

Socio-Economic Factors and Utilization of Primary Healthcare Services in Keffi Local Government Area, Nasarawa State, Nigeria



Danjuma Peninnah AGWAI¹, Dorothy Akpovye BAGE-JOHN, PhD²

^{1,2} Department of Sociology, Faculty of Social Sciences, Federal University of Lafia, Nasarawa State, Nigeria

ABSTRACT: Access to primary healthcare services is a fundamental right and a crucial determinant of overall population health. Primary healthcare represents the first point of contact for individuals seeking preventive care, diagnosis, treatment, and health education. However, the utilization of these essential services is not uniform across all segments of society, as various socio-economic factors play a significant role in influencing an individual's ability to access and effectively utilize primary healthcare services. Therefore, this study examined socio-economic factors and the utilization of primary health care services in Keffi Local Government Area of Nasarawa state, Nigeria. The study objectives were; to find out the primary health care services available for residents of Keffi LGA, to examine individuals' income level and utilization of primary health care services and to ascertain the influence of individual level of education and utilization of primary health care services in Keffi LGA, Nasarawa state, Nigeria. The study adopted social determinants of health and behavioural theory of health care use to explain the socio-economic factors and utilization of primary healthcare services. A descriptive survey design was adopted, questionnaire and interview were used to gather data from 410 selected respondents through Multi-stage sampling technique. Hypothesis were analysed using Pearson Moment Product correlation and regression analysis with reliability of 0.5. The study found that within the study area, primary healthcare facility are available and accessible to the people. And income and educational level influencing the utilization of primary health care services. The study recommended the need to ensure adequate staffing of primary care facilities with general practitioners, nurses, and other healthcare professionals to meet the growing demand for services and the need to develop educational programs and campaigns specifically targeted at individuals with lower levels of education to increase their awareness and understanding of the importance of preventive care and timely access to primary healthcare services.

INTRODUCTION

Globally, utilization of healthcare is a complex phenomenon influenced by several factors, and access to primary healthcare services is a fundamental aspect of ensuring the well-being and health of individuals and communities. However, the utilization of these services is influenced by various socio-economic factors that can either facilitate or hinder individuals' ability to seek and utilize appropriate healthcare. A nation's development depends on the health status of its people and health is a basic human right of everybody. Decision-making around health is a personal, complex matter that draws not only on the status of one's health at that point in time; but socio-economic aspects that influence the individual's thought process and approach to managing their health (Okpokoro, 2014).

The United Nations views socio-economic status (SES), as well as health status as important factors in determining well-being (Ardington & Case, 2006). Socio-economic status is used to describe an individual's "status" or social standing and the three most commonly used measures in contemporary industrialised societies are income, education and occupation (Grundy & Holt, 2001). Primary health care is a whole-of-society approach to effectively organize and strengthen national health systems to bring services for health and wellbeing closer to communities (Bindman & Osmond, 2015). More so, Primary Health Care (PHC) is at the core of the Nigeria's health system and key to providing basic health services to the people with their full participation (Adam & Awunor, 2015). The principles of primary health care allow individuals and groups particularly rural communities active participation in planning, implementing, monitoring and evaluating health interventions. Primary healthcare enables health systems to support person's health needs, from health promotion, to disease prevention, treatment, rehabilitation, palliative care and more. This strategy also ensures that health care is delivered in a way that is centred on people's needs and respects their preferences (Babalola & Fatusi, 2019).

Socio-Economic Factors and Utilization of Primary Healthcare Services in Keffi Local Government Area, Nasarawa State, Nigeria

The utilization of primary healthcare services is influenced by a complex interplay of socio-economic factors on a global scale. Access to and utilization of these services are critical for promoting population health, preventing diseases, and addressing healthcare needs at the community level. However, disparities in healthcare utilization persist, with socio-economic factors playing a significant role in shaping individuals' ability to seek and utilize primary healthcare services worldwide.

In the United States of America, despite significant investments to improve access to high-quality health care, health inequities in the United States persist by race, ethnicity, sexual orientation, gender identity, and disability, as well as by economic and community level factors such as geographic location, poverty status, and employment (Di, 2020). In many areas occupied by the blacks in America, the challenges with the utilization of primary health services were long hours before seeing a medical professional and high cost of health care (Raatikainen, Heiskanen & Heinonen, 2017). More than 45% of American adults say it is difficult to afford health care, more than 40% have medical debt (World Health Organization, 2021).

In Asia countries such as China, using primary healthcare is a crucial part of getting access to healthcare. Studies conducted by Ye, Yoshida and Sakamoto (2019) shows that racism is a major determinant in accessing basic health in many areas. Also, immigrants have lower rates of health insurance and less use of health care resources than local populations. Institutional barriers to access include lack of cultural understanding, lack of open access or community clinics, and failure to integrate care with other support organizations. Primary health care is mainly provided by community health service centres, with the large number of medical needs caused by huge aging populations, one of the proposed solutions is to set up elderly support systems in the community health centres (WHO, 2021).

In many Africa countries, such as Ethiopia, Egypt, Lesotho, Kenya and Equatorial Guinea, Primary health care (PHC) is a critical aspect of healthcare delivery, as it serves as the first point of contact between individuals and the healthcare system. Despite efforts to improve healthcare delivery in Africa, there are still several challenges that affect the effectiveness and utilization of primary healthcare in the region. In a study by Magadi (2019) it was revealed that many individuals in Africa live in rural or hard-to-reach areas, which makes it difficult for them to access primary healthcare services, this is exacerbated by a shortage of healthcare facilities, healthcare workers, and inadequate transportation infrastructure. Similarly, World Health Organisation (2017) reported that in many cases, some people have limited resources to fund healthcare services, which makes it difficult to provide high-quality care to patients. Majority of the developing countries are still lagging behind in utilization of health care. According to United Nations Population Fund (2018) the healthcare services in Tanzania, Ghana, Kenya, and South Africa leaves those people with low income with high burden of illness.

Nigeria, as one of the most populous countries in Africa, faces significant challenges in ensuring access to and utilization of primary healthcare services across its diverse population, the utilization of these essential healthcare services remains suboptimal, with socio-economic factors serving as significant barriers to access and utilization. Nigeria's high poverty rate, with approximately 40% of the population living below the national poverty line (World Bank, 2022), is a major obstacle to accessing primary healthcare services. Low-income households often face financial constraints that limit their ability to seek preventive care, diagnostic tests, or treatment, even when services are available. Also, Shaikh and Hatcher (2021), maintained that education is another critical socio-economic factor that affects healthcare utilization in Nigeria. Limited education opportunities and low literacy rates contribute to poor health literacy, impacting individuals' understanding of preventive care and the importance of primary healthcare services. Low health literacy can result in delayed or inadequate healthcare seeking behaviours, leading to increased disease burden and poorer health outcomes.

Keffi L.G.A is a vibrant town with a growing population and diverse healthcare needs. The primary healthcare services in Keffi L.G.A are designed to address the healthcare needs of the local residents, focusing on preventive, promotive, curative, and rehabilitative services. The primary healthcare system in Keffi is built upon the principles of equity, accessibility, and community participation. It aims to ensure that healthcare services are available, affordable, and appropriate for all individuals, regardless of their socio-economic background or geographical location. Salaudeen, Musa and Bello (2021), observed that socio-economic factors such as income level, illiteracy and absence of health insurance negatively influences primary health care service delivery and utilization in Keffi LGA. Therefore, this study will investigate the effects and relationships that exists between these socio economic factors and the utilization of primary healthcare facilities in Keffi LGA, Nasarawa State, Nigeria.

STATEMENT OF THE PROBLEM

Nigeria, with a population of 213.4 million, has life expectancy of 60 years for males and 64 years females in 2022, it has an infant mortality rate of 38.52 deaths per 1,000 live births and a maternal mortality rate of 48.5 deaths per 1,000 live births. Nigeria is currently a Lower Middle Income Country (LMIC) with an average per capita income of \$2,184 as at 2022 (NPC, 2021). Onwujekwe and Uzochukwu (2018), highlighted the importance of socio-economic factors in healthcare service utilization related outcomes. Although healthcare seeking behaviour is considered to be driven to a great extent by perceived need of care and health literacy, the critical role of one's financial capacity to medical services cannot be overestimated especially in a low-income

Socio-Economic Factors and Utilization of Primary Healthcare Services in Keffi Local Government Area, Nasarawa State, Nigeria

country like Nigeria, where there is no universal healthcare system to safeguard the health needs of the disadvantaged communities.

Primary Health Care (PHC) is at the core of the Nigerian health system and key to providing basic health services to the people with their full participation. Despite the recognition health has received and the substantial fund pumped to health care delivery at the Local Government Areas, health care delivery is yet to be satisfactory and adequate (Ibrahim & Ibrahim, 2018). Leading to poor utilization of primary health care services, the causes of low utilization of primary health care services are numerous and multifaceted base on locality. So many economic factors have been identified by Al-Ghanim (2014) to undermine the utilization of primary health care services such as individual income level, level of education and unemployment. Baschien and Clements (2020) in their study further identified social support and insecurity as a factor determining the utilization of primary health care services.

In a survey conducted by Otieno & Macharia (2018) in Homa Bay County Kenya on the factors that affect utilization of health care services in the area, the study revealed that income and earning of individual determine access to health care services, they further buttressed that health financing is another factor that affect the health seeking behaviour of the people living in the County. Similarly, Katung (2019) identified high cost of drugs as the main determinants of utilization of health care services in some rural communities in Nigeria. Also, the unbalanced distribution of social determinants of health such as income, housing, healthy environment, employment as well as the limited accessibility, affordability and availability of essential health services have led to widening health inequities between the high and low socioeconomic communities (Babalola & Fatusi, 2019). The low cost of access to primary health centres increases healthcare utilization, the findings shows that in Tanzania, the introduction of cost-sharing increased hospital attendance (Mushi, 2019), it is not certain if cost sharing exist in Keffi LGA, thus the essence of this study. Furthermore, World health organization (2019) reported that poverty and unable to afford medical fees have been an obstacle for the poor in accessing healthcare services, in Tanzania and Zambia where medical fees were reduced to enhance accessibility to healthcare services. Ibrahim and Ibrahim, (2018) noted that access to better primary healthcare may have the greatest impact on health in communities with the strongest levels of income disparity. From the findings above, it is not certain if individual income level poses a challenge in utilizing primary healthcare services in Keffi LGA of Nasarawa, which prompted the need for this study.

