

Barriers to the Utilization of Government Dental Health Services Among Low-Income Families in Ugwuaji, Enugu South LGA of Enugu State, Nigeria: A Cross-Sectional Survey

Kelechi Aniagboso^{1,2}, Chimkanma Chimnazaekpere Chinedu-Ogbodo³, David Nono^{2,4,5}

¹Department of Preventive Dentistry, University of Nigeria Teaching Hospital Ituku-Ozalla, Enugu, Enugu State, Nigeria; ²Department of Public and Community Health Faculty of Medicine and Health Sciences Frontier University, Garowe, Mogadishu, Somalia; ³Department of Public Health, Federal University of Allied Health Sciences, Enugu, Enugu State, Nigeria; ⁴Department of Dental Technology, Makerere University, Kampala, Uganda; ⁵Department of Research, Uganda Institute of Allied Health and Management Sciences-Mulago, Kampala, Uganda

Correspondence: Kelechi Aniagboso, Department of Preventive Dentistry, University of Nigeria Teaching Hospital Ituku-Ozalla Enugu State, Enugu, Nigeria, Tel +2348035526611, Email anikelcy@gmail.com; David Nono, Department of Dental Technology, Makerere University, Kampala, Uganda, Tel +256773502059; +256701909347, Email nndvd45@gmail.com

Background: Oral health, a cornerstone of overall well-being, remains a neglected global public health priority despite its profound impact on quality of life. Despite the availability of public dental facilities, underutilization persists, contributing to preventable oral health disparities in peri-urban communities and low-income countries. This study assessed barriers to the utilization of government dental health services among low-income families in Ugwuaji, Enugu South LGA, Nigeria.

Methods: A descriptive cross-sectional survey study design was employed, where 437 participants aged 18 years and above from low-income households (≤N70,000 monthly) took part. Households were selected using stratified sampling. The participants were selected using Statistical Package for Social Sciences (SPSS) version 23 which was used to analyse quantitative data. Inferential statistics of Chi Square were used. Chi-Square Tests examined sociodemographic associations and utilization with key outcomes ($p < 0.05$).

Results: The study concluded that 79.9% were non-users (never or last visit >3 years ago) showing a utilization crisis. Participants showed agreement in their barriers to utilization in Financial (fees, transport, lost wages: >79% agreement), structural (distance, wait times: >65% agreement), and perceptual (pain fear: 82.6%; herbal remedy preference: 58.1%). Education level, travel time, income level, and occupation were statistically significant. The participants' recommended free check-ups (81.7%), mobile clinics (74.6%), and extended hours (62.2%) as the solutions. Around 68.4% volunteered for community dental outreach if need be.

Conclusion: Ugwuaji's underutilization of dental services mirrors financial challenges which lead health inequities across rural Nigeria. There is a need for the government to increase healthcare financing to ensure free access to basic health care services to minimize out of pocket health expenses.

Keywords: barriers, dental health services, low-income families, health equity, Nigeria, utilization

Introduction

Oral health, a cornerstone of overall well-being, remains a neglected global public health priority despite its profound impact on quality of life. According to the World Health Organization,¹ oral diseases affect 3.5 billion people worldwide with untreated dental caries in permanent teeth remaining the most prevalent condition and affecting over 2.4 billion people worldwide, with low-income populations disproportionately bearing this burden. The latter is due to limited access to preventive and curative services. In sub-Saharan Africa, where healthcare systems are strained by competing priorities, oral health disparities are particularly stark: 90% of dental caries cases go untreated, often escalating into preventable complications such as tooth loss, chronic pain, and systemic infections.² These inequities worsened during the COVID-19 pandemic, which disrupted dental services and deepened access gaps, particularly in rural and peri-urban

regions. For instance, in Nigeria Africa's most populous nation only 20% of the population accesses basic dental care, a statistic that plummets to 8% in low-income communities.^{3,4}

