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Original Research Article

Factors associated with health care utilization among vulnerable households in Oshimili South LGA, Delta State, Nigeria

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ABSTRACT

Background: Vulnerable households in Nigeria face persistent barriers utilizing healthcare services, resulting in poor health outcomes. This study assessed the factors associated with healthcare utilization among vulnerable households in Oshimili South Local Government Area, Delta State, Nigeria.
Methods: The study employed a descriptive cross-sectional survey design. Using purposive and simple random sampling techniques, 349 vulnerable households were enrolled between April and July, 2024. Collected data was analyzed using IBM/SPSS version 25.
Results: The findings revealed that the majority of respondents were female (85.4%), while those aged 30–39 years constituted the largest age group (37.2%). The results showed that vulnerable households in Oshimili South LGA experience moderate health challenges, with nearly half (48.4%) falling sick 2–5 times and hypertension (25.2%) being the most common condition. While more than half (54.7%) rated their health as "fair" and 51.3% engaged in daily physical activity, access to medication remained a major concern, with 80.8% reporting occasional difficulties. In terms of healthcare services, most households (76.5%) had a facility in their community, but visits were irregular, with 74.2% attending only sometimes and quality of services were rated "poor" by over half (54.7%). General hospitals were the most used (32.7%) and the majority (58.2%) preferred public facilities,
Conclusions: The high prevalence of "Most Vulnerable" households, combined with socioeconomic, cultural and institutional barriers, underscores the need for deliberate interventions to enhance healthcare access and utilization. Targeted social protection programs should also be prioritized to mitigate the health risks faced by vulnerable populations.

Keywords: Healthcare utilization, Oshimili South, Perceived factors, Vulnerable households, Vulnerability status

INTRODUCTION

Healthcare utilization remains a vital component of health system performance, as it reflects how individuals and households make use of available healthcare services in response to illness or preventive needs. According to Aboaba et al the utilization of healthcare facilities is not optional but a necessity, as individuals or households often recognize health challenges before seeking care.[1] Chauhan et al described healthcare-seeking behaviour as the decisions and actions taken by people to maintain or restore health or prevent disease, which are often influenced by cultural, social and economic circumstances.[2] Thus, healthcare utilization provides insight into the extent to which populations benefit from existing health services and the barriers that may hinder effective use. Despite the availability of healthcare facilities in many communities, evidence suggests that utilization is shaped by a complex interplay of factors beyond mere presence of services. Studies in Nigeria and other developing countries reveal that poor service

quality, high treatment costs and low staff morale often discourage households from seeking formal care.[3-6] In Katung study among mothers in Plateau State, key reasons for non-utilization included high cost of drugs, service charges, ease of accessing traditional healers and transportation challenges.[3] These findings highlight that the decision to use healthcare services is often mediated by affordability, convenience and perceptions of service quality. The burden of underutilization is more pronounced among vulnerable populations, who are disproportionately affected by socioeconomic and health-related challenges. Vulnerability is a multidimensional concept that can arise from poverty, illiteracy, gender, age, disability, cultural background or exposure to abuse and exploitation.[7] Globally, vulnerable populations have poorer health outcomes compared to the general population and often face systemic barriers in accessing essential health services.[8,9] Although there is no single consensus on what constitutes vulnerability, scholars agree that vulnerability is closely tied to increased health risks and limited opportunities for healthcare utilization.[10]

Socioeconomic factors are particularly significant in shaping healthcare utilization among vulnerable households. Poverty, unemployment and low educational attainment directly contribute to poor health outcomes, as households are unable to afford treatment or make informed health decisions.[11] Financial limitations, long distances to healthcare facilities and lack of transport further compound these challenges.[12] Beyond structural barriers, personal beliefs, trust in healthcare providers and perceptions of service quality also play critical roles in influencing whether vulnerable households seek care.[13] Thus, both systemic and household-level factors interact to shape healthcare utilization patterns. Research has also shown that primary healthcare facilities are the most frequently used by vulnerable households due to their affordability and proximity.[14] These facilities serve as the first point of contact for many, underscoring their importance in addressing the health needs of disadvantaged groups.