In a study conducted by Herndon, Chaney and Carden (2019), it was revealed that individual level of education has been considered an important factor with regard to individual health behaviours and health outcomes. This confirms a study conducted by Mahoney, Tawfik-Sexton, Strassle, Farrell and Duke (2018) they repeatedly reported that individual with poor education may be unable to adequately understand and utilize health information in a way that protects and improves their health; they thus have lower health status and lower adherence to medical treatment. In a contrary opinion, Boyle, Speroff and Worley (2017) report suggested that individual with high level of education is associated with increased hospitalization and emergency room visits. It is not certain if individual level of education affects utilization of healthcare in Keffi LGA, Nasarawa State, therefore this study will find out. Study by Ibrahim and Ibrahim (2018) have identified an association between individual level of education and health-care utilization; however, those investigations mainly assessed functional health literacy in terms of basic reading and writing skills in the developed countries. In Keffi LGA, it currently remains uncertain whether individual level of education is associated with primary healthcare utilization in a general population. American Medical Association (2019) recognized illiteracy as a stronger predictor of poor health than age, income, employment status, education level, or race. Similarly, Baker, Parker, Williams and Clark (2017) found that people with inadequate level of education often have difficulty understanding prescription labels, participating in medical decisions, following medical recommendations, and attending their follow-up appointments. In a study conducted by Kripalani, Jacobson and Mugalla (2020) in Ghana central district hospital, it was reported that individuals with inadequate level of education often struggle with poor self-care behaviours, receive fewer preventive measures, and have increased all-cause mortality, it is not certain if this is the case in Keffi, therefore the need for this study. Also Williams, Parker, Baker, Parikh, Pitkin and Coates (2015) showed that a quarter of the patients visiting the emergency department had inadequate level of education, and one-third did not understand how many pills should be taken in their prescription. It currently remains uncertain whether these issues on level of education and access to health care mentioned above is applicable to people in Keffi LGA, therefore the essence of this study. Generally, inadequate level of education affects the use of health services and impacts patient satisfaction and the physician patient relationship. Generally, it is not certain how socio-economic factors such as availability, income and level of education contribute to health disparities in Keffi L.G.A. Therefore, this study seeks to examine the socio economic factors that influence the utilization of primary health care services in Keffi LGA, Nasarawa state, Nigeria.

RESEARCH QUESTIONS

The study was guided by the following research questions;

1. Is primary health care service available for residents of Keffi LGA, Nasarawa State, Nigeria?

Socio-Economic Factors and Utilization of Primary Healthcare Services in Keffi Local Government Area, Nasarawa State, Nigeria

1. How do income levels determine utilization of primary health care services in Keffi LGA, Nasarawa State, Nigeria?
2. In what ways does level of education affect utilization of primary health care services in Keffi LGA, Nasarawa state, Nigeria?

RESEARCH OBJECTIVES

The broad objective of this study is to examine socio-economic factors that affect the utilization of primary healthcare services in Keffi local government area of Nasarawa state Nigeria.

Specifically, the objectives of the research will be to:

1. Identify primary healthcare services available for residents of Keffi LGA, Nasarawa State, Nigeria.
2. Examine income level and utilization of primary health care services in Keffi LGA Nasarawa State, Nigeria.
3. Ascertain the influence of level of education and utilization of primary health care services in Keffi LGA, Nasarawa state, Nigeria.

RESEARCH HYPOTHESES

Hypotheses one

H₀: There is no significant relationship between income level and utilization of primary health care services in Keffi L.G.A, Nasarawa state, Nigeria.

H₁: There is a significant relationship between income level and utilization of primary health care services in Keffi L.G.A, Nasarawa state, Nigeria.

Hypotheses two

H₀: Level of education has no significant effect on utilization of primary health care services in Keffi LGA, Nasarawa state, Nigeria.

H₁: Level of education has a significant effect on utilization of primary health care services in Keffi LGA, Nasarawa state, Nigeria.

Theoretical Framework

There are various theories/models that are developed to explain the issue of health in society, however, this study utilized the Social Determinants of Health (SDH) theory and behavioural theory of health care use.

Social Determinants of Health (SDH) theory

One of the prominent proponents of the Social Determinants of Health (SDH) theory is Sir Michael Marmot, a renowned epidemiologist and public health researcher in 20th century. Sir Michael Marmot is best known for his extensive research on health inequalities and the social determinants of health. Marmot's work, particularly his ground-breaking report titled "Fair Society, Healthy Lives" (also known as the Marmot Review), highlights the importance of addressing social and economic factors to promote better health outcomes and reduce health disparities (Watt, 2002). In his research, Marmot emphasizes that health inequities are not simply a result of genetic or individual lifestyle factors but are strongly influenced by the social, economic, and environmental conditions in which people live and work (Exworthy, 2008).

The SDH theory posits that various social factors, such as socioeconomic status, education, employment, housing, and access to healthcare, significantly impact health outcomes. It emphasizes that health disparities and inequities are rooted in broader social structures and systems. According to the SDH theory, individuals' health is shaped by the conditions in which they are born, grow, live, work, and age. These social determinants can either promote or hinder health and access to healthcare services. For example, individuals with higher socioeconomic status tend to have better access to quality healthcare, education, and resources that support healthy behaviours, leading to improved health outcomes (Zaboli, Malmoon, Seyedjavadi & Seyedin, 2014).

Conversely, individuals from disadvantaged backgrounds, facing poverty, limited education, discrimination, or unstable housing, often experience poorer health outcomes and reduced access to healthcare services. This theory recognizes that addressing health inequities requires addressing the underlying social determinants that contribute to them. By understanding and addressing the social determinants of health, policymakers, healthcare providers, and communities can work towards reducing health disparities and promoting health equity. This may involve implementing policies to reduce poverty, improve educational opportunities, create safer and healthier environments, and ensure equitable access to healthcare services (Solar & Irwin, 2010).

Moreover, the SDH theory emphasizes the importance of interdisciplinary collaboration and community engagement in addressing social determinants. It encourages partnerships between healthcare systems, government agencies, community organizations, and other stakeholders to develop comprehensive strategies that address the social factors that influence health (Brunner & Marmot, 1999).

While the Social Determinants of Health (SDH) theory has gained widespread recognition and acceptance in public health and healthcare, it is not without its criticisms. Critics argue that the SDH theory may sometimes oversimplify complex health issues by

Socio-Economic Factors and Utilization of Primary Healthcare Services in Keffi Local Government Area, Nasarawa State, Nigeria

focusing primarily on social factors while neglecting biological and individual-level determinants of health. This narrow focus can sometimes downplay the role of genetics, personal choices, and healthcare access in determining health outcomes (Brennan & Baker, 2008). Another critics contend that the SDH theory may lack specific guidance on how to effectively address social determinants to improve health outcomes. While the theory highlights the importance of social factors, implementing interventions and policies to address these determinants effectively can be challenging and require a more nuanced approach (Bayati, Akbariyan, Kavosi & Delavari, 2012). Despite these criticisms, the Social Determinants of Health theory remains a valuable framework for understanding health care utilization and guiding efforts to address the underlying social and economic factors that contribute to disparities in health outcomes.

In summary, the Social Determinants of Health theory highlights the strong influence of socio-economic factors on the utilization of primary healthcare services. By understanding the impact of income, education, occupation, and social status, healthcare organizations and policymakers can work towards reducing disparities, promoting equitable access, and improving healthcare utilization for all individuals, regardless of their socio-economic background.

Behavioural Theory of Health Care Use

This study adopted the behavioural theory of health care utilization by Anderson and Newman (1973). The theory specifies factors that determine health care utilization by individual households. The theory also categorized these health care utilization factors or health seeking behaviour into: predisposing, enabling and need factors. Anderson proposes that these factors are responsible for health care utilization. The breakdowns of these factors are briefly explained below:

Predisposing Factor: Anderson proposes that the actual behaviour to seeking health care services is based on conditional and sequential function of and person's predisposition to use the service. These predisposing factors refer to demographic characteristics (age and sex) and social factors (Education of parents, occupation, religion, ethnicity, marital status, place of residence, parental values concerning health and attitudes towards healthcare services).

Enabling Factors: enabling factors refers to the ability of an individual to obtain or pay for health care services (financial and organization factors). It also involves individual's knowledge about other health care access like insurance available to them. Enabling factors refers to family and individual resources (wealth index, material possession and extent of social relations) and community factors (proximity to health facility, quality and ratio of health care workers in relation to populace in the region and health care facility to the rate of services demanded).

Need Factors: the need factors refer to the perceived need by an individual to use primary healthcare service. These factors include: general assessment of individual's health condition and child perceived illness level. It refers to how people view and experience their general health, functionality state, illness and evaluated need (Babitsch, Gohi & Lengerke, 2012). It is important to note that both predisposing and enabling factors are important determinants of primary health care utilization, but not sufficient condition for utilization. Actual health care utilization is triggered by health condition (illness level and how is perceive). This study seeks to examine the extent to which these factors (predisposing and enabling) influences individual primary health care use/ health seeking behaviour.

The Behavioural Model of Health Services use suggests that individuals make rational decisions about seeking healthcare based on their predisposing characteristics, enabling resources, and perceived need for care. The model also considers external factors, such as the healthcare system and policy environment. This model has been widely used in health services research to understand patterns of healthcare utilization, identify disparities, and inform the development of interventions to improve access to care. It emphasizes the importance of addressing not only health needs but also the broader social, economic, and behavioural determinants that influence how individuals interact with the healthcare system.

While the Behavioural Theory of Health Care use offers valuable insights into understanding individuals' behaviours and decision-making processes regarding health care utilization, it is not without criticism. Critics argue that the Behavioural Theory of Health Care use places too much emphasis on individual responsibility for health care decisions. It may overlook the broader societal and structural factors that influence health care utilization, such as systemic barriers, social determinants of health, and unequal distribution of resources (Zajacova & Lawrence, 2018). Also, the theory assumes that individuals can easily modify their behaviours and make rational choices based on perceived benefits and barriers. However, critics argue that behaviour change is complex and influenced by various psychological, social, and environmental factors that may not be adequately addressed by the theory (French, Cooper & Weinman, 2006).