Social and demographic structures are predisposing factors, according to Anderson's behavioural model for the use of health services. The availability of resources is one example of an enabling element that helps individuals use services. For example, earnings, availability, and access to free services. People are motivated to use the service by factors like need. For instance, physical ailments, illnesses, or diseases.⁵

The low income groups face barriers to dental care despite universal health coverage, often opting for costly private services when public systems are overburdened. Such inequities persist globally, perpetuating cycles of pain, infection, and economic hardship. In 2024, 57 million Americans resided in dental professional shortage areas, with rural communities disproportionately affected.⁶ The roots of this crisis lie in systemic underinvestment, poverty, cultural barriers, and fragmented policy implementation. For example, in sub-Saharan Africa, 90% of dental caries remains untreated, contributing to preventable tooth loss and reduced quality of life.⁷ While Nigeria's 2012 National Oral Health Policy aimed to prioritize preventive care and equitable access, progress has been uneven. Public dental facilities remain concentrated in urban centres, leaving peri-urban and rural areas like Ugwuaji, Enugu South LGA, severely underserved. Here, the dentist-to-population ratio is 1:28,000, far below the WHO-recommended 1:7500.⁸ Compounding this, cultural beliefs and financial barriers deter care-seeking: 38% of Nigerians attribute dental diseases to spiritual causes, while 63% of low-income households prioritize immediate survival needs over healthcare.⁹

Closer to the research site, Enugu State mirrors these national trends. A 2021 survey revealed that 97% of adults had untreated caries, with utilization rates in peri-urban areas as low as 15.5% compared to 65.4% in urban zones, cultural perceptions further hindered care seeking.¹⁰ For Ugwuaji's 28,000 residents a peri-urban community grappling with rapid urbanization and fragmented infrastructure access hinges on a single understaffed primary health centre offering limited services. Transportation costs to the nearest comprehensive facility (7 km away) consume 30% of monthly income for many families, forcing reliance on unregulated chemists or traditional healers. Consequently, 72% delay care until emergencies arise, perpetuating cycles of pain, absenteeism, and economic strain.¹¹

Nigeria's oral health landscape has stagnated despite policy efforts. The 2012 National Oral Health Policy emphasized preventive care and equitable access, yet state-level adoption has been negligible. Nigeria Public oral healthcare in Nigeria is delivered through a decentralized system that is to say; Federal/State which comprises of teaching hospitals and Federal medical centres, which handle complex cases, specialized treatments and training, State which comprises the General Hospitals and District Hospitals, offering general dental care, fillings, and extractions and Local Government which are the Primary Health Centres (PHCs). However, very few PHCs nationwide offer functional oral health services.¹² Enugu State, for instance, lacks a localized oral health policy, and public dental funding constitutes a mere 0.41% of the health budget.¹² This underfunding manifests in outdated equipment, erratic drug supply, and demoralized staff. Globally, such disparities persist even in high-income settings. In California, 79% of dentists avoid serving low-income patients, while racial inequities persist only 8% of dentists are Black or Latino, despite these groups comprising 60% of low-income residents.¹³ These parallels underscore a universal truth: oral health inequities are not merely clinical but structural, rooted in socioeconomic marginalization and policy inertia. Such inequities underscore the need for systemic reforms, including workforce diversification and financial incentives for underserved areas.

This study emerged at a critical juncture. As Nigeria strives toward Universal Health Coverage (UHC), peri-urban communities like Ugwuaji often overlooked in favour of urban or rural foci require targeted interventions and there is no published or known study that has looked at the barriers to the utilization of government dental health services among low-income families in Ugwuaji, Enugu South LGA, Nigeria. By employing a cross-sectional survey approach, the research identifies multidimensional barriers (financial, cultural, structural) unique to this transitional setting. Therefore, this study aimed to assess barriers to the utilization of government dental health services and elicit suggestions on how to improve among low-income families in Ugwuaji, Enugu South LGA, Nigeria.

Materials and Methods

Study Design

The study employed a descriptive cross-sectional study design was employed with questionnaires as a tool to collect data, to provide a comprehensive understanding of the barriers. The data were collected using a survey.

