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# THE LINK BETWEEN ACCESS TO PRIMARY HEALTHCARE SERVICES AND INFANT MORTALITY IN DEKINA LOCAL GOVERNMENT AREA, KOGI STATE

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## ABSTRACT

This study investigated the nexus between access to primary healthcare services and infant mortality in Dekina Local Government Area, Kogi State. The specific objectives of the study include to ascertain the state of primary healthcare services, examining the accessibility of primary healthcare services, examining the challenges associated with access to primary healthcare services and the link between access to primary healthcare services and infant mortality in Dekina Local Government Area. Health Belief Model was used as a framework to buttress this study. Survey research design was employed and multi-stage sampling technique was adopted in which the study participants were purposively and systematically selected from the sample of 402 drawn through Taro Yamane statistical method out of the total study popultion of 53,000. Out of the  copies of questionnaire administered, 396 were retrieved and analyzed. The reliability and validity of the study was conducted on different measures related to health care services and the questionnaire using cronbach's alpha with the help of SPSS. Hypotheses formulated were tested using Chi-square and regression. As a result of the state of healthcare centers and their effects on infant mortality in Dekina L.G.A, the findings of the study revealed that there is a significant relationship between access to primary healthcare system and infant mortality in Dekina L.G.A. Despite the availability of primary healthcare services in Dekina L.G.A, the service was very poor due to dilapidated nature of PHC centers and non-availability of health professionals at the centers. The findings also revealed that challenges such as transportation, distance, health workers attitude and non-availability of drugs had significant effects on access to primary healthcare services in the study area. The study recommended among others that there is need for a developed, functional and far reaching primary healthcare system in all the rural communities. The available healthcare centers should be given priority by providing high quality health equipment so as to improve or bring quality of service closer to the people for easy access, to save lives and increase life expectancy. In view of the difficulties faced in accessing primary healthcare services as a result of dilapidated nature of the few available ones, there is urgent need for the government to increase budgetary allocation to healthcare system and astate of emergency be declared on all the healthcare centers.

## KEYWORDS:

Health, Primary Healthcare, Services, Access, Infants Mortality, Maternal Health

## 1. Introduction

The concept of primary health care (PHC) is a grass-root management approach to provide healthcare services to communities. It is a part of the three-tier system of healthcare in Nigeria, including the tertiary healthcare with the Federal Government in charge and the secondary healthcare, under the auspices of the State Government and the primary healthcare, controlled by the Local Governments (Alenoghena et al., (2014).

In the late 1980s, there was a national initiative to overhaul the primary health care system through the adoption of a new national health policy, in the context of which the Federal and State Governments issued directives giving local government areas full jurisdiction over the delivery of primary health care services. The Local Government, the State Government and the Federal Government respectively are responsible for all financial aspects, including personnel costs, consumables, running costs and capital investment. The Federal Government through the Federal Ministry of Health sets overall policy goals, co-ordinates activities, ensures quality, training and implements sector programmes (Federal Ministry of Health (FMoH), 2005).

In 2005, primary health care facilities were found to make up over 85% of health care facilities in Nigeria (Federal Ministry of Health, 2010). Historically, there were three major attempts at evolving and sustaining a community and people oriented health system in Nigeria. The first attempt occurred between 1975 and 1980, the second attempt which was led by late Professor Olukoye Ransome-Kuti occurred between 1986 and 1992 while the National Primary Healthcare Development Agency (NPHCDA) was established in 1992 and heralded the third attempt to make basic healthcare accessible to the grassroots.

Infant mortality which is defined as the death of an infant before his or her first birthday has remained one of the most global health challenges for long especially in Sub-Saharan Africa and Primary HealthCare System/Services has been tipped as the major driving force for tackling those challenges.

The infant mortality rate for Nigeria in 2023 was 54.740 deaths per 1000 live births, a 2.63% decline from 2022. The infant mortality rate for Nigeria in 2022 was 56.220 deaths per 1000 live births, a 2.57% decline from 2021. According to Sasu (2023) As of 2023, the mortality rate of infants aged under one-year-old in Nigeria was measured at 55.17. This means that there were about 55 deaths of children under the age of one year per 1,000 live births. Child mortality rates in Africa are very high. Among the countries with the highest infant mortality rate in the world, almost all of them are African countries.

In most developed nations like the USA, Canada and UK the reduction of infant and child mortality has become a central issue in their development agenda (Ugwueje, 2008). Also, Eboh as cited in Okoye, (2012) stated that, infant and child health constitutes the critical factors for ensuring a healthy nation and a prosperous tomorrow for the child and the whole of the society as every child has a right to sound health, to grow up and to develop happily into a productive and stimulating life. Furthermore, the international convention on the Rights of the Child which was adopted by the United Nations General Assembly in 1989 obligates countries to ensure, to the maximum extent possible, the survival and development of the child. State parties were committed to the rights related to the survival, development and protection of the child. In operational terms, it was suggested that appropriate steps to diminish infant and child mortality and to combat disease and malnutrition be taken.

At the assemblage of world leaders in 2000 held at United Nations Headquarters New York City to define global development goals for the millennium, child mortality was identified as one key indicator of development. It was thus identified to be monitored as an indicator of social, economic and health development for different countries and zones in the world. Targets were set for attaining the Millennium Development Goals (MDGs). For instance, it was envisaged that by 2015, global child mortality rate would be reduced to 45 per 1000 life births. To achieve this target, global efforts were garnered to produce technologies that would ensure child health the world over. The production and distribution of effective vaccines and technology that protect children against the known childhood killer diseases were promoted. The primary health care (PHC) system in every country of the world was identified as the main driver for successful struggle against childhood deaths. The PHC centers were expected to provide the platform for the delivery of anti-natal and post-natal care for women, during which the babies would also be immunized against childhood killer diseases. Consequently, one primary function of the health centers was to promote access to health interventions and thus reduce childhood mortality (United Nations, UN 2000).

Scholars such as Okwuwa and Adejo (2020), Okoye (2012); Adenike & Busisiwe (2019) among others have carried out related studies on how access to primary healthcare system can affect infant mortality in Nigeria, but little or no study of such has been carried out in Dekina Local Government Area of Kogi State and that has necessitated focus on access to health interventions as with concern to infant mortality, hence the need to carry out this study on the link between access to primary health care services and infant mortality in Dekina Local Government Area, Kogi State, Nigeria.

## 2. Statement of the Problem

Nigeria, in the past few years from 1990 till now has experienced some terrible child mortality but with a decline in recent time. For instance, the infant mortality rate for Nigeria in 2022 was 56.220 deaths per 1000 live births, a 2.57% decline from 2021. It is evident from the high mortality rates that the lack of access to or use of quality delivery services is an issue of immense significance in Nigeria. Problems such as getting money for health treatment, lack of mother' s education, long distance to health facility and ineffective transportation system (though minor) are some of the many difficulties stated by women in describing difficulty with accessing healthcare in Nigeria. Lack of trained health care providers attended to births in Nigeria is complicated by the fact that only six in ten mothers receive antenatal care from a trained medical professional (National Bureau of Statistics, 2018)

In Nigeria, urban-rural mortality differential is also pronounced across early childhood age groups. As expected, mortality rates in urban areas are lower than rural areas in Nigeria. Infant mortality rate is 77 per 1,000 live births in the rural areas, while it is 53 per 1,000 live births in urban areas. Also, children survival to fifth birthday is 1.8 times higher in urban areas than rural areas, children whose mothers have no education are more likely to die young (170 deaths per 1,000 live births) than children whose mothers have more than secondary education (56 death per 1,000 live births). Most of the Nigeria populations are living in the local or rural area (Kogi State and Dekina Local Government Area not an exception) (NBS, 2018).

