Original

Factors Associated with the Utilization of Primary Health Care Services Among Residents of Ndokwa West LGA of Delta State, Nigeria

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Abstract

Background: Primary healthcare utilization denotes the inclination of potential or prospective patients to make use of the services offered at primary healthcare facilities. However, the underutilization of these services suggests a growing lack of trust among certain segments of the population especially at rural levels. This research therefore is aimed at assessing the factors associated with the utilization of primary health care services among residents of Ndokwa West LGA.

Methodology: A descriptive cross-sectional study approach was used in the investigation, which included 396 participants, a pretested semi-structured questionnaire was used to collect information from respondents, descriptive statistics were used to analyse the data, and cross tabulation analysis was performed to establish the factors influencing utilization of primary health care across residents.

Results: The findings showed that 240(60.6%) respondents were men, 264(66.7%) respondents were married, and there were more 269(67.9%) Christians among the respondents. The research involved 344 natives (86.1%) and 273 Ukwani (68.9%), with 55.6% having tertiary education, and many earning over N150,000 as an income. The results also showed a good pattern of utilization of PHC services among respondents. Significant association was observed between sex, marital status, religion, native of the community, occupation and pattern of utilization of primary healthcare service ($p<0.05$).

Conclusions: The study highlighted the importance of socio-demographic factors and accessibility in influencing primary healthcare utilization patterns. It provides valuable insights for policymakers and practitioners, laying the groundwork for future research and interventions to improve healthcare services and ensure equitable access.

Key words: Primary Health Care, Primary Health Care utilization, Ndokwa West

How to cite this article

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Introduction

Primary health care (PHC) has been widely accepted as the approach to achieving this challenging goal ever since the worldwide mission of "Health for All" was founded in 1978 [1]. The globe won't become healthy until we accomplish Health for All for everyone equally and fairly across riches and poverty, education and illiteracy, old and young, men and women, youngsters and elders, established and developing countries. By providing preventative, therapeutic, and rehabilitation treatments, the primary health care system is a basic method created to tackle the neighbourhood's fundamental public health concerns. [2] Primary healthcare is described as "essential care based on practical, scientifically sound and socially acceptable methods and technology, made universally accessible to individuals and families in the community through their full participation, and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination" (WHO 2012) in the Alma Ata declaration. Basic healthcare principles highlight the strategy's great worth.[10] The principles of community involvement, cross-sector collaboration, essential health care, equity and use of suitable technological devices are the guiding principles underlying the success of primary health care as the objective of obtaining universal health coverage.[3] The above demonstrates the involvement of primary health care in involving majority of the people in the development, delivery, and evaluation of health programmes with the goal of meeting their needs without regard to social, economic, or geographic constraints. It requires making appropriate use of technologies and resources from both inside and outside the healthcare industry.[2]

Primary healthcare is crucial for societal and economic development and a nation's healthcare system. It connects people, households, and communities with the national healthcare structure, offering services like promotion, prevention, treatment, support, and rehabilitation to address community health challenges (4). Healthcare utilization denotes the inclination of potential or prospective patients to make use of the services offered at healthcare facilities. One of the responsibilities of governments, authorities, or healthcare planning entities is to establish healthcare facilities strategically to ensure high levels of accessibility, which in turn enhances utilization and ultimately leads to improved health outcomes for the population.[4] This underscores the necessity of eliminating barriers that hinder greater utilization of care, particularly with regards to the context of female well-being.

The World Health Organization states that the Nigerian healthcare system has incorporated primary healthcare principles and devolved delivery to local governments, but these changes have had limited impact on health status, particularly in rural areas. The 2018 Nigeria Demographic Health Survey showed a higher new-born death percentage, but implementation of primary healthcare has not significantly influenced health indicators.[5]

Primary healthcare provides a range of medical supplies for the population, including preventative, therapeutic, motivating, and restorative treatments. It serves as the first entrance to the healthcare sector and integrates services across various levels. The three-tier healthcare system includes local governments managing primary healthcare, state-wide governments overseeing intermediate services, and tertiary healthcare, which uses advanced technologies and investigative skills.[4] Local authorities provide primary healthcare services through the development of health canters and medical posts, staffed by physicians, nurses, midwives, community health officers, and technicians. Services include managing illnesses, vaccinations, maternity, contraception, health literacy, and data collection.

