Journal of Medicine and Biomedical Research. 22 (2) 38 - 46
https://dx.doi.org/10.4314/jmbr.v22i2.6

ORIGINAL ARTICLE

Perceptions and Factors affecting Utilization of Primary Health Care Services in a predominantly Urban Community in South-South Nigeria

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ABSTRACT

Background: Primary Health Care is the cornerstone of a sustainable national health system for the attainment of universal health coverage. There is poor demand for health services at the primary level of care. This study assessed the perceptions and factors affecting the utilization of primary health care services in a predominantly urban community in South-South Nigeria.

Methods: This descriptive cross-sectional study was done in Egor, Benin City, Southern Nigeria. A structured, and interviewer administered questionnaire was distributed to 371 heads of household who were selected using multistage sampling method. The data were analyzed using IBM SPSS version 25.

Results: Majority of the respondents were males 191 (51.6%). More than half, 195 (52.5%) were in the age group of 35-49 years. Less than half, 171 (46.1%)of the respondents had utilized primary health care services. Only, 42 (24.6%) perceived the services utilized were satisfactory. Immunization, 45 (26.3%), child, 39 (22.8%) and maternal, 32 (18.7%) health care services were the most utilized. Sex (OR = 0.599; CI = 0.38-0.94, p = 0.027), religion (OR = 2.246; CI = 1.066-4.735, p = 0.033), and occupation (OR = 2.437; CI = 1.106-5.367, p = 0.027) were factors associated with the utilization of health services in the study locale.

Conclusions: The utilization of the primary health care services was low, and the perception of services utilized was not satisfactory. The Local Government Health Authority needs to strengthen the primary health care system. Also, improved community engagement and participation could enhance health services access and uptake.

Keywords: Health services, Utilization, Primary Health Care, Household heads, Southern Nigeria.

INTRODUCTION

The fundamental aim of Primary Health Care (PHC) is to ensure universal access to available resources in order to provide adequate coverage of the most important health needs of the people. Preceding the Alma-Ata Conference declaration (with respect to Primary Health Care) was the decision by the World Health Assembly (WHA) to make health available to all peoples globally by the year 2000.[1] As part of the health care system, primary health care has enormous importance in the delivery of health care. This importance is linked to the fact that PHC facility is the first point of care and a major conduit for the delivery of health care to a significant proportion of the population.[2] PHC is also the cornerstone of a sustainable health system for universal health coverage (UHC) and health-related Sustainable Development Goals (SDGs), especially SDG 3, which is to ensure healthy lives and promote well-being for all at all ages. Therefore, strengthening PHC is the most inclusive, effective and efficient approach to enhance people's health and well-being.[3] The services provided under the PHC include prevention and treatment of communicable diseases; immunization; maternal and child health (MCH) services; family planning; public health education; environmental health and the collection of statistical data on health and health related events.[4]

The utilization of PHC Services is an indicator of the health of the community. Other indicators

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include morbidity and mortality data which can be obtained from records generated by health facilities.[5] These records provide much useful information about the demand for the utilization of health services and the extent to which various target groups within the population are being served. Access to care is the first essential condition for utilization of services. Access to health services means the timely use of personal health services to achieve the best health outcomes which impact on overall physical, social and mental health status including quality of life.[6,7] However, non-utilization of PHC services which could be as a result of social and economic disparities causes: unmet health needs, delays in receiving appropriate care, inability to get preventive services and hospitalizations that could have been prevented with resultant increased burden of diseases.[8,9]

PHC provides essential health services and commodities to individuals and communities using available, acceptable and sustainable resources. Despite the increasing expenditure on PHC by government and other stakeholders, the demand for and rate of utilization of PHC services are dwindling. [10] In Nigeria, there is under-utilization of PHC services and this is worse in the northern part of the country. Patients by-pass the primary health care centres to directly access services in secondary and tertiary health facilities. This results in reduced quality of services at the higher levels of care because the facilities become over-burdened and overstretched beyond their optimal functional capacity.[10,11]

