Awareness, Patterns of Primary Health Care Preference, and Influencing Factors Among Residents in a Sub-Urban Region, Southern Nigeria

Abstract

Background: Primary health care (PHC) serves as the foundation of effective health systems, yet its utilization in Nigeria is limited due to varying awareness and socioeconomic factors. Understanding the determinants of PHC awareness and preference is crucial for promoting its adoption and achieving universal health coverage.

Objective: To assess the awareness, patterns of PHC preference, and influencing factors among residents of Ovia North East Local Government Area, Edo State, Nigeria.

Methods: A cross-sectional study was done, which included 380 respondents selected through multistage sampling. Data were collected using structured, interviewer-administered questionnaires and analyzed with IBM SPSS Statistics version 27. Descriptive statistics summarized the data, while chi-square and Fisher's exact tests assessed associations.

Results: Of the 380 participants, 95.3% were aware of PHC centres, with the community being the leading source of information (62.4%). Vaccination (74.0%) and maternal health services (70.4%) were the most recognized services, while awareness of cancer screening was low (3.3%). Only 24.5% of respondents preferred PHC centres, with affordability (65.7%) being a major factor. Age, gender, education, and employment status, significantly influenced awareness ($p < 0.05$). Income and satisfaction with services emerged as key determinants of preference.

Conclusion: Despite high awareness levels, PHC preference remains low due to service quality and affordability concerns. Addressing these gaps through infrastructure improvements, community education, and service quality enhancements is critical to improving PHC utilization.

***Keywords**: Awareness, Health Services Accessibility, Pattern, Primary Health Care, Health Awareness*

Background

Primary healthcare (PHC) is the cornerstone of any well-functioning health system, designed to provide essential, accessible, and equitable services that address communities' most common and pressing health needs[1]. By bringing healthcare services closer to people's locations, PHC reduces barriers to access and alleviates the burden on secondary and tertiary health facilities[1,2]. Globally, PHC is recognized as fundamental to achieving Universal Health Coverage (UHC), a vision articulated in the Alma-Ata Declaration of 1978 and continually reinforced by the World Health Organization (WHO) through various initiatives[3,4]. The WHO regards PHC as central to promoting health equity, increasing access to care, and addressing a wide spectrum of health needs, from prevention and treatment to rehabilitation[5].

Despite its established importance, PHC utilization varies significantly across regions and countries, influenced by factors such as infrastructure, public awareness, and socio-economic conditions[6,7]. High-income countries like the United Kingdom have demonstrated the benefits of effective PHC integration within broader health systems. For example, the National Health Service (NHS) recorded over 347 million primary care appointments in 2023, highlighting the reliance of the population on PHC as the primary point of contact within the healthcare system[8]. Such achievements highlight the critical roles of structured systems, adequate funding, and public awareness in fostering PHC utilization[9,10].

In Africa, the utilization of PHC services has been inconsistent, often constrained by systemic challenges such as inadequate infrastructure, shortages of healthcare personnel, and financial barriers[11,12]. However, there are promising developments in some countries, such as South Africa, where government efforts have led to the construction and upgrading of more than 400 PHC centres, significantly reducing travel distances for rural communities[13,14]. Additionally, the provision of free medical services at these centres has encouraged greater utilization, particularly

among low-income populations. These examples illustrate the transformative impact of well-targeted policies in enhancing access to and utilization of PHC services.

In contrast, Nigeria's PHC system continues to face significant challenges. Although the country is estimated to have over 34,000 PHC centres, representing 85.3% of all healthcare facilities, only about 20% of these centres are fully functional[15,16]. Most of these facilities lack basic equipment and adequate staffing, with a minority meeting the minimum standards required to deliver primary health services[17,18]. As a result, PHC services in Nigeria are underutilized, with many individuals bypassing these centres in favour of traditional medicine or tertiary healthcare facilities, and key factors driving this underutilization include poor service quality, high costs, and a lack of awareness about the benefits and availability of PHC services[17,19,20].