Nigeria's national health policies recognize Primary Health Care (PHC) as a core principle for national health development. Despite efforts to revitalize PHC, various constraints have hindered its implementation, threatening the achievement of Universal Health Coverage (UHC). Poor or low utilization of PHC services is a major factor. To ensure high-quality and safe PHC services, in-country interventions should be informed by global and local evidence, driven by context-specific PHC-oriented research. Understanding factors influencing PHC service utilization, especially in developing regions, can guide policy formulation to improve uptake of health services at the primary healthcare level, contributing to UHC and ensuring health and well-being, particularly among vulnerable populations and rural communities in poor-resource settings.

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As a result of the nature of the lifestyle and employment, it is critical to re-emphasize the benefits of using primary healthcare. To emphasize the importance of primary healthcare, it must be stated that it is easily accessible, contains effective and inexpensive vital medicines, and immunizations for all individuals. The aim of this research is to gather information from the community's inhabitants on their ability to access and use primary health care, as well as the obstacles associated with acquiring sufficient health care services from the readily accessible primary healthcare centers. This research would also aid in determining the effectiveness of the community's health care referral system.

Problem statement

Primary health care (PHC) was initially acknowledged on a worldwide scale in 1978 as a legitimate means of attaining health for all peoples and tackling the primary health issues in the community by offering the public preventative, curative, rehabilitative, and promotional services[1]. Despite the availability of PHC services in most communities, research has reported varying utilization rates of PHC services. A study from the World Health Organization African region showed that primary healthcare services are underutilized, with a 95% underutilization rate. Nwokoro et al., (2022,) reported a 46.2% utilization rate of PHC services in Eastern Nigeria.[3] Iyinbor et al., (2023) reported 46.1% utilization rates of PHC services in South-South Nigeria (6). Despite significant budget allocations, the situation persists, despite the establishment of basic healthcare facilities in both urban and rural regions. Limited awareness about national health systems and programs in developing nations leads to inefficient utilization of medical facilities. Recognizing factors influencing healthcare facility usage is crucial to improve health conditions and promote preventive, curative, and rehabilitative services.

Aim of the study

The aim of this study is to assess the pattern of utilization of Primary Health Care and its associated factors among residents of Ndokwa West Local Government Area of Delta state.

Methodology

Study design

A descriptive cross sectional analytical study design was employed for this study.

Study area

This research was conducted out in Delta State's Ndokwa West Local Government Area. The headquarters of Ndokwa West are in Utagba-Ogbe (Kwale). According to the 2006 census, the study area has an area of 816 km2 and a population of 149,325.[11] Ndokwa West's prominent settlements are Utagba Uno, Onicha-Ukwani, UtagbeOgbe, Emu, Ogume, Abbi,Oliogo, and Ijeze, and its postal code is 322 (11). Civil officials, farmers, tiny traders, palm oil manufacturers, and local gin manufacturers are among the indigenous peoples in this local government region. Ukwani is the primary language spoken in the local government region. The religion frequently observed by the residents of Ndokwa West local government area is Christianity; others are traditional worshipers, whereas a few are Muslims.

Population of study

The study population includes people who are heads of households and residents of selected communities in Ndokwa West local government area (the study area).

Inclusion Criteria

The inclusion criteria involve heads of households who are 18 years or older and consented to participate and are residents that should have stayed in the study area for at 1 year.

Exclusion Criteria

The exclusion criteria involve heads of households who are unavailable during the study, heads of households indisposed and unable to answer and heads of households who have refused to consent to the research.

Sample size

The desired sample size was determined using Cochrane's formulae (Lepine et al. 2018).