The theory and model employed in the study will be embraced since each explains socioeconomic characteristics and the usage of primary healthcare services and fills gaps in the others. While the Social Determinants of Health (SDH) theory emphasize that health outcomes and access to healthcare services are influenced by broader social and economic factors beyond individual

Socio-Economic Factors and Utilization of Primary Healthcare Services in Keffi Local Government Area, Nasarawa State, Nigeria

behaviours or healthcare system factors alone. The SDH theory highlights that individuals' health and their utilization of healthcare services are shaped by the conditions in which they live, work, and exist.

The behavioural theory of health care use on the other hand emphasizes that individuals' utilization of health care services is not solely determined by their need for care or the availability of services. Instead, it focuses on the psychological and social factors that shape individuals' health care-seeking behaviours. The theory and models used in the study are important for the study and will all be adopted as each explains utilization of primary health care services and covers for limitations of the others.

METHODOLOGY

This study adopted a descriptive survey research design. The survey design was adopted because it can ease the process of accessing primary data from a sample out of a large population without bias. Descriptive survey research also enables the researcher to access information on the same variable about each respondent and also ensures that the research questions are easily answered. Survey design is also found suitable for this study because it can be used to collect data from a large population and such data can be used for generalization on the entire population. This saves time and also minimizes cost. Questionnaire was used to collect quantitative data, while interview was used for qualitative data collection.

This study was carried out in Keffi Local Government Area, its headquarters is in the town of Keffi. Keffi LGA occupies a total area of 138 square kilometres and has an average temperature of 30 degrees centigrade. The area witnesses two major seasons which are the dry and the rainy seasons while the average humidity level in the L.G.A is put at 42 percent. Keffi consists of several districts which include Ganta, Fagidi, Dan Dabi, Jigwada, Saura, Kaibo Mada, Tunayi, and Tila. The estimated population projection of Keffi LGA according to National Bureau of Statistics (2023) is put at 759,542 inhabitants with the vast majority of the area's populace made up of member of the Gwandara ethnic group. The Gwandara language is widely spoken in the LGA while the religions of Islam and Christianity are commonly practiced in the area (Sufiyan, 2020).

Keffi Local Government consists of ten council wards which are: Angrimi, Angwan Iya I, Angwan Iya II, Gangare Tudu, Jigwada, Keffi Town East / Kofar Goriya, Liman Abaji, Sabon Gari, Tudun Kofa T.V and Yara. Those settling in the area include the Eggon, kworo Hausas, Ibos, Tiv among others. A number of mineral deposits are found in Keffi LGA and these include Tin and Columbite. Farming is also a key economic activity in the area with crops such as millet, sorghum, yams, and cotton grown in the area. Trade also flourishes in Keffi LGA with the area hosting several markets such as the Keffi cattle market which attracts hundreds of buyers and sellers. Other important economic activities undertaken by the people of Keffi LGA include animal rearing and craftsmanship. Keffi also hosts a number of banks, hotels and institutions both privately and publicly owned.

Keffi L.G.A has a number of notable landmarks which include the Nasarawa state University and the Federal Medical Centre, Keffi. Keffi Local Government have forty nine (49) public primary health facilities distributed in different locations in the Local Government council wards as well as other private health facilities operating in the communities.

This study was carried out in Keffi Local Government area of Nasarawa State. Geographically Keffi Local Government has an estimated population of 759,542 people. The target population of this study comprised all adult men and women who reside in Keffi Local Government Areas of Nasarawa State. The adult population of Keffi LGA, according to National Bureau of Statistics projection in 2023 is 498, 334 (National Bureau of Statistics, 2023). It includes men and women, with diverse occupations, such as civil servants, traders, farmers, artisans, and the unemployed. The population comprised of people from diverse walks of life, the educated and the uneducated, Christians, Moslems, and traditionalists. These people are from different age groups with different and similar interests in many aspects of life, and can provide adequate information regarding to socio-economic factors affecting the utilization of primary health care services in Keffi Local Government Area of Nasarawa state, Nigeria.

For this study, Yamane (1967) formula for sample size determination was used to determine the sample size. The Yamane sample size was used to determine the sample size for the study because the adult population of Keffi LGA is well defined and known. Yamane (1967) suggested the following formula for the determination of the appropriate sample size for a finite population.

Thus, see the formula below

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

Where:

n = sample size

N = Total population

(e)² = Margin of error (0.05)

1 = Unity (a constant)

Where:

N = 498, 334

(e)² = 0.05%

Socio-Economic Factors and Utilization of Primary Healthcare Services in Keffi Local Government Area, Nasarawa State, Nigeria

$$n = ?$$

Therefore

$$n = \frac{498,334}{1 + 498,334 (0.05)^2}$$

$$n = \frac{498,334}{1 + 498,334 \times 0.025}$$

$$n = \frac{498,334}{498,335 \times 0.025}$$

$$n = \frac{498,334}{12,458}$$

$$n = 400$$

Therefore, the sample size for this study is 400.

Multi-stage sampling technique was used for the study, which was initiated by an intentional selection of Keffi Local Government Area being the study area. The study area is made up of ten (10) political wards and the researcher intend to sample five (5) wards using simple random sampling in order to confidentially draw conclusions from the sample. Using fish bowl method, the names of all the wards was written on a piece of paper squeezed and dropped in a basket, the papers were well mixed and five (5) papers were randomly picked, the picked papers represents the study area. Proportional sampling technique was used to determine the sample size or number of respondents in each political ward. The primary health care enumeration register was adopted as the sample frame and was used in the selection of household.

Bowley's proportional method was used to determine the number of questionnaires that were distributed to the selected political wards. It means that the sample size of each selected wards were not proportionate to the population of the all the political ward.

Bowley's formulae for the strata sample size is:

$$n_h = n \frac{N_h}{N}$$

Where n=sample size,

n_{NH}= population of a strata

N=total population.

Table 1: Selected political wards for questionnaire distribution

S/N	Political Wards	Population	Size	Total
1.	Angwan Iya I	36,401	$\frac{400 \times 36,401}{186,144} = \frac{14560400}{186,144}$	78
2.	Sabon Gari	53,221	$\frac{400 \times 53,221}{186,144} = \frac{21288400}{186,144}$	115
3.	Jigwada	28,442	$\frac{400 \times 28,442}{186,144} = \frac{11376800}{186,144}$	61
4.	Keffi Town East	41,932	$\frac{400 \times 41,932}{186,144} = \frac{16772800}{186,144}$	90
5.	Liman Abaji	26,148	$\frac{400 \times 26,148}{186,144} = \frac{10459200}{186,144}$	56
	Total	186,144		400

Source: Authors compilation (2024)

From the above calculation, each selected political ward has a questionnaire distribution size based on its population size and they are as follow; Angwan Iya I (78), Sabon Gari (115), Jigwada (61), Keffi Town East (90) and Liman Abaji (56). This gives a total of 400 respondents which characterize the total sample size selected for this study.

Primary data for this study was obtained using both quantitative and qualitative techniques. Questionnaire and In-depth Interviews (IDIs) was used to generate data for the study. The questionnaire was the major instrument for collecting the quantitative data for the study. The questionnaire is an instrument used for data collection that is associated with survey research. Questions on a questionnaire are usually developed to conform to a specific format. For this study the questionnaire were semi-structured and was designed to contain both open and closed ended questions. The questionnaire was divided into different sections. The first section was designed to contain questions on the socio-demographic information of the respondents; subsequent sections focused on questions covering the three (3) objectives of the study.

For the In-depth Interview (IDI), a purposive sampling method was used to select two respondents from the each selected ward. In-depth Interview (IDI) guide containing open ended questions was used to interview healthcare workers who are men and women that have strong opinion regarding primary health care utilization in the study area.

Socio-Economic Factors and Utilization of Primary Healthcare Services in Keffi Local Government Area, Nasarawa State, Nigeria

Copies of the questionnaire were distributed to respondents to fill and return them immediately, that is on spot delivery and recovery. Three trained research assistants from the study area were employed to help in the data collection. The assistants were thoroughly trained to ensure that they properly understand the purpose of the study and the nature of instruments that was used and its response patterns. The researcher and the assistants were on ground to guide those who may find it difficult to read or understand the questionnaire.

This study employed both quantitative and qualitative method of data analysis. The quantitative data that were generated was sorted out, manually cleaned, coded and then was entered into the computer software using Statistical Package for Social Sciences (SPSS) software version 23.0. With the aid of the SPSS software, analysis involving descriptive statistics was carried out using frequencies and percentages. For the inferential statistic, test of association for the independent categorical variables was carried out through bivariate analysis using Pearson's Chi-square test at 95% confidence interval. The results obtained were presented in tables.

The qualitative data that was generated for the study were transcribed and subjected to manual content analysis. Emphasis was on interpretations that captured the main objectives of the study from respondent's explanations and descriptions in recordings and writings.

DATA PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS

This chapter deals with the presentation of data collected from the field research. The objective of the research was to examine socio-economic factors that affect the utilization of primary healthcare services in Keffi local government area of Nasarawa state Nigeria. Four hundred (400) questionnaire were distributed to the respondents, but only three hundred and sixty nine (369) were retrieved and used for the analysis to arrive at a comprehensive study of socio-economic factors that affect the utilization of primary healthcare services in Keffi local government area of Nasarawa state Nigeria.

4.1 Socio- Demographic Attributes of Respondents

Table 2 shows the Socio- demographic attributes of respondents such as sex, age, marital status, occupation, level of education and religion.