This study determined the perception and level of utilization of PHC services by residents of Egor Local Government Area (LGA), Benin City, Nigeria. It is hoped that the evidence-based findings of the study will provide policy makers with information that will help improve facilities and services at the PHC level. This invariably could enhance utilization of PHC services in the community and its environs in line with the Nigerian National Health Sector Reform Program and the National Health Strategic Development Plan 2018-2022.[12]

METHODOLOGY

This descriptive cross-sectional study was conducted in Egor LGA, Edo State, Nigeria with its administrative headquarters in Uselu. The LGA consists of 10 political wards and is located in Edo South Senatorial Zone. The LGA is bounded to the North by Ovia North East LGA, to the East by Ikpoba Okha LGA, to the south by Oredo LGA and to the West by Ovia South-West LGA. The 10 wards in the LGA include: Ugbowo, Okhoro, Uwelu, Uselu I, Uselu II, Ogida I, Ogida II, Useh, Egor and Evbotubu.[13] The total area of the LGA is 93 km2 with a population of 340,287 as at the 2006 national census and a projected population of 502,700 by 2022.[14] The health facilities present in the LGA include: 10 public PHC centres, University of Benin Teaching Hospital (UBTH), and several private hospitals. Majority of the inhabitants of Egor LGA are civil servants, students, artisans and traders. The dominant religions are Christianity, Islam and traditional religion.[13]

Data were collected from the five functional PHCs providing primary care services in the LGA. The study population comprised of heads of households or their representatives that were 18 years and above residing in Egor LGA for over six months who gave their consent to participate in the study. A sample size of 371 was calculated using the appropriate Cochran's formula for a single proportion, $n = [z^2pq/d^2] \times Deff$. This was calculated considering a standard normal deviate (z) of 1.96 at a significance level of 5%; 79.9% which was the proportion of respondents that utilized the health centre for treatment in an earlier study in Egor LGA, 2014 [15] was used as p and *Deff* = 1.5 (design effect for multistage sampling method).

Multistage sampling was employed in selecting respondents for this study. Purposive sampling was used to select the wards with functional PHCs such as Useh, Egor, Ogida, Uselu II and Uwelu. Three out of the five eligible wards, Useh, Egor and Uwelu were selected using simple random sampling by balloting. Enumeration area maps of the three selected wards in Egor LGA were obtained from the Local Government Secretariat and two enumeration areas were selected from each ward by simple random sampling technique using balloting. A total of six enumeration areas were selected. Cluster sampling technique was used to select respondents. Each settlement formed a cluster and all heads of households or their representatives living within the selected settlement, and met the inclusion criteria were recruited for the study using house to house recruitment until the sample size was completed.

A quantitative data collection tool was utilized to obtain data for this study. A structured, and interviewer-administered questionnaire was distributed to the 371 heads of household. The questionnaire was adapted from a study done in Edo State, Nigeria.[16] Six research assistants who were Senior Community Health Extension Workers (SCHEWs) were trained for 3 days on data collection to enhance the validity and repeatability of the research tools prior to the survey. The questionnaire was screened for completeness by the researcher, coded and were entered into the IBM SPSS version 25 software for analysis. Proportions were used to show utilization and non-utilization of PHC and PHC services and other discrete data. Bivariate and multivariate analysis were to determine the

socio-demographic and socio-economic predictors of utilization of PHC facilities and services.

Ethical approval to carry out the study was obtained from the Research and Ethics Committee of the University of Benin Teaching Hospital, Benin City, Nigeria with a protocol number of ADM/E22/A/VOL.VII/14507. Permission to carry out the study was granted by the Chairman of Egor Local Government Area through the Director of Primary Health Care of the LGA. Verbal informed consent was obtained from the heads of household in Egor LGA after explaining the purpose of the study to them. They were also informed that their participation in the study was voluntary and that they could opt out of the study at any time. The respondents were educated on appropriate health care seeking behaviour.