$n = (Z^2 \times pq)/d^2$

Where: n = desired sample size; z = standard normal deviate corresponding to the possibility of type 1 error (a) at 95% = 1.96 confidence interval; p = utilization prevalence of proportion of individuals utilizing health service. A prevalence, p = 42.5% was used for this study which was the proportion of individuals that utilized health service in a study in Edo state.[14]

q = 100 – p = 57.5% = 0.575

d = the margin of error precision set at 5% = 0.05%

$n = (1.92^2 \times 0.425 \times 0.575)/0.05^2$

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n = 360
n = 360 + 10% (36) non-response rate = 396
Therefore, the least sample expected is 396.

Sampling technique
Multistage sampling technique was used to select the respondents for the study.
Stage 1: The study utilized a straightforward random sampling method involving balloting to determine the specific location within the Ndokwa West Local Government Area where the research would be conducted. Ultimately, four out of the available 10 wards were chosen for the study.
Stage 2: In the selected wards, 3 communities each were selected using a simple random sampling technique.
Stage 3: In the 3 communities selected, 4 streets each were selected using a simple random sampling technique.

By dividing the total of 396 representing the population, a sample of 99 head of household was needed in each of the 4 wards selected, a sample of 33 head of household was needed in the 3 communities selected, and a sample of 11 head of household was needed in the each of 3 streets from each community in the selected ward.

Stage 4: Cluster sampling was done to identify and select the first household and take the nearest household next. If 2 household falls on the same distance, select and sample the one on the right and leave the one on the left (Equidistant).

Method of Data Collection
Data collection was carried out through the use of semi-structured questionnaire administered by interviewers. The questionnaire was specifically designed for the study to gather information regarding the awareness, challenges, and utilization of Primary Health Care (PHC) centers in the Ndokwa West Local Government Area. The questionnaire was structured with closed-ended questions and divided into six sections: Section 1 focused on socio-demographic characteristics, Section 2 covered the availability of services, Section 3 addressed the types of services offered, Section 4 examined economic accessibility, Section 5 explored physical accessibility, and Section 6 delved into utilization. The administration of the questionnaire was performed by trained research assistants who were given clear instructions on the study's requirements. They were tasked with asking the questionnaire questions in a straightforward and understandable manner, using both English and the local language of the community (Ukwuani). To maintain organization, each questionnaire was assigned a unique number, and completed questionnaires were collected from the interviewers after each survey session for further compilation and analysis. Data collection was carried out for 2 months.

Validity and Reliability of Instrument
The study tool (questionnaire) was validated by the research supervisor. The validity of the study was also ensured by the use of a pretested structured questionnaire from the Department of Community Medicine University of Port Harcourt. The questionnaires were pretested to test the reliability of it and the outcome was evaluated and amended where necessary before actual administration. The internal consistency of the questionnaire sections was assessed using Cronbach's alpha coefficient, with values ranging from 0.72 to 0.88, indicating acceptable to high reliability. Furthermore, test-retest reliability was evaluated using the Pearson Product Moment Correlation Coefficient ($r = 0.81$), demonstrating strong stability of the instrument over time. Based on the results, necessary modifications were made to improve clarity and coherence before the final administration of the instrument.

Data analysis
Data was analysed using SPSS Version 25. Descriptive statistics (means, frequencies and percentages, as appropriate) were computed for all variables. These data were reviewed to check for outliers, missing data, and "cells" with low frequencies that might hinder stable statistical analysis. Unadjusted/Adjusted associations were next assessed using binary logistic regression models with odds ratios at 5% alpha level and 95% confidence interval. The choice of binary logistic regression was due to the dichotomous nature of the outcome variable.

Risk of the Research
This study may expose the current state (physical condition) and shortcomings of Primary Health Care centers in the LGA. There was also the risk of the possibility of recall bias, as the study depended on the responses given by the participants.

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Ethical Approval

Ethical clearance was sought and obtained from the University of Port-Harcourt Ethical Review Committee with reference number, UPH/CEREMAD/REC/MM88/012. The objectives of the study were clearly explained to the participants and informed consent was obtained. Participants were assured of the confidentiality of their responses and that non-participants would be of no effect. The questionnaires did not have any personal identification; serial numbers were used. Participants were assured of the confidentiality of their responses. The questionnaires did not have any personal identification.