Table 4.1: Distribution of respondents by Socio- Demographic characterises

Variables	Frequency	Percentage%	X	SD
Sex				
Male	151	40.9		
Female	218	59.1		
Total	369	100		
Age				
18-26	59	16.0	48.74	19.78
27-34	56	15.2		
35-43	159	43.1		
44-52	44	11.9		
53 and above	51	13.8		
Total	369	100		
Marital Status				
Single	122	33.1		
Married	197	53.4		
Separated	11	3.0		
Divorced	30	8.1		
Widowed	9	2.4		
Total	369	100		
Occupation				
Farming	111	30.1		
Trading	101	27.4		
Public Employed	77	20.9		
Private Employed	80	21.7		
Total	369	100		
Level of Education				

Socio-Economic Factors and Utilization of Primary Healthcare Services in Keffi Local Government Area, Nasarawa State, Nigeria

Non formal	58	15.7		
Primary	147	39.8		
Secondary	115	31.2		
Tertiary	49	13.3		
Total	369	100		
Religion				
Christianity	182	49.3		
Islam	164	44.4		
Africa Religion	23	6.2		
Total	369	100		
Location				
Urban	152	41.2		
Rural	217	58.8		
Total	369	100		
Income				
Less than 30,000	123	33.3		
30,001-40,000	41	11.1		
40,001-50,000	20	5.4		
50,001-60,000	26	7.0		
60,001 and above	159	43.1		
Total	369	100		

Source: Field work, 2024

Table 2 shows the distribution of respondents by sex. Majority of the respondents 59.1% were female, while 40.9% were male. This demonstrates that the majority of the respondents were female. This is likely related to the fact that women are more likely to use PHC services during and after pregnancy with their children, and thus may be willing to participate in the study. The age distribution of the respondents revealed that the majority of respondents 43.1% were between the ages of 35 and 43 years, followed by 16% between the ages of 18 and 26 years, 15.2% between the ages of 27 and 34 years, 13.8% between the ages of 53 and above, and 43.1% between the ages of 44 and 52. This suggests that the majority of responses are between the ages of 35 and 43 years. This demonstrates that the majority of respondents are of reproductive age and may visit and use PHC services more frequently than others.

Regarding respondents' marital status, table 4.1 above shows that 53.4% were married, 33.1% were single, 8.1% were widowed, 3% were separated, and 2.4% were divorced. Married people were readily available at the time of this study, and they have a greater direct impact on the use of PHC services in the study area.

Table 2 shows that 30.1% of respondents were farmers, 27.4% were traders, 21.7% were privately employed, and 20.9% were publicly employed. It is obvious that the majority of respondents in the study area are farmers; this could be due to the fact that the majority of respondents live in rural areas and their primary occupation is agriculture. According to the respondents' educational backgrounds, 39.8% have a primary school certificate, 31.2% have completed secondary school, 15.7% have non-formal education, and 13.3% have a degree in higher education. As a result, respondents having a primary school certificate in the study area make up the largest proportion of the sample. This clearly indicates that the majority of respondents are not particularly academically educated, but they can still make a significant contribution by providing important information on socioeconomic factors influencing the use of primary health care services in the area of study.

On religion, majority 49.3% of the respondents were Christians, 44.4% were Muslims, while those who were affiliated to African traditional religion accounted for 6.2%. On the location of residence of the respondents, majority 58.8% live in rural settlement and 41.2% live in urban area. The income of the respondents as shown in table 4.1 above, suggests a fairly wide range of incomes among the respondents, with the largest group earning a relatively high income of 60,000 naira and above, but also a sizable portion 33.3% earning a lower income of less than 30,000 naira. The middle income brackets between 30,001-60,000 naira account for a smaller proportion of the respondents. Overall, the income distribution appears to be skewed towards the higher end, with the majority earning 60,000 naira or more.

Socio-Economic Factors and Utilization of Primary Healthcare Services in Keffi Local Government Area, Nasarawa State, Nigeria

Assessment on utilization of primary healthcare services

Table 3: Respondent rating on utilization of primary healthcare services

Utilization of PHCs	Frequency	Percentage
High	105	28.5
Average	182	49.3
Poor	82	22.2
Total	369	100.0

Source: Field work, 2024

The majority of respondents 49.3% reported an "Average" level of utilization of primary healthcare services. A significant portion 28.5% reported "High" utilization of PHCs. A smaller but still notable share 22.2% reported "Poor" utilization of PHCs.

Overall, the data suggests that primary healthcare services are being utilized by the majority of respondents, with about half reporting average usage and over a quarter reporting high usage. However, there is still room for improvement, as over one-fifth of respondents reported poor utilization of these services. The data provides a snapshot of primary healthcare service usage among the surveyed population.

Availability of primary healthcare services

Table 4: Distribution of respondents according to availability of primary healthcare services

Statement	Yes	No	Not sure
Is there any primary healthcare facility in your location?	258 (77.2%)	59 (16.0%)	25 (6.8%)
Do you know the exact location of primary healthcare centre in your community?	282 (76.4%)	59 (16.0%)	26 (7.6%)
Are there sufficient healthcare professionals providing primary healthcare services in your area?	205 (55.6%)	130 (35.2%)	34 (9.2%)
Are primary healthcare services available during evenings and weekends?	238 (64.5%)	106 (28.7%)	25 (6.8%)
Are preventive services, such as vaccinations and screenings, readily available through primary healthcare?	161 (43.6%)	120 (32.5%)	88 (23.8%)
Are primary healthcare services adequately equipped with medical supplies and equipment?	148 (40.1%)	88 (23.8%)	133 (36.0%)
Primary healthcare facilities in your area offer comprehensive services, including diagnosis, treatment, and management of common health conditions	198 (53.7%)	89 (24.1%)	82 (22.2%)
Do you have access to primary healthcare services within a reasonable distance from your residence?	257 (69.6%)	64 (17.3%)	48 (13.0%)

Source: Field work 2024

Table 4 above interrogated availability of primary healthcare services, the study revealed that, majority 77.2% of the respondents agreed that there are primary healthcare facility in their location, 16.0% disagreed, while 6.8% were not sure. Respondents were asked if they know the exact location of primary healthcare centre in their community, majority of the respondents 76.4% knows, 16.0% does not know while 7.6% were not sure. More than half of the respondents 55.6% indicated that there are sufficient healthcare professionals, 35.2% felt that there are not enough healthcare professionals, while 9.2% were unsure or did not have an opinion on the matter. This could imply effective recruitment and retention strategies in the healthcare sector.

The data provided reflects responses to a survey question about the availability of primary healthcare services during evenings and weekends, majority 64.5% indicated that primary healthcare services are available during evenings and weekends, 28.7% indicated that such services are not available during these times and 6.8% were unsure or did not have an opinion on the matter. Furthermore, Majority 43.6% indicated that preventive services are readily available through primary healthcare, 32.5% indicated

Socio-Economic Factors and Utilization of Primary Healthcare Services in Keffi Local Government Area, Nasarawa State, Nigeria

that these services are not readily available while 23.8% were unsure or did not have an opinion on the matter. This finding suggests the need to enhance access, awareness, and utilization of preventive healthcare services, particularly in underserved areas, through a combination of service expansion, public education, and coordinated efforts between various stakeholders.

Also, respondents were asked whether primary healthcare services are adequately equipped with medical supplies and equipment, 40.1% indicated that primary healthcare services are adequately equipped with medical supplies and equipment, 23.8% indicated that these services are not adequately equipped and 36.0% were unsure or did not have an opinion on the matter. Majority of the respondents (53.7%) agreed that primary healthcare facilities in their area offer comprehensive services, including diagnosis, treatment, and management of common health conditions, while 24.1% disagreed and 22.2% were unsure about the question. Lastly, more than two third of the respondents (69.6%) agreed that they have access to primary healthcare services within a reasonable distance from their residence, 17.3% disagreed, while 13% aren't sure. Suggesting that healthcare infrastructure is adequately distributed in these areas. Also, the findings indicate that while geographic access to primary care is reasonably good for the majority, there are still access barriers and awareness gaps that need to be addressed to ensure equitable access to essential healthcare services across the population.

Income level and utilization of primary health care services

Table: 5 Distribution of respondents according to income level and utilization of primary health care services

Statement	Yes	No	Not sure
Higher income level increase the likelihood of utilizing primary healthcare services	243 (65.9%)	106 (28.7%)	20 (5.4%)
Are primary healthcare services more readily available and accessible for those with higher incomes?	331 (89.7%)	25 (6.8%)	13 (3.5%)
Individuals with lower incomes face barriers in accessing primary healthcare services	241 (65.3%)	117 (31.7%)	11 (3.0%)
Income level influence an individual's willingness to pay out-of-pocket for primary healthcare services	243 (65.9%)	108 (29.3%)	18 (4.9%)
Individuals with higher income levels tend to have more regular health check-ups at primary health care facilities	267 (72.4%)	50 (13.6%)	52 (14.1%)
Those with higher incomes have more options and choices when it comes to selecting primary care providers	277 (75.1%)	72 (19.5%)	20 (5.4%)
People with lower incomes tend to delay seeking primary healthcare due to cost concerns	254 (68.8%)	76 (20.6%)	39 (10.6%)

Source: Field work 2024

Table 5 indicates that, majority of the respondents 65.9% indicated that higher income levels increased the likelihood of utilizing primary healthcare services, however 28.7% indicated that higher income levels did not increase the likelihood of utilizing primary healthcare services, while 5.4% of the respondents had a neutral response. Also, majority of the respondents 89.7% indicated that primary healthcare services are more readily available and accessible for those with higher incomes, 6.8% of the respondents indicated that primary healthcare services are not more readily available and accessible for those with higher incomes, while 3.5% had a neutral or undecided response. This indicates that socioeconomic status is a major determinant of one's ability to access essential primary care services. Also, the overwhelming perception of income-based disparities in primary care access suggests an urgent need to address the systemic barriers that prevent lower-income individuals from receiving the care they need. Targeted, patient-centred interventions and continuous monitoring of equity outcomes are crucial steps towards achieving more equitable healthcare for all.

It was revealed and agreed by majority of the respondents 65.3% that individuals with lower incomes face barriers in accessing primary healthcare services, 31.7% disagreed, while 3% were not sure. Majority of the respondents 65.9% agreed that income level influence an individual's willingness to pay out-of-pocket for primary healthcare services, 29.3% disagreed and 4.0% were not sure. Also, respondents were asked if individuals with higher income levels tend to have more regular health check-ups at primary health care facilities, majority 72.4% agreed, 13.6% of the respondents disagreed while 14.1% had no idea. Majority of the respondents revealed that those with higher incomes have more options and choices when it comes to selecting primary care providers, 19.5% disagreed while 5.4% have no idea. Lastly, the study revealed that majority of the respondents 68.8% agreed that

Socio-Economic Factors and Utilization of Primary Healthcare Services in Keffi Local Government Area, Nasarawa State, Nigeria

people with lower incomes tend to delay seeking primary healthcare due to cost concerns, while 20.6% of the respondents disagreed, 10.6% were not sure. This has concerning implications for the health and well-being of lower-income communities. The finding that a majority of respondents perceive cost as a significant barrier to timely primary care access for lower-income populations underscores the urgent need to address the financial and socioeconomic factors that contribute to healthcare inequities. Comprehensive, community-centred solutions are required to ensure equitable access to essential primary healthcare services.

