

Perceived factors influencing access to health care among vulnerable households in Oshimili South LGA, Delta State, Nigeria

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ABSTRACT: Vulnerable households in Nigeria face a daunting struggle to access adequate healthcare, underscoring the urgency of understanding the factors that impede their ability to seek and receive the medical attention they need. This study examined the vulnerability status, perceived factors influencing access to health care, and the predictors of vulnerability among vulnerable households in Oshimili South, Delta State. The study adopted a cross-sectional descriptive survey. Purposive and Simple Random sampling techniques were employed to enrol 349 vulnerable households between April and July 2024. The instrument for data collection was an adapted Household Vulnerability Assessment Form and a self-structured questionnaire on perceived factors influencing access to health care among vulnerable households. The instrument was validated and tested for reliability. Data was analysed using SPSS version 25, and results were presented in tables. The results show that the majority of the respondents were 298 females out of 349, while the age group 30-39 comprises the highest age group, making up 37.2%. The results showed that more than half, 188 (53.9%), were the most vulnerable households. Findings from the study also indicated that lack of transport fare to healthcare facility, gender roles and power dynamics, and high cost of drugs, respectively, were the most perceived socio-economic, cultural/religious and institutional factors influencing access to healthcare among vulnerable households in Oshimili South LGA, Delta State. Lack of transport fare to health care facility ($\beta = -.23, p = .005$), Long distance to facility ($\beta = .27, p = .005$), Poverty and economic inequality ($\beta = -.21, p = .002$), Traditional beliefs and practices ($\beta = -.19, p = .012$), Gender roles and power dynamics, ($\beta = .22, p = .035$), Religious and spiritual values ($\beta = -.23, p = .027$) were statistically significant predictors of vulnerability status. In conclusion, the prevalence of the "Most Vulnerable" status, compounded by socioeconomic, cultural, institutional, and demographic factors, highlights the need for targeted interventions to improve healthcare facilities, service quality, and affordability. To address socio-economic, cultural, and institutional barriers to healthcare, policymakers should focus on reducing poverty, promoting gender equality, subsidising healthcare costs, and enhancing transportation infrastructure to ensure equitable access to healthcare services for vulnerable populations.

Keywords: Access, healthcare, household, perceived factors, vulnerability status.

INTRODUCTION

Vulnerable populations around the world have worse health outcomes and encounter healthcare problems ^[1]. These challenges are particularly severe for people who are more vulnerable and come from low- and middle-income countries (LMICs), where the health system is

beset by shortcomings and a lack of funding (Acquah-Hagan *et al.*, 2022). There is a general understanding in discussions concerning vulnerable populations in the field of health and health care that there is a direct correlation between vulnerability and poor health, even though a clear

consensus regarding what defines vulnerability has not yet been reached (George *et al.* 2018). A vulnerable population is one that has a higher chance of developing poor health and has less access to primary or basic healthcare (PHC) (Ferreira *et al.*, 2021).

According to Chesney and Anderson (2019), vulnerability categories like poverty, illiteracy, and unemployment contribute to poor access to healthcare, which affects the health outcomes of these households. In assessing the factors influencing healthcare access among vulnerable households, financial constraints and the availability of healthcare facilities are commonly identified issues (Omeire, 2017). Surahman *et al.* (2025) found that the lack of financial resources and long distances to healthcare centres significantly impact the ability of vulnerable households to access healthcare services.

Access is defined by equitable Universal Health Coverage (UHC) as “the opportunity and freedom to use health services.” Three perspectives are used to analyze access: (1) the supply of necessary and accessible services (referred to as “depth”); (2) for the entire population (referred to as “breadth”); and (3) addressing the “differential needs” and financial constraints of marginalized groups (referred to as “height”) (Acquah-Hagan *et al.*, 2022). Numerous studies conducted in the past have examined the relationship between social and non-social factors—such as education, economic stability, community safety, and the availability of adequate housing and healthy food, as well as healthcare access. These findings have demonstrated a positive impact on the health of the population as a whole (Dassah *et al.* 2018). Even if there are more modern and better healthcare facilities in Nigeria, not everyone has equitable access to them (National Centre for Health Statistics, 2018).

The World Health Organisation (2018) stated that a person's unique features, which can be linked to factors, including behaviours, environment, and economic status, influence their ability to access healthcare services. However, among other things, the prevalence of these disorders varies by sex, age, ethnicity, and work position. The World Health Organisation (2018) reports that at least half of the world's population does not have access to essential health services. One doctor for every 600 people is the World Health Organisation's (WHO) target ratio (World Health Organisation, 2015). WHO (2018) estimates that for every 10,000 people in Nigeria, there are 3.8 doctors. This lowers the availability of medical staff and frequently leads to longer wait times. According to Salawu *et al.* (2016), Nigeria needs over 237,000 medical doctors in order to reach both the SDG No. 3 goal and the World Health Organisation benchmark. Given that the majority of Nigerians live below the poverty line, access to healthcare services is hampered by the high cost of medication, even though chronic disease and malaria are the country's leading causes of morbidity and mortality.