Results

A total of 400 questionnaires were administered to head of households, 396 properly completed questionnaires were used for analysis, which gave a response rate of 99%.

Socio-demographic characteristics of respondents

According to Table 1, majority 240(60.6%) respondents were men, 264(66.7%) respondents were married, and there were more 269(67.9%) Christians among the respondents. The majority 344 (86.1%) of research respondent were natives of the community, and 273(68.9%) of them identify as Ukwani. Based to educational attainment, more than half 220 (55.6%) of the respondents had their tertiary education. Many participants earned more than N150,000 as an income.

Table 1: Socio-Demographic Characteristics of Respondents (n=396)

Variables	Frequency (n)	Percentage (%)
Sex		
Male	240	60.6
Female	156	39.4
Marital Status		
Married	264	66.7
Single	63	15.9
Divorced	24	6.1
Widow	34	8.6
Cohabiting	11	2.8
Religion		
Christianity	269	67.9
traditional worshiper	75	18.9
Islam	22	5.6
Others	30	7.6
Native of the community		
Yes	344	86.9
No	52	13.1
Ethnic group		
Ukwani	273	68.9
Igbo	77	19.4
Yoruba	6	1.5
Hausa	17	4.3
Others	23	5.8
Highest level of education		
No formal education	41	10.4
Primary	11	2.8
Secondary	47	11.9
Tertiary	220	55.6
Postgraduate	77	19.4
Monthly income		
<30,000	23	5.8
30,001-60,000	68	17.2
60,001-90,000	36	9.1
90,001-120,000	21	5.3
120,001-150,000	42	10.6
150,000	59	14.9
>150,000	147	37.1

As indicated in Figure 1, non-manual skilled occupation e.g secretary, business was practiced by 120(30.3%) of the respondents as their occupation.

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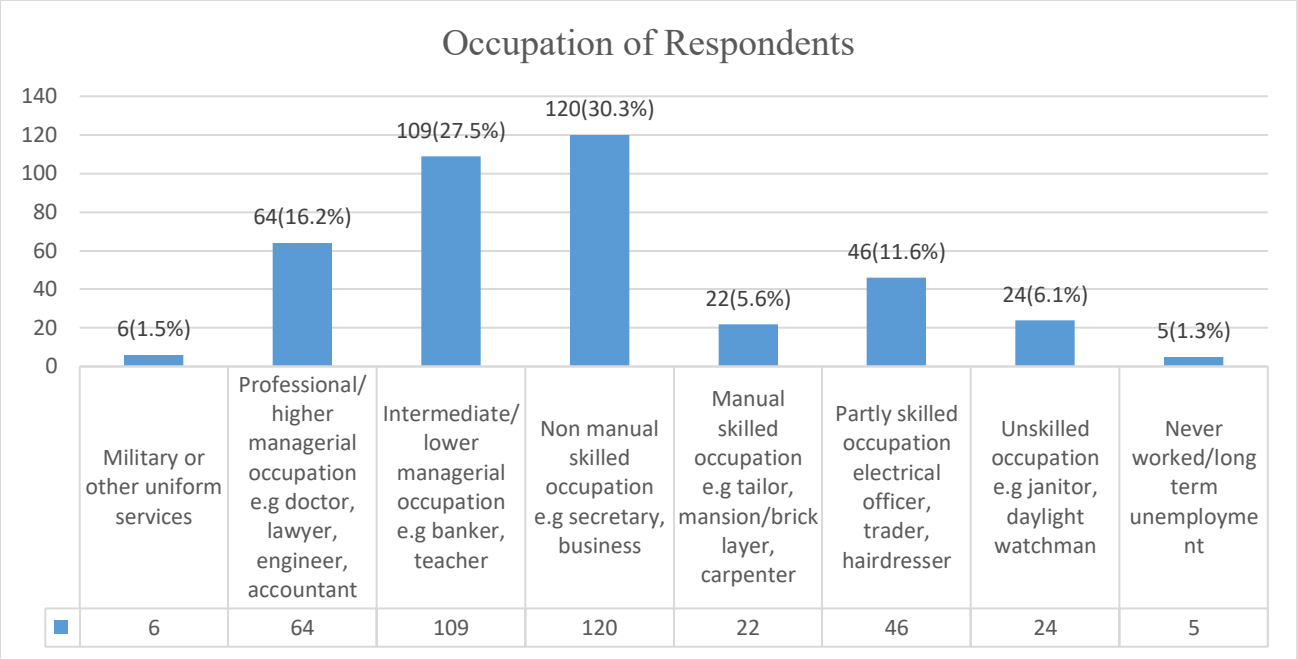