RESULTS

A total of 371 respondents participated in the survey. Majority of the heads of household were males, 191(51.6%) and females were 180 (48.4%). Slightly more than half 195 (52.5%) of the heads of household were in the age range of 35-49 years. Over three-quarters of the respondents: 323 (87.1%) were Christians; 286 (77.1%) were married; 297 (80.1%) were in monogamous marriages; and 294 (79.4%) were in nuclear families. Edo State indigenes were the major ethnicity, 199 (53.6%) and 260 (70.0%) of the respondents had at least secondary level of education. Over half 227 (61.2%) and 206 (55.5%) of the respondents were in occupational skill level 2 and earned more than the minimum wage of ₦30,000 per month as shown in Table 1.

In Table 2, less than half of the respondents had utilized PHC services 171 (46.1%). Immunization and child health care services were the most frequent services utilized by 45 (26.3%) and 39 (22.8%) of the respondents, respectively. Maternal health care and HIV/AIDS counselling and testing services were utilized by 32 (18.7%) and 20 (11.7%) of the household heads respectively. Almost a quarter 42 (24.6%) of the respondents that utilized PHC services in the LGA perceived that the services were satisfactory.

Table 3 shows that the major factors perceived by the respondents resulting in poor utilization of PHC services in the LGA include: long waiting time 82 (48.0%); lack of diagnostic facilities 34 (19.9%); and lack of essential drugs 31 (18.2%). The heads of household mentioned some of the following solutions that could lead to better utilization of PHC services in the study area: improved health services 136 (36.7%); provision of diagnostic medical equipment 98 (26.4%) and presence of personnel like doctors 91 (25.5%) and skilled health workers 85 (22.9%).

Also, in Table 4, there was a statistically significant association between the sex of the heads of household ($p = 0.004$), their religion ($p = 0.003$), marital status ($p = 0.035$), family type ($p = 0.020$) and occupational skill level ($p = 0.025$) with the utilization of PHC services in the LGA studied ($p < 0.050$). Females, Christians, married respondents, those in nuclear families and respondents in at most occupational skill level 2 were likely to utilize PHC services in the LGA.

Table 5 reveals that male heads of household were less likely than their female counterparts to utilize PHC services in the LGA with an odd of 0.599, the association was statistically significant $p = 0.027$; (95%CI = 0.380-0.944). Christians were 2.246 times more likely to utilize PHC services than non-Christians in the LGA, the association was statistically significant $p = 0.033$; (95%CI = 1.066-4.735). Respondents with occupational skill level of 1 were 2.437 times more likely to utilize PHC services than those in skill level 4 and this association was statistically significant $p = 0.027$; (95%CI = 1.106-5.367). The associations between the age, level of education, occupational skill levels 2 and 3, including the monthly income of the respondents and the utilization of PHC services were not statistically significant $p > 0.05$. However, younger adults (≤ 49 years) and respondents earning less than the minimum wage were less likely to utilize PHC services than older adults and those that earn more than the minimum wage respectively.

DISCUSSION

In this study, less than half of the respondents have utilized the PHC services in Egor LGA. A similar finding was reported in a study done in Oromia in Eastern Ethiopia.[17] However, studies done in Anegbette, Edo State, Nigeria,[16] and Irbid Governorate of Jordan[18] observed that more than two-thirds of the respondents had utilized health services for various reasons The under-utilization of public PHC services in the LGA might be as a result of the presence of alternative sources of health services delivery. The LGA has over 3 referral medical centres and 26 private hospitals.[13] The LGA and indeed Edo State have poorly maintained health infrastructure, lack of basic hospital equipment and support services, and documented poor quality of services and facility utilization.[13] Under-utilization of PHC services was also documented in the National Demographic Health Survey (NHDS) 2018 in Nigeria, especially in the Northern part of the country.[11] The utilization of PHC Services is an indicator of the health of the community. Good utilization of health services improves the health status of the