However, limited resources, staff shortages and poor infrastructure in primary healthcare settings may undermine their effectiveness. Understanding the health status and utilization patterns of vulnerable households is therefore essential in guiding interventions that strengthen healthcare delivery. Against this background, this study seeks to assess the factors associated with healthcare utilization among vulnerable households in Oshimili South Local Government Area of Delta State, with the goal of providing insights to inform evidence-based health policies and programs.

METHODS

This study employed a community-based cross-sectional survey design to assess the factors associated with health care utilization among vulnerable households in Oshimili South LGA, Delta State, Nigeria. The study population comprised 2,850 vulnerable households across eight communities, out of which a sample size of 372 respondents was determined using the formula by Das, Mitra and Mandal, after accounting for a 10% attrition rate.

A multistage sampling technique was employed.[15] In the first stage, purposive sampling was used to select four communities (Asaba, Okwe, Amakom and Cable) and in the second stage, proportionate random sampling was used to select respondents from each community, ensuring representativeness of the target population. Data were collected using two instruments: an adapted Household Vulnerability Assessment Form and a self-structured questionnaire designed to capture demographic data, vulnerability status, perceived factors influencing access and utilization of health care and household health status.

The instruments were validated for content and face validity by a panel of five experts in community health nursing, measurement and evaluation and public health, after which a pilot study involving 37 households in Oko Anala was conducted to establish reliability. Cronbach's Alpha test yielded a reliability coefficient of 0.83, confirming the internal consistency of the questionnaire items. For inclusion criteria, participants were required to reside in the Oshimili South LGA of Delta State, belong to a vulnerable household, had to be at least 18 years old and willing to provide informed consent.

Conversely for the exclusion criteria, individuals were excluded if they were unwilling to participate in the survey questionnaire, failed to provide informed consent or presented with cognitive impairments during the period of data collection. The study period was between January, 2024 to November, 2024. Data collection took place between April, 2024 to June, 2024 and four trained research assistants were engaged to administer the questionnaire, ensuring clarity for participants who had difficulties with reading and writing.

Ethical approval for the study was obtained from the Delta State Ministry of Health (Approval No: DSMH/CS/2024/041) and written informed consent was obtained from all participants prior to data collection. The collected data were coded and analyzed using IBM/SPSS version 25.

Descriptive statistics such as frequency counts and percentages were used to summarize the data, while inferential statistics, particularly Chi-square tests was used to test association between demographic characteristics (gender, age, educational status and employment status) of the vulnerable households on the influence of their utilization of health care services and Pearson Product Moment Correlation conducted to test for the influence of health status on health care utilization of vulnerable households. The hypothesis were tested at a 0.05 level of significance.

RESULTS

Table 1 presents the demographic characteristics of the vulnerable households surveyed in Oshimili South LGA, Delta State (N=349). The majority of respondents were female (85.4%), while only 14.6% were male, suggesting that women play a central role in household healthcare decisions. Most participants were married (58.5%), while 22.9% were widows and smaller proportions were single (5.7%), divorced (5.4%) or separated (7.4%), reflecting a mix of family structures among vulnerable households.

In terms of education, nearly half (46.4%) had attained primary education, while 32.7% had completed secondary education, 16.3% had no formal education and only 4.6% had tertiary education, indicating generally low literacy levels. The age distribution shows that the largest proportion of respondents were between 30–39 years (37.2%), followed by those aged 40–49 years (21.8%) and 20–29 years (17.2%), while those under 20 years (0.6%) and above 60 years (6.0%) were least represented, suggesting that respondents were predominantly in their economically active years. Regarding employment, most were self-employed (61.4%), with smaller proportions in public sector employment (32.6%), unemployed (5.9%) and retired (5.9%), pointing to limited formal sector engagement.