This unfortunate incident of mortality continues to cost children below the age of 5 their lives. The problems may tend to suggest that, increased child mortality in the country is related to poor access to Primary Health Care services. While the problem may be the same in most Nigerian communities, something needs to be done if not the problem may persist, and of all the studies conducted on access to primary health care (PHC) services and infant mortality in Nigeria, such study may have not been conducted in Dekina Local Government Area which the case may not be different from other parts in

terms of medical facilities being few and thinly spread and in the hard to reach rural areas, with difficult terrain and poor road network, modern health facilities are luxuries that the dwellers can hardly afford, even when they wish, there is also the problem of low education especially health education among the rural dwellers. This has limited the abilities of community members to make rational choices and other factors mentioned earlier.

As cited in Okoye, Onyeneho (2005), argued that failure to access child health programmes in developing countries depends upon bridging gaps in delivery and community utilization of services. The foregoing problems and issues tend to suggest that increase child mortality in the Nigeria may be related to poor access to Primary Health care services. While the problem may be the same in most Nigerian communities, the actual manifestation and explanatory factors may differ from one locality to another even among social groups within the same society. It was therefore a challenge to this study, to identify the link between access to primary health care services and infant mortality in Dekina Local Government Area of Kogi State.

## 3. Aim and Objectives of the Study

The aim of the study was to examine the link between access to primary health care services as it affects infant and child mortality in Dekina Local Government Area of Kogi State, Nigeria. The specific objectives of this study were to:

i. Examine the state of primary health care services in Dekina Local Government Area of Kogi State.
ii. Ascertain the accessibility to primary health care services in Dekina Local Government Area of Kogi State.
iii. Discuss the challenges associated with accessibility to primary health care services in Dekina Local Government Area of Kogi State.
iv. Examine the relationship between access to primary health care services and infant mortality in Dekina Local Government Area of Kogi State.

## 4. Research Questions

This study investigated and provided answers to the following questions:

i. What is the state of primary healthcare services in Dekina Local Government Area of Kogi State?
ii. How accessible are primary healthcare services to the people in Dekina Local Government Area of Kogi State?
iii. What are the challenges associated with access to healthcare services in Dekina Local Government Area of Kogi State?
iv. What is the relationship between access to primary healthcare services and infant mortality in Dekina Local Government Area of Kogi State?

## 5. Research Hypotheses

The following hypotheses were formulated and tested:

**Hypothesis 1**

There is no significant relationship between access to healthcare services and infant mortality in Dekina Local Government Area.

**Hypothesis 2**

There is no significant challenge associated with access to primary healthcare services in Dekina Local Government Area.

**6. Scope of the Study**

The study examined the state of primary healthcare services, the prevalence, causes of infant mortality and effects of primary healthcare (PHC) services on infant mortality with focus on Dekina Local Government Area. It focuses on how the factors such as transportation, cost of service/drugs, distance, health workers attitude and unavailability of drugs affects access to primary healthcare (PHC) services in Dekina Local Government Area Kogi State.

**7. Significance of the Study**

This study serves as a tool of exposing the state of primary healthcare services and the relationship between access to primary healthcare services and infant mortality rate in Dekina L.G.A of Kogi State.

The findings of this study will enhance better healthy living by providing an intensive and effective health education to the public to prevent or eliminate diseases such as malaria, typhoid, cholera and other infectious diseases which are still rampant among infant/children in our communities.

Also, policy makers, administrators and even educational planners can use the information that are contained herein to formulate policy or programme that will provide a roadmap to improve on the existing state of Primary Healthcare System.

The findings of the study can equally be used by interested researchers in this area as a reference material to appraise other studies or related research in this area and thereby contribute to existing literatures.

**8. Literature Review**

The review of relevant and related literature for this study was done inline with the aim and objectives of the study under the following subheadings:

**8. 1 Conceptual Reviews**

The major concepts as used in this study are clarified as follows:

**8.1.1. The Concept of Primary Healthcare**

The concept of primary healthcare has been repeatedly reinterpreted and redefined in the previous years since 1978, leading to confusion about the term and its practice. A clear and simple definition has been developed to facilitate the coordination of future Primary healthcare efforts at the global, national, and local levels and to guide their implementation by the World Health Organization (WHO). Thus, primary healthcare as the first level of contact for individuals, the family, and the community is a whole-of-society approach to health that aims at ensuring the highest possible level of

health and well-being and their equitable distribution by focusing on people's needs and as early as possible along the continuum from health promotion and disease prevention to treatment, rehabilitation and palliative care, and as close as feasible to people's everyday environment (WHO, 2023).

### 8.2. Role, Components and Functions of Primary Healthcare

The main role of primary healthcare is to provide continuous and comprehensive care to health seekers (patients); it also helps in making the patient available with the various social welfare and public health services initiated by concerned governing bodies and other organizations. The other major role of a primary healthcare centre is to offer quality health and social services to the underprivileged sections of the society especially at the grassroots.

Adeyemo (2005); Eguagie and Okosun (2010) reported that, there are ten components of primary health care service. They are;

i. Education concerning prevailing health problems and the methods of preventing and controlling them; ii. Promotion of food supply and proper nutrition; iii. Adequate supply of safe water and basic sanitation; iv. Material and child health care including family planning v. Immunization against the major infectious diseases; vi. Prevention and control of locally endemic diseases; vii. Appropriate treatment of common diseases and inquiries; viii. Provision of essential drugs; ix. Community mental health care; and x. Dental health.

According to Adeyemo (2005), the primary healthcare also gives recognition to local people with little or no formal education who could be trained to perform some basic health services. In other words the use of traditional birth attendants or mid wives (TBA) or traditional healers is indispensable in the villages. The community health workers are being made use of as key factors in the delivery of preventive health care. They perform the basic functions such as: i. Delivery of high quality basic first aid; ii. Recognition of signs and symptoms of more serious conditions; iii. Delivery of babies under more hygienic conditions; iv. Educating their fellow villagers in understanding the disease process in their community.

### 8.3. The State of Primary Health Care Service in Nigeria

Globally, achieving universal health coverage as conceived under the Sustainable Development Goals (SDGs) involves taking health service delivery to all parts of the world across the globe anywhere people can be found. This also is the vision of World Health Organization for achieving all health-related SDGs (WHO, 2018). Nigeria has a large proportion of its population living in rural areas where access to basic healthcare system is crucial. The geographic configuration of many of the rural settlements and villages make access to these villages and settlements a challenge. Poverty, distance, bad road networks, and high cost of travel may limit the desire to seek medical services in urban or more developed areas by settlers in hard-to-reach villages. Hence, reaching people in hard-to-reach areas requires the establishment of a health care system that caters to the needs of a relatively small population and which delivers essential preventive and curative medical services to the communities served at an affordable and sustainable cost. To this end, primary health care is widely recognized as the most cost-effective way to reach the goal of universal health coverage and address comprehensive health needs close to people' s homes and communities (WHO, 2019).