Table 1: Sociodemographic characteristics of respondents

Variables	Frequency (n = 371)	Percent
Sex		
Male	191	51.5
Female	180	48.5
Age (years)		
18 - 34	73	19.7
35 - 49	195	52.5
≥50	103	27.8
Religion		
Christian	323	87.1
Muslim/ATR	48	12.9
Marital status		
Married	286	77.1
Single	46	12.4
Separated/Divorced/Widowed	39	10.5
Marriage type		
Monogamy	297	80.1
Polygamy	74	19.9
Family type		
Nuclear	294	79.2
Extended	77	20.8
Ethnicity		
Edo State indigenes	199	53.6
Non-Edo State indigenes	172	46.4
Level of education		
Non formal/Primary	111	30.0
Secondary	127	35.8
Tertiary	133	34.2
Occupational skill level		
Skilled level 2	227	61.2
Skilled level 4	99	26.7
Skilled levels 1 and 3	45	12.1
Monthly income (₦)		
> 30000	206	55.5
≤ 30000	165	44.5

₦30,000 = minimum wage in Nigeria; ATR = African Traditional Religion

population. However, the presence of health facilities alone is not enough to guarantee use as other socioeconomic factors could influence access and utilization.[16]

An array of reasons was stated by the respondents for the non-utilization of public PHC services in the LGA. Lack of awareness of the services offered in the PHC and lack of trust in services provided were the major reasons mentioned by the respondents. Similar reasons were reported in a study done in a semi-urban community in Osun State, Nigeria.[19] Some of the reasons reported include poor quality of service, poor understanding of PHC system and problems related to access.

Funds should be made available, accessible roads should be constructed, functional laboratory services provided and there should be necessary remunerations and incentives to motivate workers, provision of basic amenities in the PHC and more community mobilization to create needed awareness and trust in the PHCs for effective utilization of its services in the study locale.

Maternal and child care services were mostly utilized in the PHC facilities in the study area. Immunization, child and maternal health care services were utilized by majority of the respondents. Others were reproductive health, primary level of prevention and curative

Table 2: Utilization of PHC Services by respondents

Variables	Frequency	Percent
Utilization of services in PHC facilities (n = 371)		
Yes	171	46.1
No	200	53.9
Services utilized in PHC facilities (n = 171)		
Immunization	45	26.3
Child health care	39	22.8
Laboratory	33	19.3
Maternal health care	32	18.7
Health education	25	14.6
HIV/AIDS counseling and testing	20	11.7
Family planning	15	8.8
Health promotion	13	7.6
Preventive services	12	7.0
Curative services	9	5.3
Respondents' perception of PHC services utilized (n = 171)		
Satisfactory	42	24.6
Not satisfactory	129	75.4

** Multiple responses*

Table 3: Perceived factors affecting the utilization of PHC services by respondents

Variable	Frequency (n = 171)	Percent
Deterrents of PHC utilization		
Long waiting time	82	48.0
Lack of diagnostic facilities	34	19.9
Lack of essential drugs	31	18.2
Lack of trained personnel	16	9.4
High cost of treatment	15	8.8
Long distance to PHC facility	13	7.6
*Others	3	1.8
Enablers of PHC utilization		
Improved health services	136	36.7
Provision of diagnostic medical equipment	98	26.4
Presence of medical doctors	91	25.5
Employ more skilled health workers	85	22.9
Create awareness of available services	70	18.9
Provision of more essential drugs	45	11.6
**Others	25	6.7

Multiple responses.
**Others: lack of laboratory services, short hours of services and insecurity. **Others: prompt attention to patients, affordable cost of drugs, prompt payment of salary of staff, renovation and expansion of PHC centres, provision of free medical services, motivation of health workers and provision of security facilities.*

services. This patronage of mainly immunization and maternal and child care services might be as a result of the country's poor health indices especially those related to maternal and child morbidity and mortality.

