinforces the earlier findings on the effect of distance on the utilization of health care services.

The hypothesis which says "There is no significant relationship between Educational Attainment of the People and their Health Care Utilization in the L.G.A" was also tested using X^2 and results presented in Table 4.18.

Table 4.18 Relationship between Educational Attainment of the People and their Health Care Utilization

		Utilization of Health care facilities	
		Frequency	Percentage
Educational Attainment	Islamic Education	125	83
	Primary	10	7
	Secondary	6	4
	Higher Education	2	1
	None of the Above	0	0
	All of the Above	7	5
	Total	150	100%
Chi-square Coefficient 120.000	Degree of freedom 8		

The Table presents a summary of the chi-square result on the relationship between literacy level of the people and their health care utilization. The chi-square coefficient of 120.000 with 8 degrees of freedom at 0.05 significant level found was greater than the table chi-square value. Here also, the null hypothesis was rejected which shows that there is a significant relationship between literacy level of the people and their health care utilization. The test supports our earlier findings on the effect of literacy level on utilization of health services.

The third hypothesis which says "There is no significant relationship between incomes level of People and their Utilization of Health Care Services in the L.G.A" was also tested using X^2.

Table 4.19 Relationship between Income level of the People and their Health Care Utilization

		Utilization of Health care facilities	
		Frequency	Percentage
Income (per annum)	Less than ₦ 35,000	55	37
	35,000-108,000	43	29
	108,001-216,00	17	11
	216,001-324,001	24	16
	324,001 and above	11	7
	Total	150	100
Chi-square Coefficient 257.143	Degree of freedom 8		

Table 4.19 presents a summary of the chi-square result on the relationship between income level of people and their health care utilization. The chi-square coefficient of 257.143 with 8 degrees of freedom 0.05 significance level that was obtained was greater than the table chi-square value. The null hypothesis was therefore rejected which shows that there is a significant relationship between income level of the people and their health care utilization. This is in conformity with our earlier findings on this factor.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of Findings

This research examined the utilization of health care facilities in Babura Local Government Area. There is less fairness in spatial distribution of health care facilities each ward out of 11 wards has at least one health facility and a maximum of 4. There are a total of 19 health facilities: 18 are public health facility and only one is private clinic. Also the man power distribution was uneven. The manpower distribution is grossly inadequate (see Table 4.4). In this respect, the result of this study supported Michel Lipton's theory of urban bias. The basic aim of Lipton's theory is an explanation of distorted and uneven development in third world where he argued that: in the rural sector, few and inferior facilities are allocated to the villages (Lipton, 1980). The above assertion was in 1980. This theory is still relevant today, considering for example doctor population ratio in Babura L. G. A, which stood at 1: 53,239.

The findings from the three hypotheses tested showed that there are significant relationships between distance and health care utilization with a chi-square coefficient of 207.692. There is also a significant relationship between literacy level and health care utilization with a chi-square coefficient of 120.000. Finally there is a significant relationship between income and health care utilization with a chi-square coefficient of 257.143. The respondents who possessed higher level of western education, worked in the formal sector and earned higher income made the greatest use of modern health facilities. Whereas those who were not educated in the formal sector and earned little income made the greatest use of traditional medicine. This showed that there was positive relationship between literacy level and per capita utilization of health services.

This study supported the conclusion of Ityavyer (1987) who stated that "An uneducated society can never be a healthy society even if each individual has his/her own dispensary." Utilization is higher among female because of the availability of some services exclusively for female utilization such as gynecology, antenatal etc. Moreover, those between the ages 15-24 years have higher utilization than those in other age groups. This is for the fact that majority of the respondents were women in the reproductive age group.

5.2 Conclusion

Health care facilities are randomly distributed and that the the location of health facility affects its utilization this is noticed not only the various ward in the area but also among neighboring local government. Female utilize the health facilities more than male and utilization is higher among age bracket of 15-24 years

There is inadequacy of manpower as there are four doctors for the whole local government also the nurses/midwives and doctor patient is far from adequate. Inequalities do exist in the distribution of manpower and beds in favour of Babura ward the administrative headquarter of the local government. There is only one secondary health care facility i.e General Hospital located in the L. G .A headquarters.

Therefore, Government had given priority attention to the provision of primary health care delivery in the local government headquarter and that provision of adequate man power and medical equipment is now the challenges of health care delivery in the area.