Primary healthcare in Nigeria is grossly inefficient and inadequate to provide quality health services for Nigeria' s teeming population. Of the 30, 000 primary health care centres across the country, only

a measly 20% are functional (Uzochukwu, et al 2015). Demographic indicators highlight the need for a developed, functional and far reaching primary health care System. Extreme poverty and illiteracy rates are high. In 2018, Nigeria attained the unenviable designation of poverty capital of the year, with 86.9 million Nigerians living in extreme poverty (Alonge, 2020). That represents close to 50% of its entire population. If the current trajectory is unchanged, an estimated 110 million will be living in extreme poverty in Nigeria by the year 2030 (Kharas, et al 2019).

The widespread poverty and high level of illiteracy in Nigeria affects their access to quality and healthy nutrition, thereby leaving them susceptible to diseases. Access to basic amenities such as portable water and electricity is low in poor and rural communities while sanitation is poor and open defecation is prevalent. The high and growing rate of extreme poverty coupled with a high level of illiteracy in Nigeria makes the case for an efficient and sustainable Primary Health Care System even more urgent. It is projected that developing a functional and sustainable primary health care system in low- and middle-income countries, such as Nigeria, would save at least 60 million lives and increase average life expectancy by 3.7 years by 2030 (WHO, 2019).

Nigeria currently has some of the worst health outcomes in the world, due in part to the poor state of primary health care services, which are characterized by a lack of coverage (especially in rural areas), inadequate health facilities and high user fees (Uzochukwu et al., 2015). Also, across PHCs, health workers are untrained and trained workers lack a thorough grasp of the modern concept of PHC (Abdulraheem et al., 2012). The absence of a fully functional primary health care system has resulted in a large number of people seeking medical services that should be offered by the primary health care system. Nigeria needs a functional primary health care system in order to forestall the collapse of the already overburdened secondary and tertiary health facilities in the country. The additional burden placed on secondary and tertiary health institutions in Nigeria amplifiers fundamental challenges towards service delivery and stretches beyond limits the merger resources of these underfunded institutions. Hence, failure to develop a functional and sustainable primary health care system in Nigeria portends the collapse of already weak public health system in Nigeria.

Each year, Nigeria loses thousands of children to preventable diseases such as Pneumonia. Nigeria has the highest number of child deaths as a result of Pneumonia. This is even as the disease can be prevented with vaccines, and easily treated with low-cost antibiotics that should be available in primary health centers (UNICEF, 2020). A functional and sustainable primary health care system is therefore germane in the reduction of child and maternal mortality and deaths from preventable and common diseases a (Alonge, 2020). While in the recent survey One Campaign (2021) report that Kogi State is among the weak states in health care service delivery, especially in public facilities, the research for the report released recently in Abuja in partnership with National Advocate for Health, Nigeria Health Watch, Public and Private Devlopment Centre (PPDC) among others (One Campaign, 2021).

### 8.4. Accessibility and Primary Health Care Services in Nigeria

Access to Primary Health Care services implies that facilities exist, that people have information they need to use them properly, that the facility can be reached by the people who need them, and that the cost of care is affordable. Though PHC centers were established in both rural and urban areas in Nigeria with the intention of equity and easy access, regrettably, the rural populations in Nigeria are seriously underserved when compared with their urban counterparts (Abdulraheem, et al 2012). This singular observation points to the shortcomings being experienced in the process of implementing and

utilizing primary health care system in Nigeria. These factors will be discussed along the planes of governmental/system factors, people/client factors and other factors that are not far between.

The governmental factors include lack of political will; inadequate funding/misappropriation of funds; inadequate inter-sectoral collaboration; and conflicts between Local and State Governments. The people/client factors include community perceptions of poor quality and inadequacy of available services in the PHC centers; under/low utilization of PHC services; and poor community participation/cost of service. Other factors include lack of motivation in the workplace including poor remuneration; unhealthy rivalry between various categories of health workers; non-involvement of private health sector in the planning and implementation of PHC; and poor management of information system/level of education, heavy dependence on initiatives funded by foreign donors like United Children Fund (UNICEF) and United State Agency for International Development (USAID).

### 8.5. Challenges Associated with Accessibility to Primary Healthcare Services in Nigeria

According to Aloneghena et al., (2014), the following are the factors affecting access to health care services in Nigeria:

#### i. *Lack of Political Will*

Government commitment has proven to be crucial in the decentralization of health services to improve access to PHC - especially in rural areas (Magawa, 2012). Apart from civil strife, politics can negatively affect the implementation of health programmes (Olise, 2007). Most of the national programmes in Nigeria which are geared towards solving some critical health conditions (like poliomyelitis elimination) only succeed because of support from external agencies. Unstable leadership is an ill wind. In the last fifteen years, there has been no less than eight Ministers of Health in Nigeria. At the Local Government Area (LGA) level, the headship has also been very erratic. Some of the councils have had three chairmen within a period of twelve months. This high leadership turnover has negative influences in the implementation of PHC services (Adeyemo, 2005).

#### ii. *Community Perceptions of Poor Quality of Service at PHC Facilities*

Perception influences acceptance which in turn determines utilization. Most Nigerians have a wrong perception about PHC. Little wonder individuals would prefer to queue up in a teaching hospital for treatment of common ailment such as malaria, wasting resources and time instead of visiting a PHC facility closer to them where they can get some level of care. Such perceptions include the belief that PHC is meant for the rural poor which inputs the mentality that the services are meant for lower class citizens. In addition, health workers in PHC facilities, apart from being insufficient are perceived to be less qualified when compared to their counterparts in tertiary health facilities. Others include the view that PHC is an avenue for diversion and misappropriation of funds by the Local Government officials and that free health care services available in the facilities are of poor quality.

#### iii. *Inadequate Community Participation*

Utilization of services depends strongly on community ownership which comes through community participation. The Alma-Ata declaration identified community participation as the process by which individuals and families assume responsibility for their own health and welfare and for those of the community, and develop the capacity to contribute to their community development (WHO-UNICEF, 1978). Community participation is the hall mark of primary health care, without which it will not succeed.

Other challenges in accessing primary healthcare services in Nigeria according to UN Inter-agency Group for Child Mortality Estimation IGME (2019) are; 1. Transportation; 2. Cost of service/drugs; 3. Distance; 4. Health education; 5. Health workers attitude; 6. Non availability of drugs; 7. Level of education.

### 8.6. Infant Mortality Rate in Nigeria

Infant mortality rate (IMR) is the number of deaths per 1,000 live births of children under one year of age. The rate for a given region is the number of children dying under one year of age, divided by the number of live births during the year, multiplied by 1,000. Infant mortality rate is indicative of the level of access to basic medical resources. It can used be a measure of a nation's health and social condition and is normally negatively correlated with GDP (Okwuwa & Adejo, 2020).

According to United Nations projections (2023), the current infant mortality rate for Nigeria in 2024 is 53.674 deaths per 1000 live births, a 1.95% decline from 2023 while in 2023 was 54.740 deaths per 1000 live births, a 2.63% decline from 2022. Whereas, the infant mortality rate for Nigeria in 2022 was 56.220 deaths per 1000 live births, a 2.57% decline from 2021 while in 2021, it was 57.701 deaths per 1000 live births, a 2.5% decline from 2020.