Three-quarters of the respondents perceived that they were not satisfied with the PHC services provided at the LGA. The basis of the perceptions of these respondents cannot by this research be explained, as to whether their health care needs were met or not. Acceptability captures the extent to which the client is comfortable with the nature of services with respect to his culture, religion, and other social dimensions.[7] Most common reasons given for the non-utilization of PHC services in this study were closely related to findings from studies done in Batsari LGA in Katsina State[20] and Kumbotso Local Government Area of Kano State, Nigeria.[21] The reasons include, non-availability of essential drugs, high cost of services and inadequacy of medical staff while preference for general hospitals and self-medication were identified in a study done in Ibadan, Nigeria.[22] Non-utilization of PHC services could lead to: unmet health needs, delays in receiving appropriate care, inability to

Table 4: Social-demographic characteristics and utilization of PHC services

Variable	Utilization of PHC services		Test statistics
	Yes (n = 171) n (%)	No (n = 200) n (%)	
Sex			
Male	75 (39.3)	116 (60.7)	$x^2 = 7.379$
Female	96 (53.3)	84 (46.7)	**p = 0.004***
Age			
Younger adults	124 (46.3)	144 (53.7)	$x^2 = 0.012$
Older adults	47 (45.6)	56 (54.4)	p = 0.503
Religion			
Christian	158 (48.9)	165 (51.1)	$x^2 = 8.017$
Non-Christians	13 (27.1)	35 (72.9)	**p = 0.003***
Marital status			
Never married	15 (32.6)	31 (67.4)	$x^2 = 3.842$
Ever married	156 (48.0)	169 (52.0)	**p = 0.035***
Marriage type			
Monogamy	142 (47.8)	155 (52.2)	$x^2 = 1.772$
Polygamy	29 (39.2)	45 (60.8)	p = 0.115
Family type			
Nuclear	144 (49.0)	150 (51.0)	$x^2 = 4.755$
Extended	27 (35.1)	50 (64.9)	**p = 0.020***
Ethnicity			
Edo indigenes	97 (48.7)	102 (51.3)	$x^2 = 1.215$
Non-Edo indigene	74 (43.0)	98 (57.0)	p = 0.159
Level of education			
Non-Formal	16 (42.1)	22 (57.9)	$x^2 = 0.271$
Formal	155 (46.5)	178 (53.5)	p = 0.365
Occupational skill			
Skilled level 1	27 (64.3)	18 (35.7)	
Skilled level 2	109 (48.0)	118 (52.0)	$x^2 = 5.336$
Skilled level 3	1 (33.3)	2 (66.7)	**p = 0.025***
Skilled level 4	37 (37.8)	61 (52.2)	
Monthly income (₦)			
< Minimum wage	31 (41.9)	43 (58.1)	$x^2 = 0.656$
≥ Minimum wage	140 (47.1)	157 (52.9)	p = 0.249

*Minimum wage = ₦30,000; * p < 0.05: statistically significant*

get preventive services and hospitalizations that could have been prevented.[8] It could also lead to over-burdened and overstretched facilities at the secondary and tertiary levels of care with consequent reduction in quality of services.[9] Sex, religion, and occupational skills significantly predicted the use of PHC services in Egor LGA. The male heads of household or their representative were less likely to utilize PHC services compared to the females and this could be due to the fact that women are among the vulnerable groups in the community.

Limitation of study: Recall bias with respect to recalling reasons for utilization and non-utilization. This was minimized by using time lines during the interviews. Also, limitation of self-report as some of the responses cannot be authenticated. Respondents were assured of confidentiality.

Conclusion: The utilization of the PHC services was low and the perception of services utilized was not satisfactory. Lack of awareness of the services offered in the PHC and lack of trust in the PHC were prominent reasons for non-utilization of PHC services. Perceived factors from the respondents such as time spent waiting for treatment, inadequacy of available services and hours of operation largely infringed on level of use of the PHC services with statistical significance with certain socio-demographic characteristics of the respondents. Relevant authorities ranging from State