MATERIALS AND METHODS

Study Area

This study was conducted in Ovia North East Local Government Area (LGA) of Edo State, Nigeria. Ovia North East is a vast area with a total landmass of 2,301 km² and a population of 155,344 as recorded in the 2006 census. The LGA comprises several communities, including Okada, Uhen, Utese, Okokhuo, Uhiere, Isiuwa, Ekiadolor, Oluku, Iguoshodin, Utoka, Oghede, Egbeta, Ora, and Ogbese. The area is host to diverse economic and social activities, with sawmilling being a prominent economic activity and Igbinedion University, the first private university in Nigeria, as a notable institution. Other facilities in the area include a private teaching hospital, a National Youth Service Corps camp, and various businesses. The population is ethnically diverse, comprising tribes such as Bini, Igbo, Yoruba, Urhobo, Isoko, Hausa, Ijaw, and Fulani, with Christianity as the predominant religion, alongside Islam and African Traditional Religion. The area houses several primary healthcare facilities offering 24-hour services, including antenatal care, immunization, HIV/AIDS services, family planning, health education, and maternal and newborn care, making it an appropriate setting for the study of PHC utilization.

Study Population

The study population included all individuals residing in Ovia North East LGA who had lived there for at least one year prior to the study. The selection of residents ensured the inclusion of individuals who were familiar with the healthcare services in the area.

Sampling Technique

A three-step multi-stage sampling technique was used in selecting respondents for the study. In the first stage, communities within the LGA were selected through simple random sampling. Each community was assigned a number, and a computer-generated table of random numbers was used to select three communities: Okada, Iguomo, and Egbeta. In the second stage, proportional allocation was used to determine the number of respondents from each selected community based on its population size. The third stage involved the use of cluster sampling to recruit eligible respondents from the selected clusters within the communities until the desired sample size was reached.

Data Collection

Quantitative data was collected using structured, interviewer-administered questionnaires adapted from existing validated tools and modified for the study context. The section on **awareness** evaluated residents' knowledge of PHC services, including their existence, the range of services provided, and availability. It also explored sources of information such as community health workers, media, or personal visits, aiming to assess factors influencing awareness. For **patterns of utilization**, respondents were asked about the purpose of visits to PHC centres, including their last visit, services accessed, and reasons for choosing or avoiding them. The section on **determinants** identified factors influencing PHC awareness, and factors affecting PHC preference. Data collection accommodated varying literacy levels using languages familiar to respondents, including Nigerian Pidgin English, to ensure accurate and reliable responses. Pretesting was conducted in Usen, a community in Ovia South West LGA, which shares similarities with the study area. A sample size of 42 participants, representing 10% of the calculated sample size, was used for the pre-test to enhance the validity, reliability, and clarity of the data collection tools.

Ethical Considerations

Ethical clearance for the study was obtained from the Ethics and Research Committee of Igbinedion University, Okada. Participation in the study was entirely voluntary, and written informed consent was obtained from all respondents after explaining the purpose and objectives of the research. Confidentiality was maintained by ensuring that participants' names were not recorded on the questionnaires. Respondents were informed of their right to withdraw from the study at any point without penalty, and assurances were given that no harm would come to participants as a result of their involvement. Data collected was securely stored in a locked cabinet and on a password-protected device accessible only to the research team. Ethical clearance certificate number: IUTH/R.24/VOL.I/103.

Data Analysis

The data were checked for completeness before being entered into IBM SPSS Statistics version 27 for analysis. Descriptive statistics, including frequencies and percentages, were used to summarize categorical variables. Univariate analysis was conducted to explore the distribution of variables, while bivariate analysis was performed to test for associations between dependent and independent variables using the chi-square test and Fisher's exact test where applicable. A p-value of less than 0.05 was considered statistically significant. Results were presented in prose format, frequency tables, and pie charts for clarity.