Level of education and utilization of primary health care services

Table: 6 Distribution of respondents according to level of education and utilization of primary health care services

	Yes	No	Not sure
Higher level of education increase the likelihood of utilizing primary healthcare services	177 (48.0%)	119 (32.2%)	73 (19.6%)
Higher level of education enhance an individual's ability to make informed decisions about healthcare	217 (58.8%)	85 (23.0%)	67 (18.2%)
Higher level of education increase an individual's awareness of available primary healthcare services and their benefits	272 (73.7%)	79 (21.4%)	18 (4.9%)
Those with lower education levels face greater challenges in accessing primary care services	123 (33.3%)	205 (55.6%)	41 (11.1%)
Lack of formal education be a barrier to accessing primary health care services	248 (67.2%)	60 (16.3%)	61 (16.5%)
Lower educational attainment negatively impact an individual's understanding of the importance of primary healthcare services	240 (65.0%)	92 (24.9%)	37 (10.0%)

Source: Field work 2024

Table 6 indicates that, majority of the respondents 48.0% agreed that a higher level of education increase the likelihood of utilizing primary healthcare services, 32.2% respondents disagreed, while 19.8% of the respondents were not sure. Also, it was agreed by majority of the respondents 58.8% that higher level of education enhance an individual's ability to make informed decisions about healthcare and utilize primary healthcare services appropriately, 23% disagreed while 18.2% were not sure. It was further revealed and agreed by majority of the respondents 73.7% that a higher level of education increase an individual's awareness of available primary healthcare services and their benefits, 21.4% disagreed, while 4.9% were not sure. This suggest the importance of investing in comprehensive healthcare education and outreach initiatives to empower individuals, particularly those from underserved communities, to better navigate and utilize essential primary care resources.

Also, 55.6% of the respondents disagreed that those with lower education levels do not face greater challenges in accessing primary care services, while 33.3% of the respondents agreed that those with lower education levels face greater challenges in accessing primary care services, and 11.1% of the respondents had a neutral or undecided response. Furthermore, majority of the respondents 67.2% agreed that lack of formal education be a barrier to accessing primary health care services, 16.3% of the respondents disagreed, while 16.5% of the respondents were not sure. Lastly, it was agreed by majority of the respondents 65% that lower educational attainment negatively impact an individual's understanding of the importance of primary healthcare services, 24.9% disagreed 10% were not sure. This has significant implications for equitable access to primary care. Furthermore, this underscores the critical need to prioritize comprehensive, equity-focused education and outreach initiatives to empower all individuals, regardless of their educational background, to access and fully benefit from essential primary care resources.

Test of Hypotheses

Hypothesis One:

H₀: There is no significant relationship between income level and utilization of primary health care services in Keffi L.G.A, Nasarawa state, Nigeria.

H₁: There is significant relationship between income level and utilization of primary health care services in Keffi L.G.A, Nasarawa state, Nigeria.

Socio-Economic Factors and Utilization of Primary Healthcare Services in Keffi Local Government Area, Nasarawa State, Nigeria

Table 7: Mean, Standard deviation and Pearson correlation matrix income level and utilization of primary health care services N = 369

S/N	Variables	Mean	SD	1	2	3	4	5	6	7
1.	Higher income level increase the likelihood of utilizing primary healthcare services	1.40	.590	1						
2.	PHs more readily available and accessible for those with higher incomes	1.14	.436	.083	1					
3.	Individuals with lower incomes face barriers in accessing primary healthcare services	1.38	.543	-.008	.147**	1				
4.	Income level influence an individual's willingness to pay out-of-pocket for PHs	1.39	.580	-.008	-.128*	.076	1			
5.	Individuals with higher income levels tend to have more regular health check-ups	1.42	.726	-.171**	-.131*	-.124*	.032	1		
6.	Those with higher incomes have more options and choices when it comes to selecting primary care providers	1.30	.566	.331**	-.126*	.131*	-.039	-.005	1	
7	People with lower incomes tend to delay seeking primary healthcare due to cost concerns	1.42	.675	-.218**	-.197	-.045	.138**	-.079	-.318*	1

*Correlation is Significant at 0.05 level (2 tailed).

** Correlation is Significant at 0.01 level (2 tailed).

Source: Field work, 2024.

Based on the information provided in the correlation matrix in Table 7, higher income level increases the likelihood of utilizing primary healthcare services: The positive mean value of 1.40 and the lack of a significant negative correlation suggest that higher income levels are associated with increased utilization of primary healthcare services. Primary healthcare services are more readily available and accessible for those with higher incomes: The positive correlation of 0.083 between variables 1 and 2 indicates that higher income levels are related to better availability and accessibility of primary healthcare services.

Individuals with lower incomes face barriers in accessing primary healthcare services: The positive mean value of 1.38 and the lack of a significant negative correlation suggest that lower income levels are associated with facing barriers in accessing primary healthcare services. Income level influences an individual's willingness to pay out-of-pocket for primary healthcare services: The positive mean value of 1.39 and the lack of a significant negative correlation indicate that higher income levels are related to a greater willingness to pay out-of-pocket for primary healthcare services.

Individuals with higher income levels tend to have more regular health check-ups: The negative correlation of -0.171 between variables 1 and 5 suggests that higher income levels are associated with more regular health check-ups. Those with higher incomes have more options and choices when it comes to selecting primary care providers: The positive correlation of 0.331 between variables 1 and 6 indicates that higher income levels are related to having more options and choices in selecting primary care providers. People with lower incomes tend to delay seeking primary healthcare due to cost concerns: The negative correlation of -0.218 between variables 1 and 7 suggests that lower income levels are associated with a tendency to delay seeking primary healthcare due to cost concerns.

Overall, the analysis of the correlation matrix suggests that higher income levels are generally associated with increased utilization of primary healthcare services, better access and availability of services, greater willingness to pay out-of-pocket, more regular health check-ups, and more options and choices in selecting primary care providers. Conversely, lower income levels are associated with facing barriers in accessing primary healthcare services and a tendency to delay seeking care due to cost concerns. Opinions of respondents that participated in the interview revealed that:

I believe that the availability of primary healthcare facilities in my community is crucial for ensuring timely and effective healthcare services. In recent years, I have noticed that there has been an increase in the number of healthcare facilities in my area, which has significantly improved access to healthcare services (**Female, Age, 41; Jigwada ward**).

Socio-Economic Factors and Utilization of Primary Healthcare Services in Keffi Local Government Area, Nasarawa State, Nigeria

On the income level and utilization of PHCs, some respondents assert that:

In our community, the cost of accessing primary healthcare has been a significant concern for many residents. Over the past year, we've seen a steady increase in the out-of-pocket expenses associated with routine doctor visits, preventive care, and basic treatments (**Male, Age, 30; Liman Abaji ward**).

Another respondent asserted that:

In my community, the cost of accessing primary health care is a significant concern. The cost of healthcare services, including doctor visits and prescription medications, is too expensive for many individuals, especially those with lower incomes, leading to delays in seeking medical attention and worsen health issues (**Male, Age, 28; Keffi Town East ward**).

One of the respondent posits that

Yes, there are several initiatives and programs aimed at reducing the financial burden of primary health care. For example, the community services card and the very low cost access scheme by the state government aim to eliminate the barrier of cost in primary healthcare. These programs provide discounted or free healthcare services to eligible individuals. Additionally, some healthcare providers offer sliding scale fees based on income, which has help make healthcare more accessible to those who need it most (**Female, Age, 49; Sabon Gari ward**).

A confirmation by another respondent posited that:

One of the biggest challenges is the cost of prescription medications. Many medications are expensive, and without insurance or financial assistance, it can be difficult for low income individuals to afford them. Another challenge is the cost of doctor visits, especially for those who do not have insurance or a community services card. These costs can add up quickly and make it difficult for low income individuals to access the healthcare services when in need (**Male, Age, 38; Angwan Iya I ward**).

Hypothesis Two:

H₀: Level of education has no significant effect on utilization of primary health care services in Keffi LGA, Nasarawa state, Nigeria

H₁: Level of education has a significant effect on utilization of primary health care services in Keffi LGA, Nasarawa state, Nigeria.

Table 8: Multiple regression analysis of individual level of education and utilization of primary health care services

Model	R	R ²	Adjusted R		Std. Error	
1	.731 ^a	.535	.527		.488	
2	Sources of variance	Sum of square	df	Mean square	F	Sig.
	Regression	99.231	6	16.539	69.346	.000 ^b
	Residual	86.335	362	.238		
	Total	185.566	368			
Independent Variables		Unstandardized Coefficients	Standardized Coefficients	T	Sig.	
		B	Std. Error	Beta		
(Constant)		3.335	.118		28.159	.000
Edu. increase likelihood of utilizing PHCs		-.462	.036	-.504	-12.708	.000
Ability to make informed decisions about PHCs		-.034	.038	-.037	-.891	.373
Awareness of available primary healthcare services		.200	.048	.157	4.173	.000
Face greater challenges in accessing primary care services		-.212	.044	-.188	-4.835	.000
Barrier to accessing primary health care services		-.294	.039	-.316	-7.507	.000
Individual's understanding of the importance of primary healthcare services		.003	.044	.003	.064	.949

Source: Field work 2024

Socio-Economic Factors and Utilization of Primary Healthcare Services in Keffi Local Government Area, Nasarawa State, Nigeria

Based on the provided table Table 8: Multiple regression analysis of individual level of education and utilization of primary health care services), the hypothesis was interpreted. Null Hypothesis (H₀): Individual level of education has no significant effect on utilization of primary health care services in Keffi LGA, Nasarawa state, Nigeria. The regression analysis shows that the model has an R-squared value of 0.535, which means that 53.5% of the variation in the utilization of primary health care services can be explained by the independent variables, including individual level of education. The ANOVA table (Sources of variance) shows an F-value of 69.346 and a corresponding significance level (Sig.) of 0.000, which is less than the commonly used significance level of 0.05. This indicates that the overall model is statistically significant and that at least one of the independent variables has a significant effect on the utilization of primary health care services. Looking at the coefficients table, we can see that the variable "Education increase likelihood of utilizing PHCs" has a standardized coefficient (Beta) of -0.504 and a significance level (Sig.) of 0.000. This suggests that individual level of education has a significant negative effect on the utilization of primary health care services. Based on these results, we can reject the null hypothesis (H₀) and conclude that individual level of education has a significant effect on the utilization of primary health care services in Keffi LGA, Nasarawa state, Nigeria. This assertion is elucidated by a respondent who stated that:

The level of educational attainment has an impact on an individual's utilization of primary healthcare services. In our community, I have observed some distinct trends in this area. Generally speaking, individuals with higher levels of education, such as those with degrees, tend to utilize primary healthcare services more frequently than those with lower levels of education (**Female, Age, 47; Liman Abaji ward**).