Figure 1: Occupation of Respondents

Pattern of utilization of PHC Services

Table 2 reveals that attitude of the staff are pleasant and professional as confirmed by majority 267(67.4%) of the respondents, more 320(80.8%) of the participants admitted that the waiting time is convenient and majority 380(96.0%) of the respondents have had need for healthcare services in the past three years, among which many 174(29.1%) were in need of child health services and those who had not used the services of the primary healthcare centre it was due to non-availability of needed healthcare services for majority 9(56.3%) of the respondents. The table also shows that most 380(96.0%) of the respondents have utilized primary healthcare services and many 197(49.7%) had occasionally visited the primary healthcare centre in their community.

Table 2: Pattern of Utilization of Primary Healthcare Services (n=396)

Variables	Frequency (n)	Percentage (%)
Attitude of the staff pleasant and professional		
Yes	267	67.4
No	118	29.8
Don't know	11	2.8
Waiting time convenient		
Yes	320	80.8
No	59	14.9
Don't know	17	4.3
Need for primary healthcare services in the past three years		
Yes	380	96.0
No	16	4.0
If yes, type of primary health care services did you need (n=380)		
General	123	20.6
In patient	53	8.9

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Variables	Frequency (n)	Percentage (%)
Child health	174	29.1
Blood Pressure	123	20.6
Malaria	17	2.8
Weight	30	5.0
Family	12	2.0
Accident	30	5.0
Laboratory	12	2.0
Pharmaceutical	24	4.0
If no, why unable to use the services of the primary healthcare center (n=16)		
Lack of money	7	43.8
Non availability of needed healthcare services	9	56.3
Utilized primary healthcare services		
Yes	380	96.0
No	16	4.0
Visit the primary healthcare center in your community		
very often	23	5.8
Often	60	15.2
Occasionally	197	49.7
Rarely	116	29.3

The results of the study revealed that there was good pattern of utilization of PHC services among the respondents who were residents of Ndokwa West Local Government Area Of Delta State, Nigeria (Figure 2).