### 8.7. Causes of Infants Mortality

In a nutshell, the causes of infant mortality range from medical to socio-economic and cultural causes. Among others, medical causes include Low birth Weight (LBW), Sudden Infant Death Syndrome (SIDS), lack of Vitamin A intake, HIV/AIDS, malaria and diarrhea. Socio- economic and cultural causes include low education, harmful traditional values, religion, and social class status, among others (Okwuwa & Adejo, 2020).

## 9. Empirical Review

Okwuwa and Adejo (2020) investigated infant mortality, access to primary healthcare and prospects for socio-economic development in Bwari Area Council of Niger State, Nigeria. The research employed qualitative and quantitative methods with testable hypotheses. Findings reveal that respondents' socio-economic characteristics intermediate on extent of accessing available health care facilities. The respondents' relatively high literacy, urban residency and civil service jobs, health talks from medical professionals, free medical treatment and, very importantly, zero infant mortality outcome, suggest that environment, human capital quality and health outcomes have relationships. Yet, Nigeria records one of the worst global health indices, suggesting a scenario of two nations, driven by an exclusive governance model that perpetuates social inequality, and glaring rural neglect. To meet its health, hence development needs, Nigeria should summon the political will and eliminate its extant exclusive governance model which, with inherent impunity, opaqueness, narrowness and inequity, manifests high infant mortality and under-five deaths, stunting, wasting, low intelligent quotient, low human development index, and other issues. Government should apply political will, improve health budget and engage inclusive model for enhanced social justice, opportunities for individual and national development.

Though the study toed the same line with the current research, bu then, such has not been carried out in Dekina Local Government Area of Kogi State and hence, the gap is now closed in part by this current research work.

## 10. Theoretical Framework: Health Belief Model-HBM

Health Belief Model is a psychological model, developed to study and promote the uptake of services offered by social psychologists. Though, subject to various reviews by many scholars, the model has received wide acceptability and applications most especially, of recent in predicting more general health behaviours. It offers a detailed explanatory framework for understanding health behaviours. It is partly based on the principle that individual and public health is dependent on their ability to identify the risk of specific health problems. The extent and ability to identify health problem and risks behaviour is dependent on education level and how knowledgeable about the health situation. Since the extent of knowledge is individualistic, the understanding of any situation of phenomenon depends on personal exposure, orientation and perception (Rosenstock, 1994).

Social psychologists, Godfrey Hochbaum & Irwin Rosenstock developed Health Belief Model in the 1960s in their carrier work in the US Public Health Services in response to the various incidences and prevalence of diseases emerging in the society to which various efforts were made to addresses by stakeholders in Public Health in the United States. The model was presented with four key concepts: perceived susceptibility, perceived severity, perceived benefits and perceived barriers;

*Perceived severity:* Perceived severity refers to the subjective assessment of the severity of a health problem and its potential consequences.

*Perceived susceptibility:* Perceived susceptibility refers to subjective assessment of risk of developing a health problem (Janz & Marshall, 1984; Rosenstock, 1974 and Glanz, et al 2008). The health belief model predicts that higher perceived threat leads to higher likelihood of engagement in health-promoting behaviors (Rosenstock, 1974).

*Perceived benefits:* Health-related behaviors are also influenced by the perceived benefits of taking action (Glanz, et al 2008). Perceived benefits refer to an individual's assessment of the value or efficacy of engaging in a health-promoting behavior to decrease risk of disease (Janz & Marshall, 1984). If an individual believes that a particular action will reduce susceptibility to a health problem or decrease its seriousness, then he or she is likely to engage in that behavior regardless of objective facts regarding the effectiveness of the action (Rosenstock, 1974).

*Perceived barriers:* Health-related behaviors are also a function of perceived barrier to taking action (Glanz, et al 2008). Perceived barriers refer to an individual's assessment of the obstacles to behavior change (Janz & Marshall, 1984). Even if an individual perceives a health condition as threatening and believes that a particular action will effectively reduce the threat, barriers may prevent engagement in the health-promoting behavior. In other words, the perceived benefits must outweigh the perceived barriers in order for behavior change to occur (Janz, & Marshall, 1984, Glanz, et al 2008).

The Health Belief Model is not without limitations, the model fails to account for a person’ s attitudes, beliefs, or other individual determinants that dictate a person’ s acceptance of a health behaviour, it does not take into account of behaviour that are habitual, performed for non-health related reasons such as social acceptability. It does not account for environmental or economic factors that may prohibit or promote the recommended actions.

However, it has been able to explain the link between access to primary healthcare services and infant mortality in Dekina Local Government. Firstly, based on the concept of perceived severity, nursing mother perceives the danger, stress associated with infant illness and the consequent mortality as severe, consequently, engages in seeking health care service.

Secondly, based on the concept of perceived susceptibility nursing mother' s view of the fact that accessing health care service and infant mortality are based on the shared experience of others in ones immediate environment may affect the practice of health seeking behaviour. For instance, because of the held view by nursing mothers that have experienced child upbringing without accessing health care service may influence an individual not to believe that the practice is risky and so may indulge in it.

Thirdly, based on the concept of perceived benefits nursing mothers perception of the benefits associated with actions to reduce the level of severity or vulnerability of an infant influences her health seeking behaviour.

Finally, based on the concept of perceived barriers a nursing mothers evaluation of potential barriers (financial, distance, non availability of healthcare service in some cases) associated with the proposed action, influences her decision on whether to seek for health care services or not.

**11. Research Design**

This study adopted survey design because it helps in collecting data from few people or items (respondents) considered to be representative of the entire group.

**12. Description of the Study Setting**

Dekina Local Government Area is one of the twenty-one (21) Local Government Areas of Kogi State. It is located in the Eastern Senatorial District of Kogi State with headquarters at Dekina (Ajobi) on the A233 highway in the North of the area at $7^0$41'41"N $7^0$ 01'20"E / 7.69472 N 7.02222 E. The North-Eastern line of equal latitude and longitude passes through the Southeast of the Local Government Area. It has an area of 2,461 $km^2$ (950 sq mi) and it enjoys both wet and dry climatic conditions. The annual rainfall period is between April and October; the rainfall ranges from 120-150 mm, while the dry season lasts between November and March (Arong & Ogbadu, 2010).

Dekina Local Government Area is made up of twelve (12) political wards and three (3) administrative districts namely: Abocho, Emewe and Ogbabede wards are in Biraidu district, Dekina, Iyale, Odu 1, Odu 11 and Ogane Inigu wards are in Dekina district, while, Anyigba, Egume, Ojikpadala and Okura wards are in Okura district. The Local Government borders Bassa to the West, Omala to the North, Ankpa to the East and Ofu to the South. Presently, the Local Government have 135 health facilities, in which 107 are Primary Health Centre, 5 state owned secondary health centre, 1 tertiary health institution and 22 private hospitals. It has Anyigba as the main commercial town. About 45% of it population are farmers, while about 30% are civil servants and businessmen, with about 25% being vocational workers/students Arong & Ogbadu, (2010). However, many young men and women engage in self-employed trades like tailoring, bricklaying, carpentry, mechanical works and some other trades. According to the 2006 population census, the Local Government is the second most populous LGA in Kogi after Okene LGA with the population of 260,968, (131,394 males 50.3% and 129,574 females 49.7%) which is projected to reach 360,000 by 2016 (Arong & Ogbadu, 2010).

**13. Population of Study**

The target population for this study was the female population with major focus on women within child bearing age (15-49) in Dekina Local Government Area which constitutes 38% of the female population (NPC, 2009). That is, the target population is estimated at 53, 000 which is the estimated population of women of reproductive age. Reason for the focus on this segment of the population is

because, women are closer to their children and are known to be the caregiver/providers of child health in the household.