RESULTS

Sociodemographic characteristics

The study sample consisted of 380 respondents, with a mean age of 35 ± 13.9 years. The majority were between 19 and 29 years old (34.5%), followed by those aged 30-39 years (24.2%) and 40-49 years (16.6%). Gender distribution showed 61.8% female and 38.2% male participants. Most respondents (98.4%) were Nigerian, with only 1.6% being non-Nigerian. In terms of marital status, 49.2% were married, 42.6% single, 6.6% widowed, and 1.6% divorced. Regarding education, 44.7% had completed secondary education, 40% had tertiary qualifications, and 14.7% had primary education. The sample also included 1.6% with no formal

education. Occupation-wise, 38.9% were employed, 31.6% self-employed, 14.5% unemployed, and 15% students. Income distribution varied, with 23.2% earning ₦11,000-20,000, 21.3% earning ₦31,000-50,000, and 21.6% earning ₦51,000-100,000. Smaller groups earned less than ₦5,000 (11.1%) or more than ₦101,000 (11.5%).

Awareness of Primary Health Care (PHC)

Of the 380 participants, 362 (95.3%) were aware of PHC centres, while 18 (4.7%) were unaware. The primary sources of information about PHC centres were the community, with 226 (62.4%) respondents, family and friends (143, 39.5%), and health personnel (82, 22.7%). The media, including television and radio, was a source for 38 (10.5%) respondents. Regarding the presence of PHC centres in their areas, 362 (95.3%) respondents lived in areas with PHC centres, while 18 (4.7%) did not. The study also explored respondents' awareness of various PHC services.

The most widely recognized services included vaccination (268, 74.0%), labour and delivery services (255, 70.4%), and antenatal care (249, 68.8%). Other commonly known services included malaria treatment (247, 68.2%), general health check-ups (244, 67.4%), and blood pressure checks (237, 65.5%). Awareness of breastfeeding practices and family planning was reported by 154 (42.5%), while personal hygiene and nutrition education was known by 123 (34.0%). HIV counselling and testing, blood group and genotype testing, and cancer screening were less commonly recognized, with 94 (26.0%), 89 (24.6%), and 12 (3.3%) reporting awareness, respectively.

Pattern of PHC preference

Of the 380 participants, 299 (78.7%) had ever visited a PHC centre, while 81 (21.3%) had not. The main reasons for visiting the PHC centres included monitoring personal health (225, 76.8%), monitoring the health status of their child/children (110, 37.5%), antenatal care (96, 32.8%), and family planning (49, 16.7%). When asked about the timing of their last visit to a PHC centre, 32 (8.4%) had visited in the past month, 118 (31.1%) had visited within 1-6 months, 149 (39.2%) had visited more than six months ago, and 81 (21.3%) had never visited. The majority preferred

general hospitals (163, 42.9%), followed by PHC centres (93, 24.5%), home treatment (60, 15.8%), private hospitals (51, 13.4%), and traditional healers (13, 3.4%).

Factors associated with PHC awareness

Of the 380 participants, 362 (95.3%) were aware of PHC centres, while 18 (4.7%) were not. Age showed a significant association with PHC awareness. Among those aged <18, 25 (100.0%) were aware, while 12 (9.2%) of those aged 19-29 and 6 (6.5%) of those aged 30-39 were aware ($p<0.001$). Among respondents aged 40-49, 63 (100.0%) were aware, and 69 (100.0%) of those aged >50 were also aware. Gender also had a significant effect on PHC awareness. Among males, 145 (100.0%) were aware, compared to 217 (92.3%) females, with 18 (7.7%) females unaware ($p<0.001$). Marital status was similarly significant. Among married respondents, 187 (100.0%) were aware, while 150 (92.6%) of single respondents were aware, with 12 (7.4%) unaware. All divorced respondents (6, 100%) were unaware, while 25 (100.0%) of widowed respondents were aware ($p<0.001$). Education level influenced awareness. Among those with no formal education, 6 (100.0%) were unaware, while all 56 (100.0%) with primary education and 166 (100.0%) with secondary education were aware. Among tertiary-educated respondents, 140 (92.1%) were aware, and 12 (7.9%) were unaware ($p<0.001$).