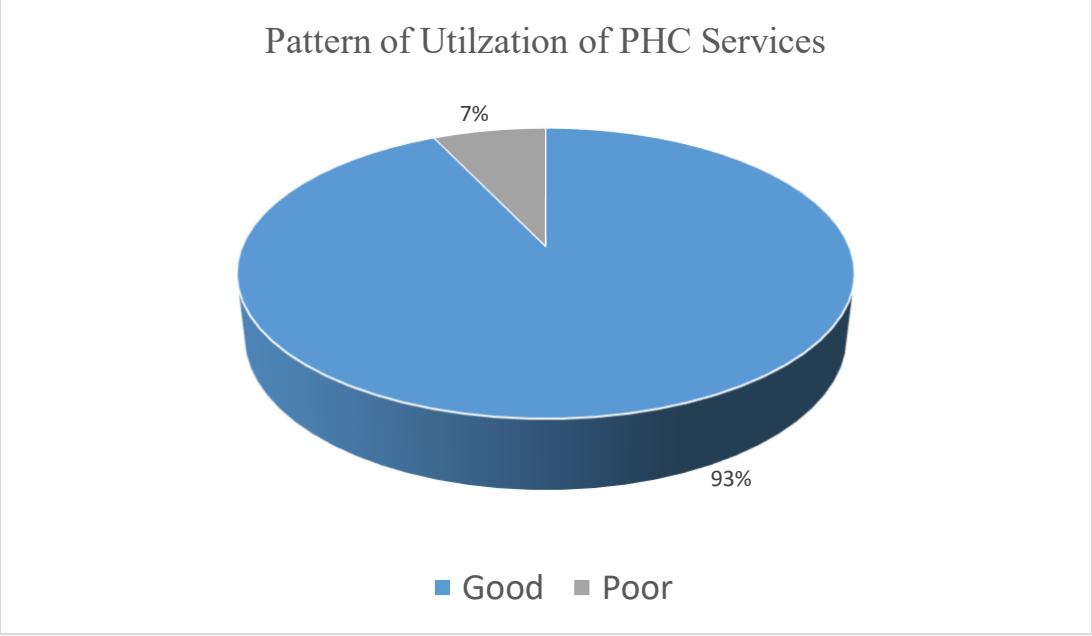

Figure 2: Factors associated the utilization of primary healthcare services

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Table 4.7 shows that a significant association was observed between sex, marital status, religion, native of the community, occupation and pattern of utilization of primary healthcare service at p<0.05 while height (p=0.05), while level of education (p=0.365), and income (p=0.095), showed no statistical significance with pattern of utilization of primary healthcare service

Table 3: Association between Socio-Demographic Characteristics and Pattern of Utilization of Primary Healthcare Service (n=396)

Variables	Pattern of Utilization of Primary Healthcare Services				x^2	Odd ratio (OR)
	Good(n(%)	Poor(n(%)	Total	df	(p-value)	95% (CI)
Sex						
Male	240 (60.6)	0 (0.0)	240 (100.0)	1	46.355[a]	1.219
Female	128(82.1)	28(17.9)	156 (100.0)		(0.0001)*	(1.133-1.312)
Total	**368(92.9)**	**28(7.1)**	**396 (100%)**			
Marital Status						
Married	264(96.0)	11(4.0)	275(100.0)	1	12.915	3.923
Single	104(86.0)	17(14.0)	121(100.0)		(0.0001)*	(1.778-8.658)
Total	**368(92.9)**	**28(7.1)**	**396(100%)**			
Religion						
Christianity	263(97.8)	6(2.2)	269 (100.0)	1	29.906	9.184
Others	105(82.7)	22(17.3)	127(100.0)		(0. 0001)*	(3.621-23.292)
Total	**368(92.9)**	**28(7.1)**	**396 (100%)**			
Native of the community						
Yes	333(96.8)	11(3.2)	344(100.0)	1	59.805	14.704
No	35(67.3)	17(32.7)	52(100.0)		(0. 0001)*	(6.382-33.875)
Total	**368(92.9)**	**28(7.1)**	**396 (100%)**			
Level of education						
≤ Secondary	94(94.9)	5(5.1)	99(100.0)	1	0.820	1.578
≥Tertiary	274(92.3)	23(7.7)	297(100.0)		(0. 365)	(0.583-4.269)
Total	**368(92.9)**	**28(7.1)**	**396 (100%)**			
Occupation						
Unskilled	185(88.9)	23(11.1)	208(100.0)	1	10.599	0.220
Skilled	183(97.3)	5(2.7)	188 (100.0)		(0.001)*	(0.082-0.591)
Total	**368(92.9)**	**28(7.1)**	**396 (100%)**			
Income						
≤ 90,000	122(96.1)	5(3.9)	127(100.0)	1	2.794	2.281
≥ 90,001	246(91.4)	23(8.6)	269(100.0)		(0.095)	(0.847-6.147)
Total	**368(92.9)**	**28(7.1)**	**396 (100%)**			

Table 3 shows that a significant association was observed between sex, marital status, religion, native of the community, occupation and pattern of utilization of primary healthcare service at p<0.05 while height (p=0.05), while level of education (p=0.365), and income (p=0.095), showed no statistical significance with pattern of utilization of primary healthcare service.