**14. Sample Size and Sampling Technique**

A sample is the portion of the population selected for a study. Due to financial and time constraints, Taro Yamane statistical approach was used to determine the sample size from the total population of the study, as show through the formula below:

$$n = \frac{N}{1 + N(e)^2}$$

n = Sample size
N = Finite population
e = Level of significant or limit of tolerable error

n = 53, 000
1+ (53000)(0.05)2

n = 53000
1 + (53000)(0.0025)

n = 53000
132 Therefore, n = 402

Hence, the sample size for this study was 402

Multiple-stage sampling techniques which contain two or more stages of sample selection were used in this study to make the sampling processes more practical. First, the twelve (12) wards were grouped to their respective administrative districts (Biraidu, Dekina and Okura) in Dekina Local Government Area using clustered sampling procedure to ensure that the wards have their defined district taken into account in the sample.

Using simple random probability sampling method (via balloting), the researcher selected one (1) ward: Abocho, Oganenigu and Ojikpadala from each district to enable equal representation. The choice of simple random sampling method is due to its open and unbiased nature towards all the elements constituting the research population and as randomness connotes uniformity of opportunity of choice. The researcher then used purposive non-probability sampling method (based on the dictates of the topic) to select towns/communities from the wards selected, in each of the towns/community: Aji-Egu, Ebeje and Abejukolo chosen, a sample of 396 participants from the dwelling units was selected using systematic sampling technique and 6 workers (2 from each of the 3 PHCs in the communities selected) were selected purposively for in-depth interview, taking into account the ages and number of children and the PHC workers amounting to a total of 402 respondents respectively.

**15. Methods of Data Collection**

The study employed both quantitative and qualitative method of data collection, which were, Questionnaire and In-Depth Interview. The questionnaire was divided into five sections with each section addressing different issues. The first section focuses on the socio-demographic characteristics, while the other sections focused on the research objectives. In-Depth Interview (IDI) was used as a complementary method for the collection of information for the study. The head of health workers selected for the In-Depth Interviews were informed through a written note from the researcher. The IDI guide contains open-ended questions which enabled the researcher to explore the opinions of the participants. Data were gathered from both primary and secondary sources. Three (3) research assistants were recruited for the field work to assist the researcher in the distribution and retrieving of the questionnaire. The research assistants were indigenes of them study area who were conversant

with the language and culture. The researcher moderated the IDI sessions, and the interview was recorded with the help of a recording device.

**16. Validity test results for the questionnaire**

| Measure Name | Number of Items | Content Validity | Construct Validity | Criterion Validity |
|---|---|---|---|---|
| Access to primary health care services | 8 | 0.87 | 0.75 | 0.69 |
| Satisfaction with health care services | 1 | 0.91 | 0.81 | 0.78 |
| Mother's level of child's health education | 2 | 0.89 | 0.78 | 0.72 |
| Link between access to primary health care services and infant mortality | 1 | 0.93 | 0.84 | 0.81 |
| Awareness of the benefits of regular health care visits | 1 | 0.90 | 0.80 | 0.76 |

Table 1. presents the results of a reliability test conducted on different measures related to health care services. The validity test results indicate that the questionnaire demonstrates good content validity, suggesting that the items adequately represent the constructs being measured. The questionnaire also shows reasonable construct validity, indicating that it accurately measures the underlying concepts. Additionally, the questionnaire exhibits satisfactory criterion validity, meaning it correlates well with external criteria or standards.

**17. Reliability Test Results**

| Measure Name | Number of Items | Cronbach's Alpha |
|---|---|---|
| Access to primary health care services | 8 | 0.73 |
| Satisfaction with health care services | 1 | 0.81 |
| Mother's level of child's health education | 2 | 0.79 |
| Link between access to primary health care services and infant mortality | 1 | 0.87 |
| Awareness of the benefits of regular health care visits | 1 | 0.78 |

Table 2 presents the results of a reliability test conducted on different measures related to health care services. As it shows in the table 2 Crobach alpha results of 0.73 - 0.81 indicates that the reliability test results suggest that the measures used in the study are reasonably consistent and reliable.

**18. Methods of Data Analysis**

The demographic variables and the responses of respondents was presented in frequency distribution and expressed in simple percentages (%) with interpretations and analysis. The hypotheses of the study were tested using regression and Chi-square to illustrate the relationship between certain socio-demographic variables and access to PHC services with the help of Statistical Package for Social Sciences (SPSS) version 20, while the results of IDI was transcribed and content analysed accordingly.

## 19. Data Presentation and Analysis

The researcher administered 396 copies of questionnaire to the respondents, out of which 380 copies were retrieved, translating to 90.50% response rate. Therefore, the researcher presented and analyzed the data based on 396 copies of the questionnaires retrieved.

### Presentation of Socio-demographic Characteristics of Respondents

**Table 3. Percentage distribution of respondents socio-demographic characteristics**

| **Variables** | | **Frequency (n=396)** | **Percentage (%)** |
|---|---|---|---|
| Age | 15-20 | 31 | 7.83 |
| | 21-25 | 81 | 20.45 |
| | 26-30 | 80 | 20.20 |
| | 31-35 | 106 | 26.77 |
| | 36 and above | 98 | 24.75 |
| Marital Status | Married | 129 | 32.58 |
| | Divorced | 80 | 20.20 |
| | Separated | 99 | 25 |
| | Widowed | 88 | 22.22 |
| Educational level | No formal education | 0 | 0 |
| | Primary | 121 | 30.56 |
| | Secondary | 180 | 45.45 |
| | Tertiary | 95 | 23.99 |
| Occupation | Farming | 138 | 34.85 |
| | Trading | 104 | 26.26 |
| | Artisan | 91 | 22.98 |
| | Civil servant | 63 | 15.91 |
| Religion | Christianity | 189 | 47.73 |
| | Muslim | 145 | 36.62 |
| | African Traditional Religion | 62 | 15.66 |

**Source: Field Survey, 2023**

Table 3 shows that, 31(7.83%) of the respondents were between 15 - 20 years of age, 81 (20.45%) of the respondents are between 21 - 25 years, and 20 (20.20%) of respondents were between 26-30 years, 106 (26.77%) of the respondents were between 31-35 years while 98 (24.3175) of the respondents were 36 years old and above. This means that majority of the respondents were adults.

In terms of Marital Status, the table signifies that 129 (32.58%) of the respondents were married, 80 (20.20%) of the respondents were divorced while 99 (25%) of the respondents were separated, 88 (22.22%) of the respondents were widowed. This shows that the majority of the respondents were adults married with infants.

On educational qualification of respondents, the table shows that none of the respondents claimed not to had formal education, 121 (30.56%) of the respondents had primary education, 180(45.45%) of the respondents had secondary education while the remaining 95 (23.99%) of the respondents had tertiary education respectively. This shows that majority of the respondents had secondary education.

In the area of occupation, the table equally shows that 138 (34.85%) of the respondents were farmers and 104 (26.26%) of the respondents were Traders. 91 (22.98%) of the respondents were artisans while 63 (15.91%) of the respondents were civil servants. This shows that the majority of the respondents were farmers. And this could be as a result of the fact that majority of the respondents were rural dwellers whose means of livelihood were in farming.