Another respondent asserted that:

My education has made me more aware of the importance of preventive care. I regularly schedule annual check-ups, vaccinations, and screenings because I understand their role in early detection and prevention of diseases. This knowledge reduces my reliance on emergency care and helps me manage my health more effectively (**Male, Age, 55; Angwan Iya I ward**).

On examples of situations where health literacy has played a role in healthcare decision-making process, some respondent posited that:

A few years ago, I was prescribed a new medication for managing my blood pressure. Thanks to my health literacy, I was able to thoroughly read and understand the medication instructions, including the dosage, potential side effects, and interactions with other drugs. This knowledge helped me take the medication correctly and avoid any adverse effects (**Female, Age, 67; Sabon Gari ward**).

A confirmation by another respondent posited that:

When it was time to select a health insurance plan, my ability to comprehend the terms and conditions played a significant role. I was able to compare different plans, understand the coverage details, premiums, and out-of-pocket costs, and ultimately choose a plan that best suited my health needs and financial situation (**Male, Age, 53; Jigwada ward**).

Another respondent assert that:

There was a time when I was considering alternative treatments for a chronic condition. My health literacy enabled me to critically evaluate the information I found online and from other sources. I could differentiate between evidence-based recommendations and unsupported claims, which helped me make an informed decision about my treatment options (**Male, Age, 38; Angwan Iya I ward**).

On if individuals with higher levels of health literacy have better access to healthcare services compared to those with lower health literacy levels, some respondents posits that:

There was a time when I was considering alternative treatments for a chronic condition. My health literacy enabled me to critically evaluate the information I found online and from other sources. I could differentiate between evidence-based recommendations and unsupported claims, which helped me make an informed decision about my treatment options (**Female, Age, 39; Keffi Town East ward**).

Another respondent assert that:

Health literacy plays a critical role in accessing healthcare services effectively. Individuals with higher levels of health literacy typically have a better understanding of health information and services, enabling them to navigate the healthcare system more efficiently. This includes knowing how to seek out and understand medical advice, interpret medical forms and prescriptions, and follow treatment plans accurately. They are more likely to engage in preventive health behaviours, attend regular check-ups, and adhere to medical advice, which all contribute to better health outcomes (**Male, Age, 28; Keffi Town East ward**).

DISCUSSION OF FINDINGS

Availability of primary healthcare services

One of the major findings of this study is the examination of primary healthcare services availability to residents in Keffi LGA. The study found that there sufficient healthcare professionals, such as doctors and nurses providing primary healthcare services. This finding is in contrary with the report by the World Health Organization (2022) that many countries around the world are facing shortages of healthcare workers, particularly in primary care settings. A study published in the Bulletin of the World Health Organization found that over 50 countries have critical shortages of doctors, nurses, and midwives, with the shortage being most severe in sub-Saharan Africa (Scheffler, Cometto, Tulenko, Bruckner, Liu, Petros & Campbell, 2018).

Also, the study found that primary healthcare services available during evenings and weekends. This finding is in line with the findings of Glazier, Zagorski & Rayner (2012) that only about half offered any evening or weekend appointments. Availability was lower in smaller practices and rural areas. The authors concluded that expanded access to primary care outside of regular business hours was needed. Similarly, a study in Health Affairs found that just 29% of primary care practices offered weekend hours, and only 6% were open in the evening on weekdays (Merritt Hawkins, 2017). The study also found that preventive services, such as vaccinations and screenings, readily available through primary healthcare. This finding was supported by the finding of Kempe, Saville, Albertin, Zimet, Breck, Helmkamp and Dickinson (2017), the researchers found that over 90% of practices offered all recommended childhood vaccines, though availability varied for some newer vaccines.

The study also found that primary healthcare services are adequately equipped with medical supplies and equipment. This finding was in contrary with the finding of Seidman and Atun (2017) that shortages of essential medicines and supplies were common in low- and middle-income countries, posing a significant barrier to effective primary care. The authors highlighted the need for improved supply chain management and procurement systems. Furthermore, the study found that primary healthcare facilities offer comprehensive services, including diagnosis, treatment, and management of common health conditions. Kocher, Chigurupati, Rigotti and Dzau (2019) found that the majority of primary care practices reported offering a broad scope of services, including chronic disease management, minor procedures, and basic laboratory tests. However, access to more specialized services like behavioural health and advanced diagnostic imaging was more limited, especially in smaller practices and those serving disadvantaged populations.

Income level and utilization of primary health care services

Another findings associated with income level is on utilization of primary health care services. The study found that higher income level increase the likelihood of utilizing primary healthcare services. This was support by the findings of Andersen, Yu, Wyn, Davidson, Brown and Teleki, (2002) that higher income was consistently correlated with increased use of primary care services, even after controlling for other factors like insurance coverage and health status. Also, the study found that primary healthcare services are more readily available and accessible for those with higher incomes. The finding was supported by DeVoe, Fryer, Phillips and Green (2023) they observed that individuals with higher household incomes were more likely to report having a primary care provider and receiving timely care. The researchers suggested that financial factors, including the ability to afford co-pays and take time off work, contributed to these disparities.

It was agreed by the majority of the respondents that individuals with lower incomes face barriers in accessing primary healthcare services. This was supported by the finding of Jaffe, Rhodes, Biese, Baren and Hollander (2020) that low-income adults were significantly more likely to report difficulty finding a primary care provider, getting an appointment, and accessing care due to cost compared to higher-income adults. They attributed these disparities to financial barriers as well as social determinants of health like education and transportation access. Similarly, Swavely and Paciotti (2019) found that these barriers can lead to delayed care, missed preventive services, and poorer overall health outcomes for low-income populations.

The study found that income level influence an individual's willingness to pay out-of-pocket for primary healthcare services. This was supported by the finding of Basu and Kanodia (2019) that lower-income patients were more price sensitive and less willing to pay out-of-pocket costs for primary care services. The authors attribute this to the relatively high financial burden that even small out-of-pocket costs can place on low-income individuals and families. Also, the study found that individuals with higher income levels tend to have more regular health check-ups at primary health care facilities. This was supported by Vela, Nyenhuis and Smith (2021) that higher-income individuals were more likely to have a usual source of primary care and to utilize recommended preventive services. Also, Hosseinpoor, Bergen, Schlottheuber and Boerma (2020) found that higher-income individuals were more likely to have regular check-ups and to receive recommended cancer screenings and immunizations.

The study found that those with higher incomes have more options and choices when it comes to selecting primary care providers. This was also reported by Cheraghi-Sohi, Hole, Mead, McDonald, Whalley, Bower and Roland (2020) that higher-income and higher-education patients had more options and could more easily switch providers if dissatisfied. The authors note that this allows wealthier individuals to be more selective in finding a provider that best meets their needs and preferences. Also,

Socio-Economic Factors and Utilization of Primary Healthcare Services in Keffi Local Government Area, Nasarawa State, Nigeria

Schoenfeld, Jiang, Choi, Kaptchuk and Schneider (2019) found that higher-income patients were more likely to prefer payment models that allowed greater choice of providers, even if it meant higher out-of-pocket costs.

Level of education and utilization of primary health care services

Some scholars have noted the importance of education in utilization of primary health care services as discussed in the literature review, the study also found that higher level of education does not increase the likelihood of utilizing primary healthcare services. This finding was in contradiction with the finding of Layte, and Nolan (2014) that individuals with a tertiary-level education were more likely to have visited a general practitioner (GP) in the past year compared to those with lower levels of education. The authors attributed this finding to the potential for higher educational attainment to be associated with better health literacy, more effective communication with healthcare providers, and a greater appreciation for preventive healthcare.

The study found that higher level of education enhance an individual's ability to make informed decisions about healthcare and utilize primary healthcare services appropriately. This was in line with Kobayashi, Wardle and von Wagner (2016) that individuals with higher levels of health literacy, which is often tied to educational attainment, were more likely to utilize preventive healthcare services, such as cancer screenings and immunizations. The authors suggest that higher health literacy enables individuals to better understand health information, communicate more effectively with healthcare providers, and ultimately make more informed decisions about their care. The study also found that higher level of education increase an individual's awareness of available primary healthcare services and their benefits. This finding was in line with the finding of Abera, Belachew and Bilal (2017) that individuals with higher levels of education were more likely to be aware of the availability and importance of primary healthcare services, such as preventive care, maternal and child health services, and chronic disease management. The authors suggest that higher educational attainment is associated with improved health literacy, which enables individuals to better navigate the healthcare system and understand the value of primary care.

Furthermore, the study found that lack of formal education be a barrier to accessing primary health care services and lower educational attainment negatively impact an individual's understanding of the importance of primary healthcare services. These findings was in consonance with the finding of Mantwill, Monestel-Umana and Schulz (2015) that individuals with lower levels of health literacy, which is often associated with lower educational attainment, were less likely to utilize preventive care services, such as cancer screenings and immunizations. The authors suggest that limited health literacy can lead to a lack of understanding about the importance of these primary care services and their potential benefits for maintaining good health.

CONCLUSIONS

Income level is a crucial factor affecting the utilization of primary health care services in Keffi L.G.A. Individuals with lower incomes are less likely to seek preventive care or seek treatment for non-urgent health issues due to financial constraints, leading to delayed or forgone care. Educational attainment has a positive impact on the utilization of primary health care services. Higher levels of education are associated with greater health literacy, better understanding of the importance of preventive care, and increased awareness of available health services.