5.3 Recommendations

The following recommendations are made:

i) In view of the delays experienced in the health facilities which could be due to inadequacy of physicians, government should focus its attention on recruitment and re-training of medical staff so as to reduce the wide ratio that already exist between the population and health care personnel. This will reduce waiting time and enhance attention to patient by medical personnel.

ii) There is the need for government to provide good transportation network and ambulances in the all health facilities so that people who are in emergency situations will make a call to the personnel in charge to take them to the health facilities. This will reduce delay and also will help people more especially those in the dispersed settlements to utilize the health care facilities.

iii) There is need to improve the welfare of clinical staff by providing basic social amenities to serve as motivation in the rural areas so as to reduce the concentration of medical personnel in the administrative capital.

5.4 Suggestion for Further Research

It is a known fact that there is no end to research; a termination of a specific research may the beginning of another research. The findings from this research cannot be used to represent the whole rural areas of Jigawa State let alone, Nigeria as a whole. If further investigations are carried out to asses' utilization of health care facilities in various rural areas of Nigeria, a good generalization would be achieved.

In the course of this research, an issue emerged which has to do with qualification of these health personnel and their area of specialization. There is therefore the need for a research on the quality of health personnel and their attitude towards the health seekers.

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APPENDICES

APPENDIX I

QUESTIONNAIRE FOR PATIENTS

As part of requirement for the award of Master of Science in Geography, I am currently undertaking a research titled: An Assessment of Utilization of Health Care Services in Babura local Government Area Jigawa State.

In order to make this research a reality, you are please requested to fill in the answers to these questions. You are assured that the exercise is meant to fulfill an academic purpose and all information will be treated with strict confidentiality. I am therefore soliciting for your maximum co-operation.

Note that you are to tick the correct answer in some questions while in others; you are to write the correct answers in the space(s) provided.

1. Age:
   - (a) 15-24 years ( )
   - (b) 25-34 years ( )
   - (c) 35-44 years ( )
   - (d) 45- 54 years ( )
   - (e) 54 and above ( )

2. Sex:
   - (a) Male ( )
   - (b) Female ( )

3. Occupation:
   - (a) Farming ( )
   - (b)Trading ( )
   - (c) Civil servant ( )
   - (d) Others (Specify) …….

4. Educational Attainment?
   - (a) Islamic education ( )
   - (b) Western education
   - (i) Primary ( )
   - (ii) Secondary ( )

(iii) Higher Education ( )

(c) None of the above ( )

(d) All of the above ( )

5. What is your approximate annual income?

(a) Less than ₦35000 ( )

(b) ₦35000 - ₦108000 ( )

(c) ₦108001 - ₦21600 ( )

(d) ₦216001 - ₦324001 ( )

(e) ₦324001 and above ( )

6. Do you visit any health facility when you are sick?

(a) Yes ( )

(b) No ( )

7. How many times do you visit the hospital when you are sick?

(a) 2-3 times ( )

(b) 4-5 times ( )

(c) Once ( )

(d) Others (specify……..

8. Who decides your visit to any health facility?

(a) Self decision ( )

(b) Husband ( )

(c) Parents ( )

(d) Others (specify): …….

9. Who pays for your medicaments/drugs?

(a) Self ( )

(b) Husband ( )

(c) Parents ( )

(d) Others (Specify) ……..

10. How many times have you been to a health facility in the last five years?

(a) 5-9 times ( )

(b) 10-14 times ( )

(c) Several times ( )

11. Which type of health care do you prefer?

(a) Primary ( )

(b) Secondary ( )

(c) Tertiary ( )

12. Which type of healthcare services have you ever received in the last five (5) years?

(a) Antenatal services ( )

(b) Routine Immunization Services ( )

(c) Laboratory Services ( )

(d) Outpatient Care Services ( )

(e) Inpatient Care Services ( )

(f) Others (Specify)……

13. In your opinion, what is the standard of service delivery in any of the health facility you visited?

(a) Satisfactory…….

(b) Fair……

(c) Bad……

(d) Don't know……

14. What in your opinion needs to be done to improve the health sector?

(a) Provide free drugs ( )

(b) Provide adequate equipment ( )

(c) Provide adequate staff ( )

(d) Positive staff attitude ( )

(e) Others (Specify) ……

15. Do you mind travelling long distance to obtain health care services?

(a) Yes ( )

(b) No ( )

16. Why (if yes or no) ……

……

……

17. How can people be encouraged to visit health facilities when they are sick?

(a) Sensitization ( )

(b) Free medical treatment ( )

(c) Others (specify)……..

18. Estimate how much you spend on hospital bill per month?

……

19. Are you on referral to this Hospital?

(a) Yes ( )

(b) No ( )

20. If yes, what kind of illness precipitated your referral to this hospital?

(a) Prolonged labor ( )

(b) Malaria ( )

(c) Typhoid ( )

(d) Others (specify)…….....

21. Which of the following is nearer to your residence?

(a) Local government dispensary ( )

(b) Public general hospital ( )

(c) Private clinic ( )

(d) Others (specify)……...