Employment status showed similar trends. Among employed respondents, 148 (100.0%) were aware, while 49 (89.1%) of the unemployed were aware, with 6 (10.9%) unaware. Among self-employed respondents, 114 (95.0%) were aware, and 6 (5.0%) were unaware. Among students, 51 (89.5%) were aware, and 6 (10.5%) were unaware ($p<0.001$). Monthly income showed no significant association. Among those earning ≤₦30,000, 161 (93.1%) were aware, and among those earning >₦30,000, 201 (97.1%) were aware ($p = 0.065$).

Factors associated with PHC preference

Regarding monthly income, 135 (78.0%) of respondents earning ≤₦30,000 preferred PHC, while 38 (22.0%) did not. Among respondents earning >₦30,000, 201 (97.1%) preferred PHC, and only 6 (2.9%) did not. This difference was statistically significant ($p<0.001$). In terms of satisfaction with PHC services, 148 (64.3%) of those who preferred PHC were satisfied, whereas 82 (35.7%) were not. Among those who did not prefer PHC, 50 (33.3%) were satisfied, and 100 (66.7%) were dissatisfied. This association was also significant ($p<0.001$).

The most common reason for utilizing PHC services was affordability, with 142 (65.7%) citing it. Other reasons included the rapid response of health workers (75, 34.7%), good services (62, 28.7%), and personal decision (19, 8.9%).

When asked about factors that would encourage them to use PHC services more, 129 (50.2%) respondents mentioned more efficient service as a key motivator. Increased awareness of services provided was a factor for 82 (31.9%), while 78 (30.4%) preferred shorter distance, and 77 (30.0%) were influenced by cheaper costs. Friendly staff and better transport services were less frequently mentioned, with 37 (14.4%) and 31 (12.1%) respondents respectively identifying these as motivating factors.

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217 **Table 1: Sociodemographic characteristics of respondents**

Variables	Frequency (n=380)	Percentage (%)
Age (years)		
<18 years	25	6.6
19 - 29 years	131	34.5
30 - 39 years	92	24.2
40 - 49 years	63	16.6
≥50 years	69	18.2
Mean Age (± S.D)	**35 ±13.9**	
Gender		
Male	145	38.2
Female	235	61.8
Nationality		
Nigeria	374	98.4
Non-Nigeria	6	1.6
Marital Status		
Single	162	42.6
Married	187	49.2
Divorced	6	1.6
Widowed	25	6.6
Level of Education		
Primary	56	14.7
Secondary	166	44.7
Tertiary	152	40.0
Others (no formal education)	6	1.6
Occupation		
Employed	148	38.9
Unemployed	55	14.5
Self Employed	120	31.6
Student	57	15.0
Monthly Income (₦)		
<5000	42	11.1
5000-10,000	7	1.8
11,000-20,000	88	23.2

21,000-30,000	36	9.5
31,000-50,000	81	21.3
51,000-100,000	82	21.6
>101,000	44	11.5

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220 **Table 2: Awareness of Primary Health Care (PHC) among respondents**

Variables	Frequency (n=380)	Percentage
Awareness of primary health care (PHC) centre		
Yes	362	95.3
No	18	4.7
Source of information		
Community	226	62.4
Family/friends	143	39.5
Health personnel	82	22.7
Media (television, radio)	38	10.5
Respondents who live in areas with PHC centres		
Yes	362	95.3
No	18	4.7
Awareness of PHC services		
Vaccination	268	74.0
Labour and delivery	255	70.4
Antenatal care	249	68.8
Malaria treatment	247	68.2
General health check-up	244	67.4
Blood pressure check	237	65.5
Breastfeeding practices & family planning	154	42.5
Personal hygiene & nutrition education	123	34.0
HIV counselling & testing	94	26.0
Blood group & genotype	89	24.6
Cancer screening	12	3.3

