THE EVALUATION OF THE USAGE OF HEALTH CARE FACILITIES BY RURAL DWELLERS IN BAUCHI STATE, NIGERIA

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ABSTRACT

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| **Aims:** This study is aimed at evaluating the level of utilization of Health Care services. **Study design:** This study engaged a sectional design.  **Place and Duration of Study:** Bauchi State as one of the States in northern Nigeria, is with its capital in Bauchi. The State occupies an area of land totaling 49,119 km2 (18,965 sq2) representing about 5.3% of Nigeria’s total land mass. Bauchi is located between latitudes 9° 3' and 12° 3' north and longitudes 8° 50' and 11° east.  **Methodology:** A total of 1344 respondents were sampled for the study. A well-structured questionnaire as well as focus group discussion with community leaders, religious leaders, and health care workers was used to elicit data for the study. The reliability index of the instrument as determined using Cronbach’s alpha test of internal consistency stood at 0.89. The data from the study were presented using descriptive statistics; mean and percentages were used to answer the research questions, via SPSS version 25.  **Results:** The utilization of the health care facilities by the respondents was very high. The results indicated that 1162 (86.5%) of the respondents visited the health care facilities often. The result also showed that the relationship between education level of the respondents and the utilization of health care facilities (r = 0.576, p < 0.05) is a positive one, which indicates that the higher the level of education of rural dwellers, the more they utilized health facilities. Income had a positive relationship with health care service utilization (r = 0.645; p < 0.05). **Conclusion:** The educational level and income of respondents affected their level of utilization of health care facilities. The Government and other stake holders in the State should help improve the education and income of the rural dwellers, as this will in turn help them to understand the importance of seeking health care services, and consequently reduce mortality due to diseases. |

*Keywords: [socio-economic, health, utilization, healthcare, workers}*

1. INTRODUCTION

As the population of a country ages, there is the increase in diseases and health conditions which demands an increasing utilization of health care services. However, the trend is that a larger percentage of the population rather resort self-medical care than use the hospital facilities around them. The pattern of utilization of health services in developing countries is not satisfactory, owing to the importance in public health policy issues of any country (Girma et al., 2011; Oyewole, 2018).

The importance of understanding people’s idea of what health is cannot be overemphasized, and has been acknowledged by researchers and is now considered to be one of the most important values of man (Lennart, 2007; Sulemana & Dinye, 2014). The earliest notion of Health is being disease free and it was very much accepted during the first half of the 20th century mainly by physicians and medical personnel (Boruchovitch & Mednick, 2002). Health is considered one of the most important values of man (Boruchovitch & Mednick, 2002). It is regarded as the most precious thing one can have in life and should be protected as well as enhanced as much as possible (Iyalomhe & Iyalomhe, 2012).

Health services utilization is an important health outcome indicator as noted by Ngwakongnwi, (Ngwakongnwi, 2017). Prosser (2007) in her study on the utilization of both health and medical health care seeking behavior in Kenya, found that about 70% to 80% of the people living in rural areas of Kenya who were sick utilized the formal healthcare facilities over informal services. It was found that among those who utilized the health care facilities, some differences were reported based on gender, education and literacy levels of participants, while some other factors such as the financial costs of seeking treatment, the distance and time required to travel, also affected health care service use (Prosser). Pokhrel and Sauerborn (2014) also found that in case of illness, especially in rural area, the public health facilities are mostly consulted. A study stated that in their area of study, the utilization of health care facilities is poor (Ngugi et al., 2017). The poor utilization propelled by poverty, distance to health facilities, and education. Girma et al. (2011), also noted that in Ethiopia, with a 56% of respondents who were sick for about two weeks, only about 30% of them visit the health Centre around them.

The study of Ngugi et al. revealed that about 76.7% of the household members who reported been ill, sought healthcare in a health facility. They stated that about 94% of those who sought healthcare in health facilities visited the dispensary –level facilities, while the remaining 6% sought health care in hospital and clinics in the sub-counties. Their study also revealed that of the people that were ill and did not seek health care attention, engaged in self-medication by buying non-prescribed drugs from the drug shop (Onyeneho, 2016).

Generally, in Nigeria, it has been found that people hardly visit health facilities unless they are seriously ill, as majority believes that seeking health care in health facilities is too costly. In situation of illness, it has been reported a utilization level of 76.7% (Onyeneho, 2016). It has also been reported that 77.8% level of utilization of health facilities, Prosser (2007), also reported a utilization of level of 53%. A study conducted revealed that only 50% of the respondent utilized health care facilities when they are ill (Adam & Awunor, 2015).