In a study conducted by Iyalomhe and Iyalomhe (2012),

primary government owned healthcare centres were found to be the most frequently used facilities by vulnerable households, showcasing the importance of accessible and affordable primary healthcare services for these populations (Hamzah *et al.*, 2024). Additionally, understanding the health status of vulnerable households enables stakeholders to prioritise healthcare interventions and preventive measures. This study, therefore, seeks to investigate the vulnerability status and perceived factors influencing access to health care among vulnerable households in Oshimili South LGA, Delta State. Predictors of vulnerability status were also identified in the study.

MATERIALS AND METHODS

The study adopted a cross-sectional descriptive survey. The purposive and Simple Random sampling techniques were used to enrol 349 vulnerable households between April and July 2024 (Cochran, 1977). Out of the population of 2,850 vulnerable households, a sample size of 349 was used for this study with the aid of the formula (Kolawole *et al.* 2023).

The instrument for data collection was a questionnaire. Research experts in the field of community health nursing, measurement and evaluation and public health assessed the instrument's face and content validity to determine whether the survey's instrument was appropriate. The instrument's internal consistency was tested using Cronbach's Alpha statistics. The reliability coefficient of 0.87 was achieved when the researchers used the Cronbach alpha reliability test on the data produced by the pilot study. Ethical approval was obtained from the Delta State Ministry of Health. Anonymity and confidentiality of the information were maintained throughout the study. The collected data were analysed using descriptive statistics as well as inferential statistics by using SPSS (Statistical Package for the Social Sciences version 25). Data were analysed using means and percentages and displayed in tables and charts.

RESULTS

The result of the demographic profile in Table 1 revealed that the majority, 298 (85.4%) of the respondents were females. The analysis of the respondents' marital status revealed that more than half, 204 (58.4%) of the respondents were married. On the analysis of the respondents' level of education, nearly half, 162 (46.4%) of the respondents had primary education. With respect to the age bracket of respondents, respondents aged 30-39 years comprised the largest age group, 130 (37.2%). In addition, more than half 194 (55.6%) were self-employed. Furthermore, the majority, 223 (63.9%) of the participants were Christians.

To determine the category of households by vulnerability

Table 1. Demographic characteristics of vulnerable households (n = 349).

Variables		Frequency	Percentage (%)
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 (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. Category of the households by vulnerability status (n = 349).

Vulnerability Status	Frequency	Percentage	Range of scores
Most Vulnerable	188	53.9	(21-32) = most vulnerable
More Vulnerable	154	44.1	(14-20) = more vulnerable
Vulnerable	7	2.0	(9-13) = vulnerable
Total	349	100.0	

status, the total score of the rating index of the household was classified into three categories, as shown in Table 2. The majority of the population (53.9%) falls into the "most vulnerable" category. This group is characterised by a score range of 21-32, indicating a high degree of vulnerability. This could be due to a combination of factors such as socioeconomic status, health conditions, or exposure to risks, among others. The second-largest group (44.1%) is classified as "more vulnerable." These individuals have scores ranging from 14 to 20, indicating a moderate level of vulnerability. A small percentage of the population (2.0%) falls into the "vulnerable" category, with scores between 9 and 13. While this group may not be as vulnerable as the other two categories, they may still face certain risks and challenges that require attention and support. The table highlights that the majority of the

population is either "most vulnerable" or "more vulnerable."

Table 3 identified various socio-economic, cultural/religious, and institutional factors perceived to influence access to healthcare. Under socio-economic factors, transportation costs (4.26), distance to healthcare facilities (4.15), and poverty (4.04) emerged as significant barriers to accessing healthcare services. Regarding cultural/religious factors, gender roles and power dynamics (3.48), religious and spiritual values (3.47), and trust in traditional healers and alternative medicine (3.05) were found to influence healthcare-seeking behaviour.

In terms of institutional factors, the high cost of drugs (3.77), attitude of health workers (3.42) and long waiting times (3.23) were identified as critical factors to accessing healthcare services.

Table 3. Perceived factors influencing access to healthcare among vulnerable households (N = 349).