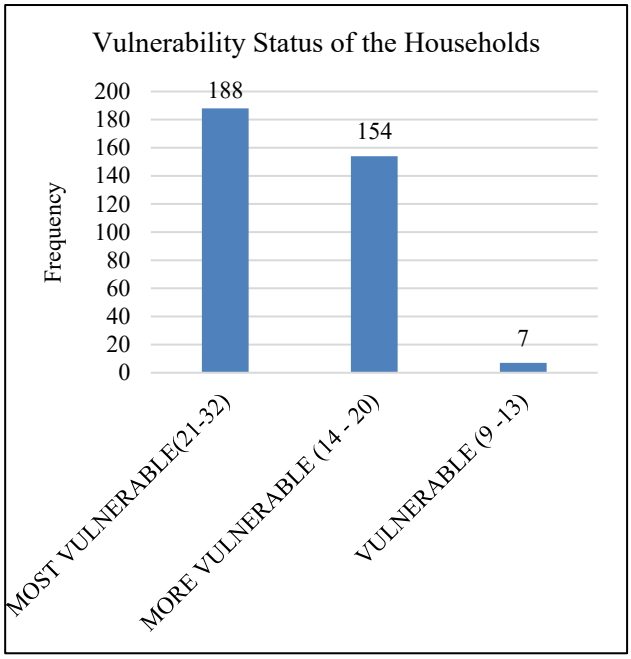

Figure 1: Distribution of Households based on Vulnerability Status in Oshimili South LGA, Delta State (n=349).

Christianity was the dominant religion (63.9%), followed by Islam (32.4%) and traditional beliefs (3.7%), reflecting the religious diversity of the area but with Christianity as the majority faith. Overall, the table highlights a population characterized by high female representation, low educational attainment, reliance on self-employment and middle-age dominance, all of which may influence patterns of healthcare utilization. Figure 1 shows the vulnerability status of the participants. Majority of the participants 188 (53.9%) were most vulnerable, 154 (44.1%) were more vulnerable and only 7 (20.0%) were vulnerable.

Table 2 shows the health status of the vulnerable households. Results from the table indicate that majority (48.4%) of vulnerable households fell sick 2 to 5 times, more than two-third (76.5%) of households reported no hospitalization and the most common health conditions among vulnerable households were hypertension (25.2%). However, 54.7% of vulnerable households reported "Fair" health status. Physical activity levels vary, with more than half (51.3%) engaging in daily physical activity. Majority of the respondents (80.8%) experiencing occasional difficulties in accessing medication.

Results from the study on Table 3 indicate that (76.5%) of vulnerable households reported having a health facility within their community. Majority (74.2%) of households reported visiting the health facility within their community sometimes. A notable portion (14%) never visited the local facility and 56.4% rating quality of health service as "Poor." Most households (42.7%) spent around 5 hours at the health facility. More than half (57%) of households used cars to reach their preferred health facility, most households (48.4%) considered the cost of healthcare services "Very high," more than two-third (69.6%) of households reported that the closest healthcare facility was 30 minutes away by vehicle as factors that influence their use of health care service. The most utilized facility was general hospitals (32.7%) and majority (58.2%) of vulnerable households preferred public health facilities.

Table 4 shows the demographic characteristics of gender, age, educational status and employment status of the vulnerable households on the influence of their utilization of health care services. The table illustrates that the p-values of educational status, age and employment status of the vulnerable households were 0.00, 0.008 and 0.00 respectively which were all less than 0.05 significance level. This implies that educational status, age and employment status of the vulnerable households influence their utilization of health care services.

Table 5 shows a Pearson Product Moment Correlation conducted to test for the influence of health status on health care utilization of vulnerable households. The analysis conducted reveals that there was a weak and positive influence of health status on health care utilization of vulnerable households in Oshimili South LGA, Delta State ($r=0.024$, $p=0.65$) at 0.05 alpha level. This implies that the health status of vulnerable households in Oshimili South LGA, Delta State influences their health care utilization.

Table 1: Demographic characteristic of vulnerable households in Oshimili South LGA, Delta State (n=349).

Variables		Frequency	%
Gender	Male	51	14.6
	Female	298	85.4
Marital status	Single	20	5.7
	Married	204	58.5
	Divorced	19	5.4
	Widow	80	22.9
	Separate	26	7.4
Level of education	No formal education	57	16.3
	Primary	162	46.4
	Secondary/High school	114	32.7
	College/University	16	4.6
Age (in years)	<20	2	0.6
	20-29	60	17.2
	30-39	130	37.2
	40-49	76	21.8
	50-59	60	17.2
	Above 60	21	6.0
Employment status	Employed (public sector)	32	32.6
	Employed (self-employed)	145	61.4
	Unemployed	14	5.9
	Retired	14	5.9
Religion	Christianity	223	63.9
	Islam	113	32.4
	Traditional	13	3.7

Table 2: Health status of the vulnerable households in Oshimili South LGA, Delta State (n=349).