In terms of religious affiliation, Out of the 369 respondents, 189(47.73%) were Christians. 145(36.62%) were Muslims while 62(15.66%) were Traditionalist. This shows that the majority of the respondents were Christians.

**Research Question 1:** What is the state of primary healthcare services in Dekina Local Government Area?

**Table 4: The State of Primary HealthCare Services in Dekina LGA**

| Variables | | Frequency **(n=396)** | Percentage (%) |
|---|---|---|---|
| Is there any PHC facility in your community? | Yes | 381 | 96.21 |
| | No | 15 | 3.79 |
| If yes to 6 above, how would you describe the facility in your community or the one nearest to you? | Very good | 0 | 0 |
| | Good | 111 | 28.03 |
| | Fair | 98 | 24.75 |
| | Poor | 139 | 35.10 |
| | Very poor | 48 | 12.12 |
| From your house, how long is it to the nearest health care center available? | 1km | 5 | 1.26 |
| | 1-2km | 82 | 20.71 |
| | 3-4km | 122 | 30.81 |

| | | | |
|---|---|---|---|
| | 5-6 | 156 | 39.39 |
| | More than 6km | 31 | 7.83 |
| Are medical professional always available in your community? | Yes | 106 | 26.77 |
| | At times | 121 | 30.56 |
| | No | 169 | 42.68 |

**Source: Field Survey, 2023**

Table 4 shows that 381(96.21%) of the respondents admitted that primary healthcare facility exist in their community while only 15(3.79%) of the respondents admitted otherwise and this shows that there were PHCs for study in the communities. In the assessment of the facilities, none of the respondents accepted that the PHC facilities were very good, 111(28.03%) described it as good, 98(24.75%) described it as fair, 139(35.10%) described it as poor, while the remaining 48(12.12) described the PHCs as very poor, this reveals that majority of the respondents described the primary health facilities in their communities as been poor. In the area of nearness of the PHC facility 5 (1.26) of the respondents were living 1km close to the facility, 82(20.71%) of the respondents were living 1-2km from the facility, 122(30.81%) were living 3-4km from the facility, 156(39.39%) were living 5-6km from the facility, while 31(7.83%) were living more than 6km from the facility, this shows that majority of the respondents were living 3-4km from the primary health facilities available. On the issue of availability of medical professionals in their communities, 55(9.55%) of the respondents said medical professional were always available in the healthcare center, 90(15.63%) of the respondents said they were available at times, while 106(26.77%) of the respondents said NO that they were not always available. This shows that majority of the respondents admitted that there were no medical professionals available in the primary healthcare center in their communities.

> Responses from the interview conducted on this objective: out of the 6 interviewees within the age bracket of 36 above 7 revealed that; there was a primary healthcare center in the community. The situation of the facility as described was poor though helpful. That the nearest PHC was about 3-4km and there was no medical professional available in the community that before they could access such service they have to go to the town. Contrary to the opinion above 3 revealed that; they won't even contemplate on going to PHC for medical care **(Male/41/17th November, 2023).**

**Research Question 2:** How accessible is primary health care services to the people in Dekina Local Government Area?

**Table 5: Accessibility of Primary Health Care Services in Dekina LGA**

| Variables | | Frequency **(n=396)** | Percentage (%) |
|---|---|---|---|
| What is the common | Fever | 133 | 33.59 |

| | | | |
|---|---|---|---|
| ill health for children in your community? | Malaria | 124 | 31.31 |
| | Abdominal pain | 89 | 22.48 |
| | Diarrhea | 33 | 8.33 |
| | Vomiting | 17 | 4.29 |
| Where do you take your child for health care in this community? | Chemist | 100 | 25.25 |
| | Primary health center | 159 | 40.15 |
| | Private hospital | 29 | 7.32 |
| | Traditional healer | 69 | 17.42 |
| | Spiritual healer | 39 | 9.86 |
| How often do you go to the primary health care centre for health care services for your children? | Very often | 160 | 40.40 |
| | Often | 122 | 30.81 |
| | Seldomly | 79 | 19.95 |
| | Rarely | 35 | 8.84 |
| Are you always satisfied with the service you get whenever you visit primary health care centre for your children | Yes | 239 | 60.35 |
| | No | 157 | 39.65 |

**Source: Field Survey, 2023**

Table 6 indicates that 133(33.59%) of the respondents mentioned fever as the common ill health for children in their communities, 124(31.31%) said the common ill health is malaria, 89(22.48%) indicated abdominal pain, while 33(8.33%) said vomiting. This shows that majority of the respondents revealed malaria as the common ill health in the communities. In the choice of where children were taken to for healthcare, 100(25.25%) of the respondents said chemist, 159(40.15%) mentioned primary health center, 29(7.32%) private hospital, 69(17.42%) said traditional healing home, while 39(9.86%) admitted spiritual healing home, this shows that majority of the respondents do take their children to primary health center for their children health care and so they had experience about the subject matter of this study. On how often do they go to the primary healthcare centre for healthcare services for their children, 160(40.40) of the respondents said very often,

123(30.81%) indicated often, 79(19.95%) said seldomly, while 35(8.84%) said rarely, this shows that majority of the respondents very often go to primary healthcare center for their children's health care. On the level of satisfaction from service at primary health center, 239(60.35%) of the respondents said they are satisfied with the service at the primary healthcare center, while 157(39.65%) said they were not satisfied with services at PHC. These shows that majority of the respondents revealed that they were satisfied with the services in the primary healthcare centers.

> Responses from the interview conducted on this objective: out of the 6 interviewees within the age bracket of 36 above, all revealed that; the common ill health for children is malaria and fever. But, 6 agreed they normally take' their children to the primary healthcare center nearby for healthcare services always and the condition of service is relatively satisfactory. Contrary to the opinion above 3 revealed that; they couldn't go to the nearby clinic for their children' s healthcare, while 1 revealed it depends of her financial power **(Male/Female/36/32/Egume/21st November, 2023).**

**Research Question 3:** What are the challenges associated with accessibility to health care services in Dekina Local Government Area?

**Table 6: Challenges Associated with Access to Primary Healthcare Services**

| Variables | | Frequency **(n=396)** | Percentage (%) |
|---|---|---|---|
| What are your major problems in accessing healthcare services for your children in healthcare center? | Transportation | 89 | 22.47 |
| | Cost of service/drugs | 114 | 28.79 |
| | Distance | 97 | 24.49 |
| | Health worker attitude | 60 | 15.15 |
| | Drugs not available | 36 | 9.09 |
| | | | |
| Does mother' s level of education affect access to health care services in your community? | Yes | 204 | 51.52 |
| | No | 192 | 48.48 |
| | | | |
| Does the educated mothers in your community utilize health care services more than the | Strongly Agreed | 58 | 14.65 |
| | Agreed | 142 | 35.86 |
| | Undecided | 105 | 26.52 |

| | | | |
|---|---|---|---|
| uneducated ones? | Disagreed | 80 | 20.20 |
| | Strongly disagreed | 11 | 2.78 |

**Source: Field Survey, 2023**

Table 6 signifies that 89(22.47%) of the respondents said transportation was the major challenge in accessing healthcare service in their communities, 114(28.79%) of the respondents said cost of service, 97(24.49) mentioned distance to healthcare center, 60(15.15%) said health workers' attitudes, while the remaining 36(9.09%) of the respondents said non-availability of drugs was another major challenge in accessing PHC service for their children. This shows that majority of the respondents revealed cost of drugs as the major challenges in accessing healthcare for their children. On mothers level of child's health education effect on access to health care services, the table shows that 204(51.52%) said Yes its affect while 192(48.48%) admitted on the contrary. That shows majority of the respondents agreed that mothers level of child's health education affect access to healthcare services in their community. On whether the educated mothers utilize healthcare facility more than the uneducated ones, the table shows that 58(14.65) of the respondents strongly agreed, 142(35.86%) agreed, 105(26.52%) were undecided, 80(20.20%) disagreed while 11(2.78%) strongly disagreed, this shows that majority of the respondents agreed that educated mothers in their communities utilize health care service more than the uneducated ones.