Discussion

Socio-Demographic Characteristics

The survey comprised a predominantly male respondent group, with females forming a smaller segment this contrasts with several national and regional studies that report higher female participation. For instance, a study by Asa et al. [12] found that 61.8% of their respondents were in monogamous marriages, with a significant representation of women. Similarly, Ezeama et al. [13] reported that 59.6% of their female respondents were

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married or living with a partner. A substantial portion of the participants were married, indicating a significant presence of individuals in marital unions. Other marital statuses included single, with cohabiting being the least common. This high proportion of married individuals in your study aligns with findings from Ezeama et al. [13] who reported that 59.6% of their female respondents were married or living with a partner. However, Asa et al.[12] observed that 25.6% of their male respondents were single, indicating variability in marital status distributions across different studies[12]. These differences may stem from regional, cultural, or age-related factors influencing marital patterns. Regarding religious affiliation, the majority identified as Christians, followed by traditional worshippers, with the smallest group being Muslims. A significant proportion reported being natives of the community, while a smaller percentage was not. Among the respondents, the predominant ethnic group was Ukwani, followed by Igbo, and the smallest representation came from the Yoruba ethnic group. Educational backgrounds of the participants varied, with the highest percentage having attained tertiary education. This aligns with findings from Ezeama et al.[13], who reported that 66.2% of their respondents had tertiary education. This suggests a trend of increasing educational attainment in certain regions, possibly due to improved access to higher education and socioeconomic development. Occupationally, respondents covered a broad spectrum, including professional/higher managerial roles, intermediate/lower managerial positions, manual skilled jobs, partly skilled occupations, unskilled employment, and individuals who had never worked or experienced long-term unemployment. Non-manual skilled occupations had the highest proportion, and monthly income distribution varied across respondents.

Pattern of Utilization of Primary Health Care Services

This study reveals that the majority of respondents had good pattern of utilization of PHC services and expressed contentment with the attitude of the healthcare staff at the primary health care center, describing it as pleasant and professional. This indicates that a significant portion of the community holds a positive view of the primary health care staff, contributing to a more comfortable healthcare experience. Additionally, a significant majority of respondents found the waiting time at the primary health care center to be convenient, suggesting that waiting times do not pose a significant barrier to utilizing these services. The study also highlights the diverse healthcare needs of the respondents, including child health and general outpatient services, emphasizing the importance of a comprehensive approach to primary healthcare. Among the small percentage of respondents who did not use primary health care services, the most common reasons cited were a lack of financial means and the unavailability of required healthcare services. Regarding the frequency of visits to primary health care centers, a minority of respondents reported visiting very often, while the majority visited occasionally. These variations in healthcare-seeking behaviors suggest that individuals in the community have differing approaches to accessing healthcare. Contrary to the findings of the current study, a study by Nwokoro et al. [3] in Eastern Nigeria reported that PHC services utilisation was low, suggesting that improving utilisation would require addressing cost of health services, adequacy of healthcare staff, patient waiting time and ensuring patient satisfaction with PHC services.

Comparing these findings with a study carried by Burnham et al.[7], where Iraqi participants expressed contentment with primary healthcare services, irrespective of whether they were from the public or private sector, demonstrates the positive attitudes reported the current study. Another research in Sierra Leone highlighted disparities in equipment and staffing levels between private and public health facilities, which could influence patients' choice of healthcare facility [8]. In conclusion, the positive perceptions of primary health care staff and waiting times are assets. However, addressing barriers related to affordability and the availability of effective services is crucial for improving primary healthcare access. The diverse primary healthcare needs and varying visit frequencies among respondents underscore the need for a comprehensive and adaptable primary healthcare system that can cater to a wide range of health concerns [8].

Furthermore, the current study used various variables to show the factors affecting the utilization of primary health care centers, including utilization patterns, gender, marital status, religion, native status, ethnic group, level of education, occupation, and monthly income, along with their respective patterns of utilization (good or poor) and associated chi-squared test

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p-values. The data revealed that several socio-demographic factors are strongly linked to the utilization of primary health care services. Disparities in utilization based on gender, marital status, religion, and other factors indicate a need for targeted interventions to ensure equitable access to these services. Comparing these research findings to global trends, it becomes evident that gender-related barriers exist in accessing primary health care. The study suggests that the influence of religion on primary health care utilization can be attributed to cultural and religious beliefs affecting healthcare-seeking behavior. This aligns with the findings of a study conducted by Sule et al. [9], which emphasized the role of religion in health-related decisions.