Table 5: Predictors of utilization of PHC services

Variable	β (Regression coefficient)	p-value	Odds Ratio	95% C.I. for Odds ratio	
				Lower	Upper
Sex					
Male	-0.513	**0.027**	0.599	0.380	0.944
Female*			1		
Age					
Younger adults	-0.138	0.255	0.589	0.529	1.436
Older adults*			1		
Religion					
Christians	0.809	**0.033**	2.246	1.066	4.735
Non-Christians*			1		
Education level					
Formal*			1		
Non- formal	0.048	0.902	1.049	0.488	2.255
Occupation skill					
Skilled level 1	0.891	**0.027**	2.437	1.106	5.367
Skilled level 2	0.521	0.052	1.683	0.997	2.844
Skilled level 3	-0.099	0.937	0.905	0.077	10.580
Skilled level 4*			1		
Monthly income					
< minimum wage	-0.347	0.222	0.707	0.405	1.234
≥minimum wage*			1		

**Reference category; minimum wage = ₦ 30,000; p < 0.050 is statistically significant*

Coordinators of NPHCDA to the Local Government Health authorities especially, should work to ensure that political wards have Ward Development Committees that will ensure further development and improvement on the PHC and the services in the study area. The identified challenges to utilization of health services will give insight to the Local Government Health Authority on prospective solutions needed to strengthen the PHC system. Also, improved community engagement and participation could enhance health services access and uptake.

Acknowledgements: The researchers appreciate the residents, management and staff of Egor Local Government Area for their cooperation during the study. The technical support of the Department of Public Health and Community Medicine, University of Benin Teaching Hospital is also well acknowledged.

Authors' Contributions: VYA: Conception, design, manuscript drafting, revision and final approval, IVT: Conception and data collection and literature review, JCN: statistical analysis and manuscript drafting, and OOM: data collection and manuscript drafting.

Conflict of interest: The authors declare no known conflict of interest.

Funding: The research was funded by the researchers.

Consent for publication: Verbal informed consent was obtained from the heads of households in the LGA.

Availability of data and materials: The authors hereby declare that they will make available data and materials used for the preparation of the manuscript upon request

REFERENCES

1. Alenoghena I, Aigbiremolen AO, Abejegah C, Eboreime E. Primary Health Care in Nigeria: strategies and constraints in implementation. International Journal of Community Research. 2014; 3(3): 74-79. 74

2. Obionu CN. Primary Health Care for Developing Countries. 3rd edition. Enugu: Evanseenio printing and publishing. 2016; 1-42.

3. Adam VY, Nwaogwugwu JC. Availability of personnel, facilities and services in Primary Health Care Centres in a Local Government Area in Benin City, Nigeria. Annals of Clinical and Biomedical Research. 2020; 1(1): 29-33. https://doi.org/10.4081/acbr.2020.111

4. WHO and UNICEF. A vision for primary health care in the 21st century. World Health Organization and the United Nations Children's Fund. 2018. Available at: https://www.who.int/docs/default-source/primary-health/vision.pdf

5. Aliyu UA, Kolo MA, Chutiyami M. Analysis of distribution, capacity and utilization of public health facilities in Borno, North-Eastern Nigerian. Pan African Medical Journal. 2020; 35: 39. DOI: 10.11604/pamj.2020.35.39.17828

6. Office of Disease Prevention and Health Promotion (ODPHP). Access to healthcare services. 2014. Available at: https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-health/interventions-resources/access-to-health

7. Agency for Healthcare Research and Quality (AHRQ). National healthcare disparities report 2008. Chapter 3, Access to healthcare. Washington: AHRQ; 2008. Available from: http://www.ahrq.gov/sites/default/files/wysiwyg/research/findings/nhqrdr/nhdr08/nhdr08.pdf

8. World Bank. The National Economic Empowerment and Development Strategies (NEEDS) and Joint IDA-IMF Staff Advisory Note. Washington DC: World Bank 2005; 1:109. Available at: https://documents.worldbank.org/en/publication/documents-reports/documentdetail/234301468290438608/nigeria-national-economic-empowerment-and-development-strategy-and-joint-ida-imf-staff-advisory-note accessed: August 27th, 2020