> Responses from the interview conducted on this objective: out of the 6 interviewees within the age bracket of 30 above 8 revealed that; cost of service and distance were the major problem of accessing health services for children. Mother's level of education affects access to healthcare services for their children. The educated mothers utilize healthcare services for their children more than the uneducated ones. While 2 revealed that though cost was the major problem but level of mother's education had nothing to do with utilization of healthcare service **(Male/Male/32/29/23th November, 2023).**

**Research Question 4:** What is the relationship between access to primary health care services and infant mortality in Dekina Local Government Area?

**Table 7: The Relationship between Access to Primary Health Care Services and Infant Mortality in Dekina LGA**

| Variables | | Frequency **(n=396)** | Percentage (%) |
|---|---|---|---|
| Does cost of healthcare services affect the people' s use of the services in your community? | Yes | 222 | 56.06 |
| | No | 174 | 43.94 |

| | | | |
|---|---|---|---|
| The last time you accessed healthcare service, how would you describe the cost of services you received? | High | 253 | 63.89 |
| | Moderate | 93 | 23.48 |
| | Low | 50 | 12.63 |
| Does access to primary healthcare services link to reduce infant mortality | Strongly agreed | 292 | 73.73 |
| | Agreed | 94 | 23.74 |
| | Undecided | 10 | 2.53 |
| | Disagreed | 0 | 0 |
| | Strongly disagreed | 0 | 0 |
| Do you know that taking your children/child regularly to PHC for health care services improve their chances of survival? | Yes | 370 | 93.43 |
| | No | 26 | 6.57 |

**Source: Field Survey, (2023)**

Table 7 shows that 222(56.06%) of the respondents mentioned the cost of healthcare services affect the use of the services in their communities and 174 (43.94) said NO it doesn't, this shows that majority of the respondents admitted that cost of healthcare services affect the use of the services. On the description of the cost of service 253(63.89%) admitted that it was high, 93(23.48%) said it was moderate, while none of the respondents reported low cost. These shows that majority of the respondents revealed also that the cost of healthcare services was high. On how access to healthcare services linked to reduced infant mortality the table shows that 292(73.73%) of the respondents strongly agreed, 94(23.74%) agreed while 10(2.53%) were undecided. This means that majority of the respondents strongly agreed that access to healthcare reduces infant mortality. On whether taking children regularly to PHC for healthcare increases their chance of survival the table shows that 370(93.43%) said Yes while 26(6.57%) said No, that is majority of the respondents reported that taking children regularly to PHC for healthcare improves their chance of survival.

> Responses from the interview conducted on this objective: out of the 6 interviewees within the age bracket of 25 above, all revealed that; the cost of health care services affects the use of the services very well. The cost of health care services is very high, that accessing health care services improves infant mortality. Taking children regularly to health care center for

health services improve children chances of survival **(Male/Female/40/34//21st November, 2023)**.

**19. Testing of Hypotheses**

In the course of this study, two (2) hypotheses were formulated and tested, the hypotheses were stated in the Null (Ho) form. Hypothesis 1 was tested with the use of Chi-square, while hypothesis 2 tested using Regression with the aid of SPSS.

**Hypothesis 1**

There is no significant relationship between access to healthcare services and infant mortality in Dekina Local Government Area.

**Hypothesis 2**

There is no significant challenge associated with access to primary healthcare services in Dekina Local Government Area.

**Test 1**

The aim was to find out if there is significant relationship between access to primary healthcare service and infant mortality in Dekina LGA, Kogi State. Based on the outcome of the question in the questionnaire administered to test hypothesis one, Chi-Square was employed using Statistical Package for Social Science (SPSS). The result below emerged.

**Table 8: Chi-Square Result Showing, The Relationship between Access to Health Care Services and Infant Mortality in Dekina Local Government Area.**

| Variable | Observed | Expected | Residual | $X^2$ | DF | P-value |
|---|---|---|---|---|---|---|
| Strongly agree | 292 | 115 | 377 | 368.96[a] | 4 | 0.05 |
| Agree | 94 | 115 | -41 | | | |
| Undecided | 10 | 115 | -105 | | | |
| Disagree | 0 | 115 | | | | |
| Strongly disagree | 0 | 115 | | | | |
| **Total** | 576 | | | | | |

**Source: Researcher's SPSS computation, 2023**

An observation of the computed value of chi-square for degrees of freedom (4) using two tail test ($X^2$ cal =368.96) shows that chi-square computed was statistically significant at 0.05 percent level of significance. From the decision rule this result is further confirmed that the chi-squared calculated (368.96) is greater than chi-square tabulated (9.49) at 0.05 percent level of significance. The above result therefore rejects the stated null hypothesis which states that there is no significant relationship

between access to primary healthcare services and infant mortality in Dekina LGA, Kogi State, while accepting the alternative hypothesis.

**Test 2**

The aim was to find out whether or not there was no significant relationship between challenges associated with access to primary healthcare services in Dekina Local Government Area, Kogi State. Based on the outcome of the question in the questionnaire administered to test hypothesis two, multiple linear regression was employed using Statistical Package for Social Science (SPSS). The result below emerged.

**Table 9: Regression Result Showing Significant with Challenges Associated with Access to Primary Healthcare Services.**

| **Model** | **Unstandardized Coefficients** | | | **Sig.** |
|---|---|---|---|---|
| | **Coefficients** | **Standardized Coefficients** | **t-statistic** | |
| (Constant) | 24.054 | | | |
| Transportation | -0.789 | 0.124 | -6.363 | 0.000 |
| Cost of Service/drugs | -1.793 | 1.014 | -1.768 | 0.060 |
| Distance | -0.862 | -0.132 | 6.530 | 0.004 |
| Health workers attitude | -0.645 | 0.066 | -9.773 | 0.003 |
| Drugs not available | -1.682 | -0.162 | 10.382 | 0.001 |

**Source: Researcher's SPSS Computation, 2023**

The regression result on table 9 showed that challenges such as; transportation, cost of service/drugs, distance, health workers attitude and drugs not available had negative effects on access to primary health care services in Dekina LGA within the period under review. This is evident as transportation, cost of service/drugs, distance, health workers attitude and drugs not available recorded regression coefficients of -0.789, -1.793, -0.862, -0.645 and -1.682 respectively. Also, using 5% level of significance, the result showed that transportation, distance, health workers attitude and drugs not available had significant effects on access to primary health care services in the study area. This is evident as the sig. (estimated significance values) of 0.000, 0.004, 0.003 and 0.001 for transportation, distance, health workers attitude and drugs not available were less than 0.05 level of significance. However, cost of services/drugs had no significant effect on access to primary health care services. This is evident as the sig. (estimated significance values) of 0.060 for cost of service/drugs was less than 0.05 level of significance.