The impact of education on healthcare utilization is a common finding in health research, and this study's results confirm that individuals with higher levels of education tend to utilize healthcare services more frequently[9]. This aligns with the results of Sule et al. study.[9] Contrarily, Nwokoro et al.[3] reported no association between education and utilization of PHC services. This difference in reports may be attributed to differences in geographical location, culture and other peculiar factors (3). Furthermore, this research highlights that monthly income significantly affects primary health care utilization, with individuals with higher incomes utilizing these services more frequently. This finding mirrors the results of Adongo and Asaarik's[5] study, where the cost of healthcare services was identified as a significant barrier to accessing and utilizing primary health care. In conclusion, addressing the gender gap in primary health care utilization should be a priority, as this study indicates that males in the study areas use primary health care services more frequently than females. Policymakers and healthcare providers should consider the influence of demographic and socio-economic factors when designing interventions to improve access to primary health care services. Additionally, addressing cost-related barriers, especially for low-income individuals, is crucial to ensuring equitable access to these services.

The heterogeneity perceived in the utilization patterns may reflect underlying social determinants such as income, education, gender, and cultural practices. Interestingly, while this study observed relatively high utilization of PHC services, other studies, such as Nwokoro et al.[3] reported low utilization levels in Eastern Nigeria, attributing the shortfall to cost, insufficient staffing, waiting times, and low patient satisfaction. These contrasting outcomes suggest regional disparities that may be shaped by contextual and infrastructural differences. In a comparative international context, Burnham et al. [7] reported high satisfaction with PHC services among Iraqi patients, regardless of whether care was accessed through public or private sectors. Similarly, O'Neill et al.[8] in their assessment of Sierra Leone's healthcare system, found discrepancies in staffing and equipment availability between public and private facilities, which likely influenced patient preferences and access. These studies corroborate the assertion that patient satisfaction and perceived quality of care are pivotal in PHC utilization, regardless of country-specific health system structures. Education and income were also positively correlated with increased utilization of PHC services. These findings are consistent with previous research indicating that higher educational attainment enhances health literacy, leading to better awareness and engagement with health services (9). Likewise, individuals with higher incomes may have fewer financial barriers, allowing them to seek timely care. However, Nwokoro et al.[3] reported no significant association between education and PHC use, a discrepancy that may be explained by contextual differences such as geographical location, service availability, and cultural dynamics.

Importantly, this study emphasizes the critical role of affordability in PHC utilization. Individuals with lower incomes were less likely to use services, a trend supported by Adongo and Asaarik, [5] who identified healthcare cost as a major barrier in Ghanaian PHC access. Reducing out-of-pocket expenditure, expanding insurance coverage, and increasing resource allocation to PHCs are necessary strategies for enhancing equity in healthcare access.

Implications of the findings

After recognizing the multitude of issues linked to evaluating the utilization of primary healthcare and its related determinants, and in order to effectively and efficiently implement and attain the objectives of government primary healthcare service delivery, the following recommendations are proposed as a path forward; recognizing the influence of socio-demographic factors on healthcare utilization, healthcare

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providers and policymakers should develop targeted outreach programs. These initiatives should focus on specific groups such as women, singles, minority ethnic groups, and those with lower education levels to address potential barriers and improve access. Additionally, regular data collection and analysis of healthcare utilization patterns should be conducted to monitor changes and trends. This information will aid in making timely adjustments to healthcare policies and interventions

Conclusion

In conclusion, the study highlights the importance of socio-demographic factors and accessibility in influencing primary healthcare utilization patterns. It provides valuable insights for policymakers and practitioners, laying the groundwork for future research and interventions to improve healthcare services and ensure equitable access.

Declaration of competing interests

The authors declare that there are no competing interests, of any nature, financial or otherwise, that have or appeared to influence the findings in this work. Lastly, it is pertinent to note that the declared views are those of the authors, entirely.

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