The health status of rural dwellers has been of utmost concern as majority of them don’t have the basic health facilities that are found in urban centers. Most researches are conducted in the cities and the results are generalized, but the fact remains that these findings may not be applicable to rural area (Aboaba et al., 2023; Olatomiwa et al., 2022). Solutions to health issues in rural areas can only emerge from research or studies conducted there, hence the need for this study to evaluate health care utilization among rural dwellers in Bauchi State.

Objective

1. To investigate and determine the level of usage of health care facilities by rural dwellers in Bauchi State

2. To determine if health care utilization is influenced by education and income

Research Question

i. What is the level of Utilization of health care facilities by rural dwellers in Bauchi State?

ii. What is the impact of education and income on the utilization of health care facilities?

2. material and methods

Study Design

The design for this study is a cross sectional design study, using the questionnaire based survey research was conducted.

Study Area

Bauchi State as one of the States in northern Nigeria, is with its capital in Bauchi. The State occupies an area of land totaling 49,119 km2 (18,965 sq2) representing about 5.3% of Nigeria’s total land mass. Bauchi is located between latitudes 9° 3' and 12° 3' north and longitudes 8° 50' and 11° east (Abdul-Baqi et al., 2021).

Study Population

The State as at the last census of 2006 has a total population of 4, 653,066, but in 2016, the projected population rose to 6,537300. The state is divided into the Northern and Southern region. The states consist of 20 Local government areas. About eighty percent (80%) of the people in most of the LGAs lives in the rural areas, and are still dependent on farming (11). The study population consists of all adult (18years and above) living in the three senatorial district of Bauchi State: Southern zone (Bauchi, Tafawa-balewa, Toro and Alkaleri L.G.As) Central zone: (Darazo, Ningi and Misau L.G.As) Northern zone (Katagum, Shira, Jamaare, and Gamawa L.G.As). The study location will involve all adult living in State, aside these urban areas mentioned. The Table below shows the Local Government Areas and their population based on the 2016 population projection conducted.

The targeted population of the study is the 2,196,533 adults, which make up 42.06% of the adult living in the rural areas of Bauchi state.

SAMPLE SIZE AND SAMPLING TECHNIQUE

Using a simple random sampling technique, 3 local government areas were selected from each senatorial district; the LGAs selected are presented in Table 2

Sample size for each LGA

n /1+(no-1/pop) (10

For southern zone = 150/1+(150-1)/164169 = 150

For 3 affected Local Government = 150×3 = 450

For northern zone 150/1+ (150-1)/10142 =148

For 3 affected Local Government = 148×3 = 444

For central zone = 150/1+ (150-1)/164169 = 150

For 3 affected Local Government 150×3 = 450

Total = 1344

A total of 1344 respondents were sampled for the studied. The procedure used was simple random sampling procedure

Inclusion Criteria

Men, Women and children who are attending primary health care facilities from the rural areas of the Local Government Areas of the three senatorial districts in Bauchi State were included in this study

Exclusion Criteria

Men, Women and children living in urban areas of Bauchi state were excluded from the study.

**Research Instrument**

A well-structured questionnaire as well as focus group discussion with community leaders, religious leaders, and health care workers was used to elicit data for the study. The Instrument Titled “Questionnaire on Factors Affecting the utilization of Healthcare Facilities in Rural Areas. The Instrument is divided into Four Section. The First Section (Section A) deals with the demographic and general information of the respondents. Variable such as age, gender, educational level was addressed in this section. The Second Section (Section B) addresses the living condition of the respondents. Variables addressed here are ownership of house, type of toilets used, access to safe drinking water, etc. The Third Section (Section C) addresses the health utilization of the Health care facilities (men, women, and children), while the Fourth Section (Section D) addresses the various factors that can influence the respondent use of health facilities around them.

**Method of Data Collection**

The questionnaires were administered to adults in rural areas in Bauchi State. This questionnaire were administered by the researcher and some research assistants that were trained to evaluate them and interpret the content of the questionnaire to the respondents in the local dialect (for those who cannot read or understand English Language).The questionnaires were collected personally by the researcher and assistants immediately the questionnaires were filled by the respondents. All questionnaires collected from the respondents were received by the researcher, and data retrieved from the questionnaires were collated for analysis.

Validity of the Research Instrument

To determine the validity of the instrument, the researcher gave the questionnaire to the supervisor and other experts in related fields to ascertain the face validity of the instrument.

Reliability of the Research Instrument

The reliability index was determined using cronbach’s alpha test of internal consistency.

Method of Data Analysis

The data from the study were presented using descriptive statistics of mean and percentages for the research questions. The analysis was carried out using SPSS version 23.