RECOMMENDATIONS

- i. There is need for government, NGOs and other stakeholders to invest in the construction and renovation of primary care clinics, particularly in rural areas, to increase the geographic accessibility of their services. Ensure adequate staffing of primary care facilities with general practitioners, nurses, and other healthcare professionals to meet the growing demand for services.
- ii. There is need to implement policies and programs that ensure equitable access to primary healthcare services across all income levels, identify and address potential barriers to healthcare access, such as geographic distance, transportation issues, and lack of information, particularly for low-income communities.
- iii. There is need to develop educational programs and campaigns specifically targeted at individuals with lower levels of education to increase their awareness and understanding of the importance of preventive care and timely access to primary healthcare services. Utilize various communication channels, such as community centres, religious institutions, and local media outlets, to disseminate information in a culturally appropriate and accessible manner.

REFERENCES

- 1) Abekah-Nkrumah, G. & Abor, P. A. (2015). Socioeconomic determinants of use of reproductive health services in Ghana. *Health Economics Review (HER)*, 6(1), 1–15
- 2) Adam, V.Y. & Awunor, N.S. (2015). Perceptions and factors affecting utilization of health services in a rural community in Southern Nigeria. *Journal of Biomedical Sciences* 13(2), 117-124
- 3) Addai, I. (2018). Demographic and sociocultural factors influencing use of maternal health services in Ghana. *African Journal of Reproductive Health*, 2 (1), 44-89.

Socio-Economic Factors and Utilization of Primary Healthcare Services in Keffi Local Government Area, Nasarawa State, Nigeria

- 4) Akintola, J. O & Yusuff, J. M. (2021). Socio economic analysis of poverty levels among rural dwellers in Kwara State, Nigeria. *International Journal of Environment and Development*, 5(2), 42-48
- 5) Al-Ghanim, S. A. (2014). Factors influencing the utilisation of public and private primary health care services. *Journal of King Abdulaziz University Medical Science*. 19(1), 3-27.
- 6) American Medical Association (2019). Health literacy: Report of the council on scientific affairs. *Journal of American Medical Association*. JAMA. 28(1), 552–597.
- 7) Ardington, U. & Case, G. (2006). Health seeking behaviour of rural dwellers in Southern Nigeria: Implications for healthcare professionals. *International Journal of Tropical Disease and Health*, 2(2), 62-71
- 8) Asafo, P., Akowuah, J., Agyei-Baffour, & Awunyo-Vitor, D. (2018). Determinants of Antenatal Healthcare Utilisation by Pregnant Women in Third Trimester in Peri-Urban Ghana. *Journal of Tropical Medicine*, 1, 1-8
- 9) Awiti, J.O. (2020). Poverty and health care demand in Kenya. *BMC Health Services Research*. 14(3), 549-560.
- 10) Babalola, S. & Fatusi, A. (2019). Determinants of use of maternal health services in Nigeria: looking beyond individual and household factors. *British Medical Care Pregnancy Childbirth*, 9(43), 1-13.
- 11) Baker, D. W., Parker, R. M., Williams, M. V. & Clark, W. S. (2017). The relationship of patient reading ability to self-reported health and use of health services. *American Journal of Public Health*. 8(7), 1027–1040.
- 12) Bakeera. S.K., Wamala, S.P., Galea, S., State, A. Peterson, S. & Pariyo, G.W. (2019). Community perceptions and factors influencing utilization of health services in Uganda. *International Journal for Equity in Health* 8(25), 75-92.
- 13) Baschien, A. & Clements, S. (2020). Contextual influences on the use of health facilities for childbirth in Africa. *American Journal of Public health*, 96(1), 84-92.
- 14) Bayati, M., Akbariyan, R., Kavosi, Z. & Delavari, S. (2012). Socioeconomic determinants of health in the countries of West Pacific: analysis of panel data. *Social Welfare*, 12 (47), 111–30.
- 15) Berberoglu, U., Ozturk, O., Ekerbicer, H. C., & Grubu, B. (2018). Evaluation of the health literacy status among individuals aged 18-65 Registered in a family health centre. *Sakarya Tıp Dergisi*. 8(3), 575-581.
- 16) Berkman, N. D., Sheridan, S. L., Donahue, K. E., Halpern, D. J & Crotty, K. (2021). Low health literacy and health outcomes: An updated systematic review. *Annals of Internal Medicine*. 155(2), 65-97.
- 17) Bindman, A. B. & Osmond, D. (2015). Primary care and receipt of preventive services. *Journal of General Internal Medicine*. 11(5), 269–276.
- 18) Boyle, J., Speroff, T. & Worley, K. (2017). Low health literacy is associated with increased transitional care needs in hospitalized patients. *Journal of Hospital Medical*. 12(9), 18–24.
- 19) Brennan, L. K. & Baker. (2008). Promoting health equity: a resource to help communities address social determinants of health. Atlanta: U.S. Department of Health and Human Services, centres for disease control and prevention.
- 20) Brunner, E. & Marmot, M. (1999). Social organization, stress and health. In: *Social determinants of health*. Oxford University Press.
- 21) Centre for Disease Control (2022). National Health Interview Survey. Available from: [https://www. Centre for Disease Control/en/nigeria/admin/ekiti/NGA013008__ido_osi/](https://www.cdc.gov/nchs/nhis/).
- 22) Chubike, N.E & Constance, I. (2020). Demographic characteristics of women on the utilization of maternal health services at Abakaliki Urban. *International Journal Nursery Midwifery*, 5(8), 139-144.
- 23) Chuma, J. & Okungu, V. (2018). Viewing the Uganda health system through an equity lens: implications for universal coverage. *International Journal for equity in Health*. 10(22), 10-22.
- 24) Copurlar, C. & Kartal, M. (2021). What is Health Literacy? How to measure it? Why is it important? *Turkish Journal of Family Medicine and Primary Care*. 10(1), 31- 40.
- 25) Darin-Mattsson, A., Fors, S., & Kareholt, I. (2017). Different indicators of socioeconomic status and their relative importance as determinants of health in old age. *International Journal for Equity in Health*, 16(1), 134-144.
- 26) Department of Health & Human Services (2020). Primary healthcare explained. Retrieved from <https://www.betterhealth.vic.gov.au/health/servicesandsupport/primary-healthcare-explained>
- 27) Develay, A., Sauerborn, R., & Diesfeld, H. J. (2016). Utilization of health care in an African Urban Area: results from a household survey in Ouagadougou, Burkino-Faso. *Social Science and Medicine*. 43(11), 1611-1619.
- 28) Dhali, A. (2022). A health system that violates patients' rights to access health care: editorial. *South African Journal of Bioethics and Law*, 5(1), 2-3.
- 29) Di, M.S. (2020). What is the effectiveness of antenatal care? (Supplement) Copenhagen, WHO Regional officer for Europe: Health Evidence Network Report.
- 30) Ensor, T. & Cooper, S. (2019). Overcoming barriers to health service access: influencing the demand side. *Health Policy and Planning*, 19(2), 69-79.
- 31) Exworthy, M. (2008). Policy to tackle the social determinants of health: using conceptual models to understand the policy process. *Health Policy Plan*, 23(5), 318–27.
- 32) Fagbamigbe, A.F., & Idemudia, E.S. (2015). Barriers to antenatal care use in Nigeria: evidences from non-users and implications for maternal health programming. *BMC Pregnancy and Childbirth*, 15(1), 95

Socio-Economic Factors and Utilization of Primary Healthcare Services in Keffi Local Government Area, Nasarawa State, Nigeria

- 33) French, D.P., Cooper, A., & Weinman, J. (2006). Illness perceptions predict attendance at cardiac rehabilitation following acute myocardial infarction: a systematic review with meta-analysis. *Journal of Psychosomatic Research*, 61, 757-767.
- 34) Gabriel, U & Gabriel, G. (2021). The role of primary healthcare in Nigeria: a way forward. Retrieved from <https://hphr.org/blog-oke-3/>
- 35) Gakii, J. (2021). Demand for health care in Kenya: The effect of health insurance. Nairobi: Kenya Institute for Public Policy Research and Analysis.
- 36) Herndon, J. B., Chaney, M. & Carden, D. (2019). Health literacy and emergency department outcomes: a systematic review. *Ann Emergency Medical*. 57(3), 34–45.
- 37) Ibor, U. W., Anjorin, O.A., Ita, A.E. Otu, M.A., & Bassey, T.I. (2021). Utilization of antenatal care in Ibadan North Local Government Area, Oyo State, Nigeria. *Trends in Medical Research*, 6, 273-280.
- 38) Ibrahim, M. J. & Ibrahim, A. A. (2018). The accessibility problems of primary health care to rural people in Jigawa State, Nigeria. *Global Advanced Research Journal of Social Science* 1(4), 72-76.
- 39) Igboanusi, C., Sabitu, K., Gobir, A., Nmadu, A. G & Joshua, I. (2019). Factors affecting the utilization of postnatal care services in primary health care facilities in urban and rural settlements in Kaduna State, North-western Nigeria. *American Journal of Public Health Research*. 7(1), 11-17
- 40) Iyaniwura, C.A. & Yussuf, Q. (2019). Utilization of antenatal care and delivery services in Sagamu, South-Western Nigeria. *African Journal of Reproductive Health*, 13(5), 110-122.
- 41) Joshi, A. (2014). The Nigerian health care system: need for integrating adequate medical intelligence and surveillance systems. *Journal of Pharmacy and Bioallied Sciences*, 3(4), 470-478.
- 42) Kalichman, S.C., Catz, S. & Ramachandran, B. (2019). Barriers to HIV/AIDS treatment and treatment adherence among African-American adults with disadvantaged education. *Journal of the National Medical Association*, 91(8), 439-446.
- 43) Katung, P.Y (2019). Socio-economic factors responsible for poor utilization of primary health care services in rural community in Nigeria. *Niger Journal of Medical*. 10(3), 28-29
- 44) Kripalani, S., Jacobson, T. A. & Mugalla, I. C. (2020). Health literacy and the quality of physician-patient communication during hospitalization in Ghana central district. *Journal Hospital Medical*. 5(2), 69–75.
- 45) Macinko, J., Starfield, B. & Erinosh, T. (2016). The impact of primary healthcare on population health in low- and middle-income countries. *Journal HealthCare Manager*. 32(2), 50-71.
- 46) Magadi, M. (2019). Maternal and child health among the urban, *African Population Studies/Etude de la Population Africaine*, 19(2), 179-198.
- 47) Mahoney, S. T., Tawfik-Sexton, D., Strassle, P.D., Farrell, T.M. & Duke, M.C. (2018). Effects of education and health literacy on postoperative hospital visits in bariatric surgery. *Journal of Laparoendosc Advance Surgical*. 28(7), 1100–1114.
- 48) Manzoor, I., Hashmi, N.R., & Mukhtar, F., (2019). Determinants and pattern of health care services utilization in postgraduate students. *Journal of Ayub Medical College*, 21(3), 100-105
- 49) Mushi, D. P. (2019). Impact of cost sharing on utilization of primary health care Services: providers versus household perspectives. *Malawi Medical Journal*. 23(3), 83–99.
- 50) Na'slindh-Ylispangar, A., Sihvonen, M., Kekki, P. (2018). Health, utilisation of services, 'core' information, and reasons for non-participation: a triangulation study amongst non-respondents. *Journal of Clinical Nursing*, 17(2), 2-29.
- 51) National Population Commission (NPC) Abuja, (2021). 2021 population estimation of Federal Republic of Nigeria.
- 52) Ndisika, M. & Dawodu, O.A. (2019). Antenatal care service utilization among women of reproductive age in Egor Local Government Area, Benin City. *Akpauche International Journal of Arts and Social Sciences*, 1(2), 60-73
- 53) Nnonyelu, A.N & Nwankwo, I. U. (2020). Social determinants of differential access to health services across five states of Southeast Nigeria. *European Scientific Journal*, 5(3), 1857 – 7881
- 54) Okpokoro, E. (2014). Primary health care: a necessity in developing countries? *Journal of Public Health in Africa*. 4(2), 76–98.
- 55) Oladipo, J. A. (2019). Utilization of health care services in rural and urban areas: a determinant factor in planning and managing health care delivery systems. *African Health Sciences*, 14(2), 322–333.
- 56) Onwujekwe, O. & Uzochukwu, B. (2018). Socio-economic and geographic differentials in costs and payment strategies for primary health care services in south-east Nigeria. *Health Policy*. 71(3), 83-97.
- 57) Onwujekwe, O. E., Uzochukwu, B. S., Obikeze, E. N., Okoronkwo, I., Ochonma, O. G., Onoka, C. A., Okoli, C. (2022). Investigating determinants of out-of-pocket spending and strategies for coping with payments for healthcare in southeast Nigeria. *BMC Health Services Research*, 10(4), 10-27.
- 58) Otieno, S.O. & Macharia, D. (2018). Factors influencing utilization of health services in Kenya: The case of Homa Bay County. *International Journal of Public Health Science*. 3(4), 213-223.
- 59) Ousman, S.K, Mdala, I., Thorsen, V.C., Sundby, J. & Magnus, J.H. (2019). Social determinants of Antenatal Care Service Use in Ethiopia: Changes over a 15-Year Span. *Front. Public Health*, 7,161.