22. Which of the above do you prefer and why?

……
……....

23. How many km. does it take you to reach health facility?

(a) 0-5 km ( )

(b) 6-10 km ( )

(c) 11-15 km ( )

(d) 16 km and above ( )

24. When the need arises, which of the following means of transport do you use?

(a) On foot ( )

(b) Bicycle ( )

(c) Motor cycle ( )

(d) Car/Bus ( )

(e) Others (specify): ……

25. What lines of action would you take when ailment occurs?

(a) Use of traditional herbs ( )

(b) Buy drugs from chemist/shop ( )

(c) Go to the Hospital ( )

26. Why did you choose to take this line of action mentioned above?

(a) It is the most effective ( )

(b) It is the only means available ( )

(c) It is the cheapest affordable ( )

(d) It the nearest means ( )

27. What typical problem do you face when going to a health care facility?

(a) Transportation problem ( )

(b) Distance to cover ( )

(c) Money to buy drugs and hospital bills ( )

(d) Husband refusal to grant permission ( )

(e) Others (specify)……

28. At health facility visited, were you attended in good time?

(a) Yes ( )

(b) No ( )

29. When you eventually saw doctors, were you given appropriate time to explain your health problem?

(a) Enough time was given ( )

(b) The time was not enough ( )

30. What in your opinion needs to be done to improve access to health care facility?.....
.....
.....
.....
.....
.....
.....

APPENDIX II: SPSS OUT PUTS

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utilization * distance	150	100.0%	0	0.0%	150	100.0%

utilization * distance Crosstabulation

			Distance				Total
			1	2	3	4	
utilization	1	Count	50	0	0	0	50
		% within utilization	100.0%	0.0%	0.0%	0.0%	100.0%
	2	Count	28	42	0	0	70
		% within utilization	40.0%	60.0%	0.0%	0.0%	100.0%
	3	Count	0	0	28	2	30
		% within utilization	0.0%	0.0%	93.3%	6.7%	100.0%
Total		Count	78	42	28	2	150
		% within utilization	52.0%	28.0%	18.7%	1.3%	100.0%

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	207.692[a]	6	.000
Likelihood Ratio	211.286	6	.000
Linear-by-Linear Association	111.016	1	.000
N of Valid Cases	150		

a. 3 cells (25.0%) have expected count less than 5. The minimum expected count is .40.

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Case Processing Summary

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	N	Percent	N	Percent	N	Percent
literacy * utilization	150	100.0%	0	0.0%	150	100.0%

literacy * utilization Crosstabulation

			Utilization			Total
			1	2	3	
Literacy	1	Count	50	70	5	125
		% within Literacy	40.0%	56.0%	4.0%	100.0%
	2	Count	0	0	10	10
		% within Literacy	0.0%	0.0%	100.0%	100.0%
	3	Count	0	0	6	6
		% within Literacy	0.0%	0.0%	100.0%	100.0%
	4	Count	0	0	2	2
		% within Literacy	0.0%	0.0%	100.0%	100.0%
	5	Count	0	0	7	7
		% within Literacy	0.0%	0.0%	100.0%	100.0%
Total		Count	50	70	30	150
		% within Literacy	33.3%	46.7%	20.0%	100.0%

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	120.000[a]	8	.000
Likelihood Ratio	108.135	8	.000
Linear-by-Linear Association	54.236	1	.000
N of Valid Cases	150		

a. 12 cells (80.0%) have expected count less than 5. The minimum expected count is .40.

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	N of Rows in Working Data File	150
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each table are based on all the cases with valid data in the specified range(s) for all variables in each table.

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	Cells Available	174734

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Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Income * utilization	150	100.0%	0	0.0%	150	100.0%

Income * utilization Crosstabulation

			Utilization			Total
			1	2	3	
Income	1	Count	50	5	0	55
		% within Income	90.9%	9.1%	0.0%	100.0%
	2	Count	0	43	0	43
		% within Income	0.0%	100.0%	0.0%	100.0%

	3	Count	0	17	0	17
		% within Income	0.0%	100.0%	0.0%	100.0%
	4	Count	0	0	24	24
		% within Income	0.0%	0.0%	100.0%	100.0%
	5	Count	0	5	6	11
		% within Income	0.0%	45.5%	54.5%	100.0%
Total		Count	50	70	30	150
		% within Income	33.3%	46.7%	20.0%	100.0%

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	257.143[a]	8	.000
Likelihood Ratio	264.459	8	.000
Linear-by-Linear Association	112.113	1	.000
N of Valid Cases	150		

a. 4 cells (26.7%) have expected count less than 5. The minimum expected count is 2.20.