Implication of the Study

The result of the research work will help enlighten government on how to tackle problem that hinders utilization of Healthcare Facilities in Bauchi state and the country at large.

3. results and discussion

**Research question 1:** What is the level of Utilization of health care facilities by rural dwellers in Bauchi State?

Table 3 shows the results on the level of utilization of healthcare facilities. The data obtained were analyzed using descriptive statistics. Using the acceptable mean score of 1.5, obtained by the addition of the responses (yes= 2 + no= 1) divided by 2, which is equal to 1.5. The result therefore shows that, the utilization of the health care facilities by the respondents was very high, with a mean score of 1.86 for utilization, 2.31 for rating and 1.60 for addition of all items on utilization.

Figure 1 shows the frequency level of utilization of healthcare facilities in Bauchi. The results indicated that 1162 (86.5%) of the respondents visit the health care facilities often, while 182 (13.5%) do not.

Research Question 2

What is the relationship between education, income and utilization of health care facilities/services in rural areas of Bauchi State, Nigeria?

Table 4 shows the relationship between education level of the respondents and the utilization of health care facilities (r = 0.576, p < 0.05) is a positive one, which indicates that the higher the level of education of rural dwellers, the more they utilized health facilities. Income had a positive relationship with health care service utilization (r = 0.645; p < 0.05). From the result obtained, the educational level and income of respondents affect their level of utilization of health care facilities.

**Table 1: Target Population and based on 2016 projected population by National Population Commission, 2016.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Regions | LGAs | Total population | population of rural dwellers | Targeted population of Adult |
| Southern Region | Bauchi | 693,700 | 554960 | 233083 |
| Tafawa-Balewa | 310,900 | 248720 | 104462 |
| Dass | 126,600 | 101280 | 42538 |
| Toro | 486,100 | 388880 | 163330 |
| Bogoro | 117,700 | 94160 | 39547 |
| Ningi | 542,300 | 433840 | 182213 |
| Warji | 161,500 | 129200 | 54264 |
| Ganjuwa | 391200 | 312960 | 131443 |
| Kirfi | 204,600 | 163680 | 68746 |
| Alkaleri | 461,200 | 368960 | 154963 |
| Northern Region | Darazo | 351,200 | 280960 | 118003 |
| Misau | 367,300 | 293840 | 123413 |
| Giade | 219,200 | 175360 | 73651 |
| Shira | 328,800 | 263040 | 110477 |
| Jama’are | 165,100 | 132080 | 55474 |
| Katagum | 411,700 | 329360 | 138331 |
| Itas/Gadua | 321,100 | 256880 | 107890 |
| Zaki | 266,500 | 213200 | 89544 |
| Gamawa | 399,600 | 319680 | 134266 |
| Dambam | 211,000 | 168800 | 70896 |
| Total |  | **6,537,300** | **5229840** | **2196533** |

**Source (1)**

**Table 2: Sample size Determination for the Three LGAs selected from each Senatorial Districts**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S/N | ITEMS ZONE | AREA CONCERNED | TARGETED POPULATION | AVERAGE |
| 1. | Southern zone | Bauchi L.G.A  Tafawa-balewa L.G.A  Alkaleri L.G.A  Total | 233083  104462  154963  492508 | 164,169 |
| 2. | Northern zone | Katagum L.G.A  Shira L.G.A  Jama’are L.G.A  Total | 138331  110477  55474  304282 | 101427 |
| 3. | Central zone | Ningi L.G.A  Misau L.G.A  Darazu L.G.A  Total | 182213  123413  118003  423629 | 141210 |

**Table 3: Level of Utilization of Health care facilities in Bauchi State**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | N | Mean | Std. Deviation | Level of utilization |
| Visit the health care facilities often | 1344 | 1.86 | 0.34 | High |
| Rating of healthcare facilities | 1344 | 2.31 | 0.86 | High |
| UTILIZATION | 1344 | 1.60 | 0.11 | High |

**Table 4: PPMC of the relationship between gender, income and utilization of health care facilities/services in rural areas of Bauchi State, Nigeria**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | Education | Income | Utilization Total |
| Education | r | 1 | .617\*\* | .576\*\* |
| p |  | .000 | .000 |
| N | 1344 | 1344 | 1344 |
| Income | r | .617\*\* | 1 | .645\*\* |
| p | .000 |  | .000 |
| N | 1344 | 1344 | 1344 |
| Utilization Total | r | .576\*\* | .645\*\* | 1 |
| p | .000 | .000 |  |
| N | 1344 | 1344 | 1344 |

\*\*. Correlation Is Significant At The 0.01 Level (2-Tailed).