S/N	Factors	Mean	SD
Socio-economic Factors			
1	Lack of transport fare to health care facility	4.26	1.11
2	Long distance to facility	4.15	1.08
3	Poverty and economic inequality	4.04	1.07
4	Educational level and health literacy	2.90	1.44
5	Occupational status and working conditions	3.68	0.97
6	Income level and financial resources	3.17	1.13
7	Health insurance coverage and affordability	3.55	0.95
	Average Mean	3.68	1.11
Cultural/Religious Factors			
8	Traditional beliefs and practices	2.83	1.19
9	Gender roles and power dynamics	3.48	1.17
10	Religious and spiritual values	3.47	1.18
11	Language barriers and communication	2.71	1.10
12	Cultural norms and attitudes towards health care providers	2.85	1.23
13	Trust in traditional healers and alternative medicine	3.05	1.17
	Average Mean	3.07	1.12
Institutional Factors			
14	Inadequate number of health workers	2.94	1.14
15	Lack of drugs	3.01	1.18
16	High cost of drugs	3.77	0.87
17	Long waiting time	3.23	1.17
18	Incompetence of health worker	2.99	1.21
19	Attitude of health worker	3.42	1.06
20	Facility does not open for 24 hours	2.11	1.44
	Average Mean	3.07	1.15
	Total Average Mean	3.28	1.14

Hypothesis: There is no significant relationship between the identified predictors and the vulnerability status of the respondents

In Table 4, a multiple regression was used to test whether twenty predictors could account for differences in vulnerability status. Before running the model, the data were checked, and the preliminary checks showed that the assumptions of normality, linearity, multicollinearity, and homoscedasticity were met. The overall model was statistically significant, $F(20, 328) = 3.85, p < .001$, explaining about 19% of the variance in vulnerability status ($R^2 = .19$, adjusted $R^2 = .14$).

Among the predictors, Lack of transport fare to health care facility ($\beta = -.23, p = .005$), Long distance to facility ($\beta = .27, p = .005$), Poverty and economic inequality ($\beta = -.21, p = .002$), Traditional beliefs and practices ($\beta = -.19, p = .012$), Gender roles and power dynamics, ($\beta = .22, p = .035$), Religious and spiritual values ($\beta = -.23, p = .027$) were statistically significant predictors of vulnerability status. The other predictors did not show meaningful

contributions to the vulnerability status of the respondents (Table 4).

DISCUSSION

This study investigated the category of households by vulnerability status in Oshimili South LGA, Delta State. The findings from the current study revealed that more than half, 188 (53.9%), were most vulnerable households, 154 (44.1%) were categorised as more vulnerable households, while only 7 (2.0%) were categorised as vulnerable households in Oshimili South LGA, Delta State. The causes of these may include poverty, inadequate access to basic amenities, poor infrastructure, low education levels, high unemployment rates, and limited access to healthcare services. To address the high vulnerability levels in Oshimili South LGA, a multi-faceted approach is required. This could include implementing poverty alleviation programs, improving infrastructure, and ensuring access to basic amenities such as clean water,

Table 4. Summary of multiple linear regression analysis for variables predicting vulnerability.

Predictors	B	SE	β	t	P
Constant	2.15	0.20	—	10.62	< .001
Lack of transport fare to the health care facility	-0.11	0.04	-.23	-2.81	.005
Long distance to the facility	0.14	0.05	.27	2.80	.005
Poverty and economic inequality	-0.11	0.04	-.21	-3.06	.002
Educational level and health literacy	-0.03	0.03	-.08	-0.95	.345
Occupational status and working conditions	0.01	0.04	.01	0.14	.886
Income level and financial resources	-0.01	0.04	-.01	-0.17	.862
Health insurance coverage and affordability	0.01	0.04	.02	0.30	.767
Traditional beliefs and practices	-0.09	0.03	-.19	-2.53	.012
Gender roles and power dynamics	0.10	0.05	.22	2.11	.035
Religious and spiritual values	-0.10	0.05	-.23	-2.22	.027
Language barriers and communication	-0.02	0.05	-.04	-0.35	.730
Cultural norms and attitudes towards health care providers	-0.03	0.04	-.07	-0.84	.401
Trust in traditional healers and alternative medicine	0.01	0.03	.02	0.26	.793
Inadequate number of health workers	-0.06	0.04	-.13	-1.63	.104
Lack of drugs	0.08	0.04	.17	1.77	.077
High cost of drugs	-0.01	0.04	-.01	-0.14	.887
Long waiting time	-0.03	0.04	-.06	-0.70	.485
Incompetence of the health worker	0.00	0.04	.01	0.07	.946
Attitude of the health worker	0.06	0.03	.12	1.91	.057
Facility does not open for 24 hours	-0.04	0.03	-.11	-1.41	.159

Model Fit: $R^2 = 0.19$, adjusted $R^2 = 0.14$, $F(20, 328) = 3.85$, $p < 0.001$

Note. B = unstandardized coefficient; SE = standard error; β = standardised coefficient.

sanitation, and electricity. This finding is in line with the study conducted by Kolawole *et al.* (2023) on Household vulnerability and childhood immunization status in Nigeria and reported that one-third (29.5%) of the households were not vulnerable, 42.5% were more vulnerable, and 27.9% were in most vulnerable category, that is, most of the households were in a more vulnerable status at the time of the survey.