9. Alfaqeeh G, Cook EJ, Randhawa G, Ali N. Access and utilization of primary health care services comparing urban and rural areas of Riyadh Providence, Kingdom of Saudi Arabia. BMC Health Serv Res 2017;**17:**106. https://doi.org/10.1186/s12913-017-1983-z

10. Gage AD, Leslie HH, Bitton A, Jerome G, Joseph JP, et al. Does quality influence utilization of primary health care? Evidence from Haiti. Global Health. 2018;**14:**59. https://doi.org/10.1186/s12992-018-0379-0

11. National Population Commission (NPopC) and ICF International. National Demographic Health Survey (NDHS) 2018. NPopC, Abuja and ICF International, Maryland. 2019;213-262. [Accessed at: November 16, 2021]. Available at: https://dhsprogram.com

12. Federal Ministry of Health, Nigeria. National Strategic Health Development Plan II (NSHDP II), 2018-2022. Federal Ministry of Health, Abuja, 2018. Available at; https://www.health.gov.ng/doc/NSHDP%20II%20Final.pdf

13. Edo State Government. Strategic Health Development Plan II (SHDP II) 2018-2022: Towards actualizing the provisions of basic health care services. Edo State Ministry of Health, Benin City, Nigeria. 2018. Available at: https://ngfrepository.org.ng:8443/jspui/bitstream/123456789/3283/1/SECOND%20NATIONAL%20STRATEGIC%20HEALTH%20DEVELOPMENT%20PLAN%202018%20%E2%80%93%202022.pdf Accessed February 12th, 2020

14. City Population. Egor Local Government Area. Available at: https://www.citypopulation.de/php/nigeria-admin.php?adm1id=NGA012. Accessed October 23rd, 2023.

15. Obuge JS. Accessibility of primary health care centres in Egor Local Government Area of Edo State. Department of Geography and Regional Planning, University of Benin, Benin City, Edo State, Nigeria. 2014; 1-14. Available at: https://www.slideshare.net/JoelObuge/accessibility-of-phc-in-egor-lga-final-year-research-53206875 Accessed February 20th, 2020

16. Adam VY, Awunor NS. Perceptions and factors affecting utilization of health services in a rural community in Southern Nigeria. Journal of Medicine and Biomedical Research. 2014; 13(2):117-124

17. Desalew ZA, Bekele B, Kedir T, and Desalegn AA. Factors affecting utilization of maternal health care services in Kombolcha District, Eastern Hararghe Zone, Oromia Regional State, Eastern Ethiopia. International Scholarly Research Notices 2014; 1-10. DOI: 10.1155/2014/917058

18. Abdullah A, Margo BH, Jamal Q, Wasileh P, Madi J. et. al. A cross-sectional study to examine factors associated with primary health care service utilization among older adults in the Irbid Governorate of Jordan. Current Gerontology and Geriatrics Research. 2014; 7:3. DOI: 10.1155/2014/735235

19. Egbewale BE, Odu OO. Perception and utilization of primary health care services in a semi-urban community in South-Western Nigeria1. Journal of Community Medicine and Primary Health Care. 2013; 24(1&2):11-20. DOI: 10.4314/JCMPHC.V24I1-2

20. Kurfi AM. Assessment of barriers to the utilization of primary health care services in Batsari Local Government Area of Katsina State. A thesis submitted to the Department of Community Medicine, Ahmadu Bello University, Zaria. 2013. Available at: https://kubanni.abu.edu.ng/items/6853670d-6f20-4b84-b948-4bc9dbfa710c

21. Ahmad AH, Koya MM, Said AS and Adam RA. Factors influencing the utilization of public primary health care facilities in Kumbotso Local Government Area of Kano State, Nigeria. International Journal of Development and Management Review. 2019; 14(1): 54-65

22. Adebayo AM, Asuzu MC. Utilization of a community-based health facility in a low-income urban community in Ibadan, Nigeria. Afr J Prm Health Care Fam Med. 2015;7(1), Art. #735, 8 pages. http://dx.doi.org/10.4102/phcfm.v7i1.735