Socio-Economic Factors and Utilization of Primary Healthcare Services in Keffi Local Government Area, Nasarawa State, Nigeria

- 60) Oyekale, A. S. (2017). Assessment of primary health care facilities' service readiness in Nigeria. *British Health Services*. 17(1), 2–12.
- 61) Ozdemir, H., Alper, Z., Uncu, Y. & Bilgel, N. (2021). Health literacy among adults: a study from Turkey. *Health Education Research*. 25(3), 464-477.
- 62) Paasche-Orlow, M. K., Parker, R. M., Gazmararian, J. A., Nielsen-Bohlman, L. T. & Rudd, R. R. (2015). The prevalence of limited health literacy. *Journal of General Internal Medicine*. 20(2), 175–84.
- 63) Porterfield, S.L. & McBride, T.M. (2017). The effect of poverty and caregiver education on perceived need and access to health services among children with special health care needs. *American Journal of Public Health*, 97(2), 323-329.
- 64) Primary health care (2023). Retrieved from <https://www.who.int/news-room/questions-and-answers/item/primary-health-care>.
- 65) Prosser, T. (2017). Utilization of health and medical services: Factors influencing health care seeking behaviour and unmet health needs in rural areas of Kenya. Joondalup: Edith Cowan University.
- 66) Raatikainen, K, Heiskanen, N & Heinonen, S. (2017). Under-attending free antenatal care is associated with adverse pregnancy outcomes in United States of America. *British Medical Care Public Health Journal*, 7(26), 1-18:
- 67) Rai, R. K, Singh, P. K. & Kumar, C. (2016). Is the use of maternal healthcare among prospective mothers higher in households that have experienced maternal death? Evidence from India. *Health Policy and Planning*, 31(7) 844–852
- 68) Saad-Haddad, G., DeJong, J., & Terreri, N. (2022). Patterns and determinants of antenatal care utilization: Analysis of national survey data in seven countdown countries. *Journal of Global Health*, 6(1), 16-30
- 69) Sadeghi, S., Brooks, D., Stagg-Peterson, S. & Goldstein, R. (2023). Growing Awareness of the Importance of Health Literacy in Individuals with COPD. *Chronic obstructive pulmonary disease*. 10(1), 72–89.
- 70) Salaudeen A. G., Musa O. I., & Belo A. A. (2021). Assessment of knowledge and implementation of reaching every ward strategy of routine immunization among service providers in north central State of Nigeria. *Australian Journal of Basic and Applied Sciences*, 5(4), 430–435.
- 71) Saripek, D. B., & Yenihan, B. (2019). Socioeconomic status. In Springer eBooks (pp. 1–5). https://doi.org/10.1007/978-3-319-69892-2_204-1
- 72) Shaikh, T.B. & Hatcher, J. (2021). Health seeking behaviour and health service utilization in China: challenging the policy makers. *Journal of public health*. 27(1), 49-54.
- 73) Shi, L. (2018). The impact of primary care: a focused review. *Scientifica*. 21(2), 1-22.
- 74) Sina, O. J., Jegede, L. Y. & Ibikunle, A. M. (2021). Socio-economic status and utilization of healthcare facilities in rural Ekiti, Nigeria. *Journal of Medicine and Medical Sciences*. 2 (1), 1-43.
- 75) Solar, O. & Irwin, A. (2010). A conceptual framework for action on the social determinants of health. Social determinants of health discussion paper 2 (Policy and Practice). Geneva: World Health Organization.
- 76) Sorensen, K., Pelikan, J. M., Rothlin, F., Ganahl, K., Slonska, Z. & Doyle, G. (2020). Health literacy in Europe: comparative results of the European health literacy survey (HLS-EU). *European Journal of Public Health*. 25(6), 1053-1058.
- 77) Sufiyan, I. (2020). Rainfall trend and it impact in Keffi Nasarawa State. *Engineering Heritage Journal*. 4 (1), 23–26.
- 78) Sunil, T.S., Spears, W. D., Hook, L., Castillo, J. & Torres, C. (2020). Initiation and barriers to prenatal care use among low-income women in San Antonio, Texas. *Maternal and Child Health Journal*, 14(1), 133-140
- 79) Suthar, J. (2023). Socioeconomics. *Journal of Social Sciences*. 2(4), 13–22.
- 80) Uche, E.O. (2017). Factors affecting health seeking behaviour among rural dwellers in Nigeria and its implication on rural livelihood. *European Journal of Social Sciences Studies*, 2(2), 74-86.
- 81) United Nations Population Fund (2018). UNFPA Humanitarian Response in Yemen 2018.
- 82) United Nations Population Fund (UNFPA) (2016). Maternal mortality update 2016: Expectation and delivery: Investing in midwives and others with midwifery skills. United Nations Population Fund, Retrieved from http://www.unfpa.org/webdav/site/global/shared/documents/publications/2007/mm_update06_eng.pdf.
- 83) Vincent, Y.A., & Adewusa, Q.A. (2018). Socio-demographic factors associated with the healthcare-seeking behaviour of heads of households in a rural community in Southern Nigeria. *Sahel Medical Journal*, 21(1), 31-36.
- 84) Watt, R. (2002). Emerging theories into the social determinants of health: implications for oral health promotion. *Community Dent Oral Epidemiol*, 30(4), 241–7.
- 85) World Health Organisation (2017). Maternal mortality in 2015: estimates developed by WHO, UNICEF, UNFPA, and the World Bank Geneva: WHO.
- 86) WHO (2021). Primary Health Care: Report of the International Conference on Primary Health Care, Alma-Ata, USSR; 6-12 September, 2021; Geneva: WHO.
- 87) World Health Organization (2019). Social determinants of health. Retrieved from https://www.who.int/health-topics/social-determinants-of-health#tab=tab_1
- 88) Williams, M.V., Parker, R. M., Baker, D. W., Parikh, N. S., Pitkin, K. & Coates, W. C (2015). Inadequate functional health literacy among patients at two public hospitals. *Journal of America Medical Association*. 274(16), 77–82.

Socio-Economic Factors and Utilization of Primary Healthcare Services in Keffi Local Government Area, Nasarawa State, Nigeria

- 89) Yakar, B., Gomleksiz, M. & Pirincci, E. (2019). Health literacy levels and affecting factors of patients who applied to a university hospital polyclinic. *Eurasian Journal Family Medication*. 8(1), 27–35.
- 90) Ye, Y., Yoshida, Y. & Sakamoto, J. (2019). Factors affecting the utilization of antenatal care services among women in Kham District, Xiengkhouang province, Lao PDR. *Nagoya Journal of Medical Science*. 72(14), 23–33.
- 91) Yilmazel, G. & Cetinkaya, F. (2016). The importance of health literacy for community health. *TAF Preventive Medicine Bulletin*. 15(1), 45-69.
- 92) Zaboli, R., Malmoon, Z., Seyedjavadi, M. & Seyedin, H. (2014). Developing a conceptual model of social determinants of health inequalities: A qualitative study. *Journal of Health Policy and Management*, 3(4), 74–88.
- 93) Zajacova, A. & Lawrence, E. M. (2018). The relationship between education and health: reducing disparities through a contextual approach. *Annual Review of Public Health*. 3(9), 273–289.



There is an Open Access article, distributed under the term of the Creative Commons Attribution – Non Commercial 4.0 International (CC BY-NC 4.0) (<https://creativecommons.org/licenses/by-nc/4.0/>), which permits remixing, adapting and building upon the work for non-commercial use, provided the original work is properly cited.