Health status of the vulnerable households	Frequency	%
How many times have you fallen sick in the past 12 months?		
Never felt sick	55	15.8
Only once	110	31.5
2 to 5 times	169	48.4
6 to 10 times	12	3.4
more than 10 times	3	0.9
If you have fallen sick, how many times out of these were you hospitalized?		
None	267	76.5
Once	43	12.3
2 to 5 times	33	9.5
6 to 10 times	2	0.6
more than 10 times	4	1.1
Do you currently have any of the following health conditions?		
Diabetes	4	1.1
Hypertension	88	25.2
Respiratory diseases	65	18.6
Mental health disorder	10	2.9
Other	182	52.1
Do you currently have any of the following health conditions?		
Very healthy	16	4.6
Mostly healthy	18	5.2
Balanced	64	18.3
Mostly unhealthy	214	61.3
Very unhealthy	37	10.6

Continued.

Health status of the vulnerable households	Frequency	%
How often do you engage in physical activity?		
Daily	179	51.3
3-5 times a week	40	11.5
1-2 times a week	36	10.3
Rarely	34	9.7
Never	60	17.2
Have you experienced difficulty in accessing necessary medications in the past six months?		
Yes, frequently	31	8.9
Yes, occasionally	282	80.8
No, never	36	10.3
How will you personally rate your current health status?		
Very good	7	2.0
Good	104	28.8
Fair	191	54.7
Bad	37	10.6
Very bad	10	2.9

Table 3: Levels of health care facilities most utilized in Oshimili South LGA, Delta State (n=349).

S. no.	Levels of health care facilities most utilized	Frequency	%
1	Is there any health facility within your community?		
	Yes	267	76.5
	No	82	23.5
2	When will do you visit the health facility within your community?		
	Sometimes	259	74.2
	After taking herbs and don't feel better	36	10.3
	Never	49	14
	Others	5	1.4
3	How would you rate the services of the health facilities within your community?		
	Good	148	42.4
	Poor	197	56.4
	Very good	4	1.1
4	How long did you spend when you visited the health facility?		
	2 hours	82	23.5
	3 hours	118	33.8
	5 hours	149	42.7
5	If you have any visit to the chosen health facility, by what means do you get there?		
	On foot	39	11.2
	By bicycle	24	6.9
	By car	199	57
	Other	87	24.9
6	How will you personally rate the quality of service provided by your most preferred health facility?		
	Very poor	11	3.2
	Poor	191	54.7
	Satisfactory	69	19.8
	Good	73	20.9
	Very good	5	1.4
7	How would you rate the cost of the services provided at the facility?		
	Low	36	10.3
	Moderate	93	26.6
	High	51	14.6
	Very high	169	48.4
8	What is the distance of the closest health care facility to your house		
	Walkable distance	53	15.2

Continued.

S. no.	Levels of health care facilities most utilized	Frequency	%
	15 mins with Vehicle	53	15.2
9	Which of these health care facilities do you mostly visit when you fall sick or the need arises?		
	PHC	43	12.3
	General Hospital	114	32.7
	Private hospital	40	11.5
	Teaching Hospital	49	14
	Health center	16	4.6
	Pharmacist/ Drug seller	79	22.6
	Traditional/ Herbal medicine	6	1.7
	Religious/Spiritual healing center	2	0.6
10	What is your preferred health facility public or private?		
	Public	203	58.2
	Private	146	41.8

Table 4: Relationship between demographic characteristics (gender, age, educational status and employment status) of the vulnerable households and their utilization of health care services in Oshimili South LGA, Delta State (n=349).

Demographic characteristics	Chi-square	P value	Remark
Gender	30.97	0.14	Not Significant
Educational status	136.34	0.00	Significant
Age	113.65	0.008	Significant
Employment status	155.22	0.00	Significant

Table 5: Influence of health status on health care utilization of vulnerable households in Oshimili South LGA, Delta State.