The perceived factors influencing access to healthcare among vulnerable households in Oshimili South LGA, Delta State, were also investigated. Findings from the study indicated that lack of transport fare to healthcare facility, gender roles and power dynamics and high cost of drugs, respectively, are the most perceived socio-economic, cultural/religious and institutional factors influencing access to healthcare among vulnerable households in Oshimili South LGA, Delta State. Limited financial resources and inadequate transportation infrastructure may hinder access to healthcare facilities, especially for vulnerable households. Gender roles and power dynamics may limit women's decision-making power and access to healthcare services, while cultural practices may prioritise men's healthcare needs over women's. Additionally, high drug costs could be due to inefficient supply chains, limited competition, or a lack of government subsidies for essential medicines. To address these issues, several strategies can be implemented.

Improving transportation infrastructure and providing subsidised or free transportation services for vulnerable households can enhance access to healthcare facilities. Additionally, promoting gender equality, addressing cultural practices that perpetuate gender inequalities, and empowering women to make decisions about their health can improve access to healthcare services. To address the high cost of drugs, implementing policies to regulate drug prices, promoting competition in the pharmaceutical market, and providing government subsidies for essential medicines can help make healthcare more affordable. Collaboration between government agencies, healthcare providers, and community organisations is essential to develop targeted interventions that address the unique needs and challenges faced by vulnerable households in accessing healthcare services. These results are similar to the study conducted by Adam and Awunor (2015) on perceptions and factors affecting utilisation of health services in a rural community in Southern Nigeria, whose findings indicated that factors that adversely affected utilisation of health services included inadequate staff, lack of drugs, high cost of services, long waiting time, and incompetent staff. The findings of Joshi and Bant (2021) on utilisation of health care services among the farmers of the rural field practice area of the Department of Community Medicine, KIMS, Hubballi who reported that distance to the health care facility was the main barrier for

access to public health services, which can be likened to factors found in this study.

On the predictors of variability, the findings suggest that vulnerability status is influenced by a limited number of significant predictors including Lack of transport fare to health care facility ($\beta = -0.23$, $p = 0.005$), Long distance to facility ($\beta = .27$, $p = 0.005$), Poverty and economic inequality ($\beta = -0.21$, $p = .002$), Traditional beliefs and practices ($\beta = -.19$, $p = 0.012$), Gender roles and power dynamics, ($\beta = .22$, $p = 0.035$), Religious and spiritual values ($\beta = -0.23$, $p = 0.027$). The predictors with the strongest influence were SECTIONC2 ($\beta = 0.27$) and SECTIONC10 ($\beta = -0.23$). This indicates that interventions targeting the areas represented by these predictors could potentially reduce vulnerability risks. Such interventions include: planning of trips in advance, using multiple transportation options, reliance on social networks, or reduced and sometimes forwent trips. Also, alternatives such as telemedicine should be implemented and engaged in communities and adapted to local needs (Adekpedjou *et al.*, 2023; Im *et al.*, 2025). Poverty and economic inequality can be reduced with the provision of social safety nets, labour policies, and economic empowerment, especially for women. Other recommendations to curb the effects of poverty, gender myths, and traditional beliefs, and achieve a sustainable structure to ameliorate the predictors of vulnerability include advancing women's education and economic empowerment, promoting community-level awareness campaigns, and transforming harmful gender norms. Such interventions are critical for achieving Sustainable Development Goal 5 on gender equality and ensuring women's safety, stability and access to sustainable family health (Ani and Katende-Kyenda, 2025).

Limitations of the study

One notable limitation of this study lies in its sampling methodology. The purposive and simple random sampling techniques employed in selecting the 349 vulnerable households may introduce selection bias, potentially limiting the generalizability of the findings to the broader population. Moreover, the study's cross-sectional design provides a snapshot of the vulnerability status and perceived factors at a specific point in time, which may not accurately represent the dynamic nature of these factors over an extended period. Finally, the study's focus on a single geographical location (Oshimili South LGA, Delta State) limits the applicability of the findings to other regions in Nigeria, which may have distinct socio-economic, cultural, and institutional factors influencing access to healthcare among vulnerable households.

Conclusion

The assessment of vulnerability status and factors

influencing healthcare utilisation in Oshimili South LGA, Delta State, reveals significant challenges that vulnerable households face in obtaining necessary healthcare services. The prevalence of the "Most Vulnerable" status, compounded by socioeconomic, cultural, institutional, and demographic factors, highlights the need for targeted interventions to improve healthcare facilities, service quality, and affordability.

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CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

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