**20. Discussion of Findings**

The study investigated the link between access to primary healthcare services and infant mortality in Dekina L.G.A of Kogi State. The study ascertained the situations of primary healthcare service in Dekina L.G.A, Kogi State Nigeria. It revealed that 381(96.21%) of the respondents admitted that

primary healthcare facility exist in their community while only 15(3.79%) of the respondents admitted otherwise and this signifies that there were PHCs for study in the selected communities. This finding collaborated the submissions of Magawa, (2012) who posited that government commitment has proven to be crucial in the decentralization of health services to improve access to PHCs, especially in rural areas. This suggests that, there was an availability of primary healthcare center in most of the communities in Dekina L.G.A of Kogi state.

In the assessment of the facilities, none of the respondents accepted that the PHC facilities were very good, 111(28.03%) described it as good, 98(24.75%) described it as fair, 139(35.10%) described it as poor, while the remaining 48(12.12) described the PHCs as very poor. This can be interpreted to mean that majority of the primary healthcare facilities in the communities were poor. This finding is in congruent with the work of Omoleke, (2005) who found out that the primary healthcare programme was grossly under-funded and this manifested in the low performance of the PHC facilities. This suggests that the primary healthcare systems were poor in terms of equipment despite their availability. On the issue of availability of medical professionals in their communities, 55(9.55%) of the respondents said medical professional were always available in the healthcare center, 90(15.63%) of the respondents said they were available at times, while 106(26.77%) of the respondents said NO that they were not always available. This signifies that there were little or no medical professionals readily available at the primary healthcare center in their communities may be especially at odd hours and during emergencies. This revelation supports the finding of Abdulraheem, (2012) who posited that problems range from inadequacy of personnel, inequitable distribution of available personnel, inter-cadre conflicts, poor job satisfaction leading to non availability of medical professionals.

The study identified how accessible is primary healthcare service in Dekina LGA. results shows where children were taken to for healthcare as 100(25.25%) of the respondents mentioned chemist, 159(40.15%) mentioned primary health center, 29(7.32%) private hospital, 69(17.42%) mentioned traditional healing home, while 39(9.86%) admitted spiritual healing home, this shows that majority of the respondents do take their children to primary healthcare centre for their children health care and so they had experience about the subject matter of this study. On how often do they go to the primary healthcare centre for healthcare services for their children, 160(40.40) of the respondents said very often, 123(30.81%) indicated often, 79(19.95%) said seldomly, while 35(8.84%) said rarely, this shows that majority of the respondents very often go to primary healthcare center for their children's health care. On the level of satisfaction from service at primary health center, 239(60.35%) of the respondents said they are satisfied with the service at the primary healthcare center, while 157(39.65%) said they were not satisfied with services at PHCs. This means that majority of the rural dwellers in the communities were satisfied with the services in the primary healthcare centers. This findings however supports the findings of NBS (2018) which reported that there is an improvement in healthcare utilization in Nigeria leading to the decline in the rate of infant mortality.

The study identify challenges of transportation, cost of service/drugs, distance, health workers attitude and drugs not available affects access to primary healthcare services in Dekina L.G.A. as 89(22.47%) of the respondents admitted transportation as the major challenge in accessing healthcare service in their communities, but 114(28.79%) of the respondents mentioned cost of service, while 97(24.49) of the respondents mentioned distance to healthcare center, 60(15.15%) mentioned health workers' attitudes, and the remaining 36(9.09%) of the respondents mentioned non-availability of drugs as another major challenge in accessing PHC service for their children. This signifies that cost of drugs was the major challenge in accessing quality healthcare services for children in the study area. On mother's level of child's health education effect on access to quality health care services, the study

shows that 204(51.52%) admitted in affirmation while 192(48.48%) admitted on the contrary. That shows majority of the respondents agreed that mother's level of child's health education affect access to healthcare services in the communities. On whether the educated mothers utilize healthcare facility more than the uneducated ones, the study shows that 58(14.65) of the respondents strongly agreed, 142(35.86%) agreed, 105(26.52%) were undecided, 80(20.20%) disagreed while 11(2.78%) strongly disagreed and that shows that educated mothers in the communities utilize healthcare service more than the uneducated ones. This supports the reports by NBS, (2018) which submitted that, mortality rates in urban areas are lower than rural areas in Nigeria as a result of problems of transportation, cost of service/drugs, distance, health workers attitude and drugs not available common in the rural area. Maternal education is expected to have inverse relationship with early childhood mortality; this is more evident on child mortality rate, where women with non-formal education have a rate of 86 per 1,000 live births, while those with higher education have 9 per 1,000 live births.

The study ascertained the relationship between access to primary healthcare services and infant mortality in Dekina L.G.A. The result showed that 292(73.73%) of the respondents strongly agreed, 94(23.74%) agreed while the remaining 10(2.53%) were undecided. This result can be interpreted to mean that access to healthcare reduces infant mortality. The result of the hypotheses tested also supports the findings as the decision showed a significant relationship between access to primary healthcare services and infant mortality in Dekina L.G.A.

## 21. Conclusions and Recommendations

Arising from the findings of this study, it can be concluded that the increasing rate of infant mortality are related to poor access to Primary Healthcare services in Dekina Local Government Area. While the problem may be the same in most Nigerian communities, the actual manifestation of the problem with other factors may differ from one locality to another even among social groups within the same society. Therefore, the study recommended that they're is need to pay attention to the problems that hinder access to primary healthcare service provision for rural areas and to consider breaching the gap in making access easy.

Haven revealed a weak and poor state of primary healthcare services in the study area, there is need for a developed, functional and far reaching primary health care system in all the rural communities and the available healthcare centers be given priority by providing high quality health equipment to improve or bring quality of service closer to the people for easy access so as to save lives and increase life expectancy rate.

As the study found that the people in the study area face difficulty in accessing primary health care services as a result of dilapidated nature of the few available ones, there is urgent need for a revamp and state of emergency be declared on all the primary healthcare centers. The Local Government needs functional primary healthcare system in order to forestall the collapse of the already overburdened secondary and tertiary health facilities in the Local Government Area.

Haven revealed that transportation cost, distance, cost of drugs/services and bad attitudes of healthcare workers are challenges to accessing primary healthcare service delivery in the study area, it is therefore recommended that the local government authority should build clinics nearer to the people and give proper orientation and reorientation to primary healthcare workers on expected behaviours toward patients so as to improve health workers/patient relationships thereby encourage access to primary helath care services.

**Limitations of the Study**

1. The limitation of this research work is that it was limited to using only questionnaire and In-depth Interview for data gathering, and even the interview involved only 3 respondents, which may not be enough for diverse responses. Focus Group Discussion (FGD), on the other hand, would have helped to get more detailed responses from more than 3 healthcare workers in the entire Dekina Local Government Area.
2. Again, the purposive sampling technique as adopted in part of the study is not the best and most appropriate for a study of this nature. Using probability sampling techniques throughout would have made the findings of this study more reliable, generalizable and less biased.

**Conflict of Interests**

The authors declared that they don't have conflict of interests whatsoever regarding this research work.

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**Authors' contributions**

**John Arome Vincent** carried out the research work.
**Edime Yunusa, MSc** analysed parts of the data
**Prof. Ada Okau** supervised the research work.
All authors proofread and approved the final manuscript.

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