**Figure 1: Frequency of Utilization**

**Discussion**

The present study revealed that, the utilization of healthcare facilities in rural areas in Bauchi was higher. This agrees with the reports in another study which showed that the utilization of the primary health facility was good (Onyeneho et al., 2016) in the same region. Another study by Titus *et al*. (Adam & Awunor, 2015) however, reported that 85% of the respondents have access to health care services while only 42.50% utilized these services. Most of the respondents (40.5%) travel a distance of 5-9 km before accessing health care facilities (Titus et al., 2015). Abdul-Baqi et al. (2021) also found in their study that education and income influenced utilization of health care facilities by rural dwellers.

**Conclusion**

Based on the results and discussion made in this study in the rural areas in Bauchi state, the utilization of the health care facilities by the respondents is very high, also the level of utilization of healthcare facilities indicated that 86.5% of the respondents visit the health care facilities often. Further educational level, and income has influence on the utilization of healthcare facilities in rural areas.

**Recommendation**

Based on the conclusions drawn, the following recommendations are made: More efforts can still be put in in order to boost the level of utilization of healthcare facilities among rural dwellers in Bauchi State. Since cost, income level distance and living conditions are economic factors that influence the utilization of healthcare facilities, then the local and State Government can help in subsidizing healthcare services to make it easily accessible. Also, vehicles can be made available to convey the patients from the rural areas to the health facilities at little or no cost. The rural dwellers should be encouraged to visit the health facilities irrespective of their ages or educational status. All the ethnic groups should be encouraged to use the healthcare facilities

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1.

2.

3.

References

Abdul-Baqi, A.M., Nwajei, S.D., & Igumbor, E.U. (2021) The role of socio-economic status in the utilization of health care services in rural areas in Bauchi State. *International Journal of Research Publications.* 77(1), 18-31.

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.

Boruchovitch, E., & Mednick, B.R (2002). The meaning of health and illness: some considerations for health. *psychology.* 7 (2), 175-183.

Girma, F., Jira, C., & Girma, B. (2011). Health Services Utilization and Associated Factors In Jimma Zone, South West Ethiopia. *Ethiop J Health Sci.* 21(86), 85- 94.

Lennart, N. (2007). Understanding the concept of Health. Retrieved from www.fil.lu.se/HomageaWlodek

Ngugi, A.K., Agoi, F., Mahoney, M.R., Lakhani, A., Mang’ong’o, D., Nderitu, E., Armstrong, R, & Macfarlane, S. (2017). Utilization of health services in a resource-limited rural area in Kenya: Prevalence and associated household-level factors. *PLoS ONE*; 12(2), e017272

Ngwakongnwi, E. (2017). Measuring health services utilization in ethnic populations: Ethnicity and choice of frameworks. *Public Health Open J.* 2(2), 53-58.

Onyeneho, N.G., Amrazigo, U.V., Njepuome, N.A., Nwaorgu, O.C., & Okeibuno, J.C. (2016). Perception and utilization of public health services in Southeast Nigeria: Implication for health care in communities with different degrees of Urbanization. *International Journal for Equity in Health.* 15,12-144

Pokhrel, S., & Sauerborn, R. (2014). Household decision-making on child health care in developing countries: the case of Nepal. *Health Policy & Planning,* 19(4), 218-233.

Prosser, T. (2007). Utilization of health and medical services: factors influencing health care seeking behaviour and unmet health needs in rural and urban areas in Ghana. *GeoJournal*; 61(1): 89- 102

Titus, O.B., Adebisola, O.A., & Adeniji, A.O. (2015). Health-care access and Utilization among rural households in Nigeria. *Journal of Development and agricultural Economics*. 7(5), 195-203.

Iyalomhe GB, Iyalomhe SI. Health seeking behavior of rural dwellers in Southern Nigeria: Implications for healthcare professionals. Int J Trop Dis Health. 2012;2(2):62-71.

Oyewole MF. Utilisation of primary health care services among rural dwellers in Oyo State. Nigerian Journal of Rural Sociology. 2018;18(1):106-11.

Sulemana A, Dinye RD. Access to healthcare in rural communities in Ghana: a study of some selected communities in the Pru District. European Journal of Research in Social Sciences. 2014;2(4).

Aboaba KO, Akamo AA, Obalola TO, Bankole OA, Oladele AO, Yussuf OG. Factors influencing choice of healthcare facilities utilisation by rural households in Ogun State, Nigeria. Agricultura Tropica et Subtropica. 2023;56(1):143-52.

Olatomiwa L, Sadiq AA, Longe OM, Ambafi JG, Jack KE, Abd’azeez TA, Adeniyi S. An overview of energy access solutions for rural healthcare facilities. Energies. 2022 Dec 16;15(24):9554.