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Table 3: Pattern of PHC preference among respondents

Variables	Frequency (n=380)	Percentage
Respondents who have ever visited a PHC centre		
Yes	299	78.7
No	81	21.3
Reason for visit*		
To monitor my health	225	76.8
To monitor the health status of my child/ children	110	37.5
Antenatal Care	96	32.8
Family Planning	49	16.7
Time of last visit		
Less than a month	32	8.4
1-6 months	118	31.1
More than 6 months	149	39.2
Never	81	21.3
Preferred place of treatment for respondents		
General Hospital	163	42.9
Primary Health Care Centre	93	24.5
Home	60	15.8
Private Hospital	51	13.4
Traditional Healers	13	3.4

*** Multiple response question**

Table 4: Factors associated with PHC awareness among respondents

Variables	Aware of PHC		Fischers exact	p-value
	Yes (n = 362) n (%)	No (n=18) n (%)		
Age (Years)				
<18	25 (100.0)	0 (0.0)	14.137	<0.001*
19 – 29	119 (90.8)	12 (9.2)		
30 – 39	86 (93.5)	6 (6.5)		
40 – 49	63 (100.0)	0 (0.0)		
>50	69 (100.0)	0 (0.0)		
Gender				
Male	145 (100.0)	0 (0.0)	11.659	<0.001*
Female	217 (92.3)	18 (7.7)		
Marital Status				
Single	150 (92.6)	12 (7.4)	133.768	<0.001*
Married	187 (100.0)	0 (0.0)		
Divorced	0 (0.0)	6 (100.0)		
Widowed	25 (100.0)	0 (0.0)		
Level of education				
No formal education	0 (0.0)	6 (100.0)	135.064	<0.001*
Primary Education	56 (100.0)	0 (0.0)		
Secondary Education	166 (100.0)	0 (0.0)		
Tertiary Education	140 (92.1)	12 (7.9)		
Employment status				
Employed	148 (100.0)	0 (0.0)	16.255	<0.001*
Unemployed	49 (89.1)	6 (10.9)		
Self-employed	114 (95.0)	6 (5.0)		
Student	51 (89.5)	6 (10.5)		
Monthly Income (₦)				
≤30,000	161 (93.1)	12 (6.9)	3.405	0.065
>30,000	201 (97.1)	6 (2.9)		

***Statistically significant**

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243 **Table 5: Factors associated with PHC preference among respondents**

Variables	Prefer PHC		Fischers exact	p-value
	Yes (n = 198) n (%)	No (n=182) n (%)		
Monthly Income (₦)				
≤30,000	135 (78.0)	38 (22.0)	85.561	**<0.001***
>30,000	201 (97.1)	6 (2.9)		
Satisfaction with PHC services				
Yes	148 (64.3)	82 (35.7)	34.944	**<0.001***
No	50 (33.3)	100 (66.7)		

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245 **Table 6: Reasons related to PHC preference among respondents**

Variables	Frequency (n=380)	Percentage
Reasons for utilizing PHC services		
Affordability	142	65.7%
Rapid response of health workers	75	34.7%
Good services	62	28.7%
Personal decision	19	8.9%
Factors that would encourage respondents to use PHC services		
More efficient service	129	50.2
Increased awareness of the services provided	82	31.9
Shorter distance	78	30.4
Cheaper cost	77	30.0
Friendly staff	37	14.4
Better transport services	31	12.1