Variables	Mean	Std. deviation	*r*	P value
Health status	23.37	3.68	0.024	0.65
Health care utilization	17.74	2.10		

DISCUSSION

This study assessed factors influencing the health status of the vulnerable households in Oshimili South LGA, Delta State. Finding from this study indicated that majority of vulnerable households in Oshimili South LGA, Delta State reported "Fair" health status and general hospital as the mostly utilized the care health facility. While general hospitals serve as essential resources for these communities, the "Fair" health status reported by many households indicates room for improvement in the overall healthcare system.

To promote better health outcomes among vulnerable populations, it is crucial to invest in public health programs, strengthen the capacity of healthcare facilities and address socio-economic, cultural and institutional barriers that hinder access to healthcare services. The findings of this study align with that of Oluyemi et al, whose study focused on factors determining the utilization of healthcare facilities in a semi-urban setting in Kwara State Nigeria.[16] The results of their findings showed that general hospital was mostly utilized by the studied population, representing the option of over one-fourth of the participants. However, Asibey study on determinants of healthcare utilization in rural communities in Bekwai Municipality, Ghana reported that more than half of the respondents perceived their health status as very good and good and the remaining perceived as fair, bad and very bad in descending order as contradict the result of the present finding.[17]

Finding from the study revealed that most vulnerable households in Oshimili South LGA, Delta State reported poor health facilities and poor quality of service by the most preferred health facility with high service cost. The result of this finding is fairly consistent with the findings of Hassen et al, who reported that public healthcare facilities had poorer infrastructure and longer waiting times compared to private facilities, while private facilities had higher service costs and lower patient satisfaction.[18] This indicates that vulnerable households face significant challenges in accessing adequate healthcare services, which in turn can exacerbate health inequalities and worsen health outcomes.

Furthermore, finding from this study revealed that gender, educational status, age and employment status of the vulnerable households in Oshimili South LGA, Delta influence their utilization of health care services. These variables can create systemic barriers that hinder

equitable access to healthcare services, perpetuating health disparities and worsening outcomes for specific demographic groups. To promote more inclusive healthcare access, it is crucial to address underlying socio-economic and cultural factors, such as gender inequalities, limited education, age-related barriers and employment challenges. These findings corroborate the findings of Alkhawaldeh et al who conducted a study on application and use of Andersen's behavioral model as theoretical framework: a systematic literature review from 2012–2021.[19] Their literature review shows that gender, age, educational level and were found to be associated with health services utilization in many of the reviewed studies.

In addition, the result of this finding indicated that health status of vulnerable households in Oshimili South LGA, Delta State influences their health care utilization. The result of this study is consistent with the findings of Adebayo et al who conducted a study on factors influencing healthcare utilization among rural households of Kaduna State, Nigeria and found out that the health status of vulnerable households significantly influenced their healthcare utilization patterns.[20] The study assessed various socio-economic, cultural and demographic factors affecting healthcare access and utilization among rural households. The findings revealed that households with poor health status were more likely to utilize healthcare services compared to those with better health status.

The researchers identified several limitations that affected the study. Firstly, due to the limited scope of the research, the generalizability of the findings to a broader population may be considered restricted. Secondly, the design relied solely on a quantitative method; consequently, applying qualitative design among a more heterogeneous population group was recommended for future research. Finally, the study utilized self-report measures to assess vulnerability status, which introduced the potential for information bias as a result of social desirability.

CONCLUSION

The study highlight that vulnerable households in Oshimili South LGA, Delta State experience a moderate burden of illness, with most reporting sickness episodes but few requiring hospitalization, indicating reliance on outpatient or home-based care. Hypertension emerged as the most common health condition, reflecting the growing prevalence of non-communicable diseases in vulnerable populations. Although over half of the households reported engaging in daily physical activity, a significant proportion still rated their health status as only "Fair," underscoring gaps in overall well-being. Furthermore, the high percentage of households facing difficulties in accessing necessary medications points to persistent systemic and financial barriers in healthcare delivery. These findings emphasize the need for strengthened primary healthcare services, improved access to affordable medications and preventive health programs targeted at managing chronic conditions and enhancing the health outcomes of vulnerable households.

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