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Discussion

The study revealed that 95.3% of respondents were aware of the existence of PHC centres, with the community serving as the primary source of information for 62.4% of participants. Family and friends contributed to awareness in 39.5% of cases, while health personnel and media accounted for 22.7% and 10.5%, respectively. Awareness of specific PHC services was highest for vaccinations (74.0%), maternal health services such as labour and delivery (70.4%), and antenatal care (68.8%). However, awareness of services such as HIV counselling and cancer screening was notably low, at 26.0% and 3.3%, respectively. A comparable study conducted by Okunade et al[21]. in Ekiti state reported similar levels of general awareness but identified media as a more significant source of information, contributing between 70%-96.5%%. This difference may reflect limited media penetration in rural areas such as Ovia North East compared to urban centres. This finding accentuates the importance of leveraging community health workers to address the gaps in awareness of lesser-known PHC services, which, if unaddressed, could undermine early diagnosis and management of chronic conditions such as cancer.

A history of ever visiting a PHC was reported by 78.7% of respondents, with personal health monitoring cited as the most common reason for visits (76.8%). Visits for child health monitoring (37.5%) and antenatal care (32.8%) were also prominent. Despite this relatively high level of utilization, 21.3% of respondents reported never having visited a PHC centre. When considering treatment preferences, general hospitals were preferred by 42.9% of respondents, compared to 24.5% who favoured PHC centres. A similar pattern was observed in a study conducted by Bigio et al.[22] across 4 low to middle-income countries (LMICs), where health maintenance, and physical symptoms such as headaches, body pain and fever were common reasons for presentation to PHCs. Failure to prioritize PHC utilization can lead to increased reliance on secondary and tertiary healthcare facilities for simple uncomplicated cases, worsening resource constraints and prolonging waiting times. To address this, it is recommended

that PHC infrastructure be upgraded and that quality assurance programs be introduced to improve patient confidence and satisfaction.

The study also demonstrated that awareness of PHC services was significantly influenced by sociodemographic factors, including age, gender, education, and employment status. Respondents aged below 18 and above 40 years demonstrated 100% awareness, while awareness was lower among younger adults aged 19–29 years, at 90.8%. Males exhibited higher awareness levels (100%) compared to females (92.3%). Education also played a pivotal role, with respondents who had primary and secondary education reporting 100% awareness, 92.1% reporting awareness among those with tertiary education, and none without a formal education reporting awareness. These results align with findings from a study by Sharma et al.[23] in India, which similarly identified higher awareness among older individuals and individuals with higher levels of education. The observed disparities in awareness may be attributed to the role of education in health knowledge, and greater exposure to health education among older individuals. These gaps in awareness are significant because they may contribute to underutilization of essential PHC services, particularly among younger adults and the less educated, populations that often require targeted health interventions. Community-based awareness campaigns can aid in bridging these gaps.

Income and satisfaction with services were key determinants of PHC preference. Respondents earning ₦30,000 or less were more likely to prefer PHC centres, with 78.0% indicating this preference, compared to 22.0% among those earning more than ₦30,000. Satisfaction also strongly influenced preference, as 64.3% of respondents who were satisfied with PHC services reported a preference for them, compared to 33.3% among the dissatisfied. These findings are consistent with the study by Zhang et al.[24] in China, which noted a similar relationship between satisfaction, income and PHC preference. The strong correlation between satisfaction and preference emphasizes the critical role of service quality in driving healthcare choices. Dissatisfaction can delay healthcare-seeking behaviour, worsening health outcomes. Addressing these issues requires continuous staff training, implementation of user feedback systems, and measures to ensure consistent service delivery.

CONCLUSION

There is a high level of awareness of PHC among the residents of Ovia North East LGA, yet a relatively low preference for these services. Affordability and service quality emerged as critical determinants of PHC preference, while gaps in awareness of services, such as HIV counselling and cancer screening, show the need for targeted campaigns. Sociodemographic disparities in PHC awareness emphasize the necessity for inclusive health education strategies. Strengthening PHC systems is vital for equitable health access and achieving universal health coverage in Nigeria.

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