Study Site

The study was conducted in Ugwuaji, Enugu South LGA, focusing on low-income households. Ugwuaji is a semi-urban community located within Enugu South Local Government Area (LGA) of Enugu State, Southeast Nigeria. Situated approximately 5 kilometers (Km) from Enugu metropolis, the community serves as a transitional zone between urban and rural settlements. According to the 2006 national census (with projected 2023 estimates), Ugwuaji has a population of about 28,000 residents, predominantly of Igbo ethnicity. The area exhibits characteristics of rapid urbanization while maintaining strong rural traditions in family structure and community organization. Ugwuaji is a Peri-urban settlement with ~28,000 residents with high poverty prevalence ($\geq 40\%$ low-income households). It has limited government dental services (1 Primary Healthcare Centre (PHC) with basic dental care). The Ugwuaji PHC offers basic dental services, operating with limited hours and staff. The nearest comprehensive government dental clinic is located at Enugu General Hospital, 7 km away. There are 3 registered private dental clinics serve the area, but their fees place them beyond reach for most residents. It comprises numerous unlicensed chemists and traditional healers providing tooth extraction and pain relief services at lower costs. Ugwuaji is a good study area for this research because with majority of Ugwuaji's adults suffering untreated dental caries and only minor percentage utilizing government clinics, this research addresses an acute healthcare gap that perpetuates preventable pain and economic losses.

Selection of Study Participants

A total of 437 low-income participants aged 18 years and above residing in Ugwuaji, Enugu South Local Government Area, Enugu State, Nigeria, and gave informed consent were recruited into the study using stratified sampling procedure. The sample size for participants were obtained using the Krejcie and Morgan,¹⁴ based on the sampling frame for low-income participants (6000).¹⁵

Inclusion Criteria

Adults (aged ≥ 18 years) from households and individuals who have lived in the area in the past 3 years but may or may not have accessed services and have consented to participate.

Exclusion Criteria

Those who were sick, unable to respond and were absent during data collection periods.

Data Collection

The data collection process commenced following ethical approval from the Frontier University – Garowe Research Ethics Committee (FU-REC/IDLPS/2025/007) and administrative clearance from the Enugu State Ministry of Health and Ugwuaji community traditional ruler. To ensure cultural legitimacy, meetings with local leaders preceded fieldwork, leveraging their support for community sensitization. Data was collected over a period of six weeks (1st September to 10th October), strategically scheduled to avoid market days and festivals, with activities conducted in households, community centres, and the Ugwuaji Primary Health Centre to maximize accessibility. Five bilingual (Igbo/English) research assistants, trained in ethical protocols and questionnaire administration, lead the process under the supervision of the primary investigator.

Eligibility criteria was low-income status ($\leq \text{₦}70,000$ monthly), residency for ≥ 1 year, and age ≥ 18 these were verified during initial interactions. Participants received detailed explanations of the study's purpose, risks, and benefits in their preferred language (Igbo or English). Written informed consent was secured via signatures or thumbprints for illiterate participants, and it preceded all interviews. Structured questionnaires ([Supplementary Figure 1](#)) were administered face-

to-face in secluded areas to ensure privacy, with each session lasting 15–20 minutes. The questionnaire was developed by the researcher with the guidance of different studies^{16–18} and to ensure research rigor, multiple strategies were implemented. The questionnaire was pilot-tested with 40 participants in a neighboring community to refine clarity and identify ambiguities. The Igbo-translated tool, validated through back-translation, captured demographics (age, gender, income), awareness of services, financial and structural barriers (eg, transportation costs, clinic distance), cultural beliefs (eg, herbal remedy use), and perceptions of service quality (eg, wait times).

Real-time data quality checks were conducted by assistants after each interview to address incomplete or ambiguous responses, supplemented by random spot-checks (10% of forms) by the lead researcher. Incomplete forms were resolved immediately by revisiting participants, while unclear answers were clarified on-site, although not all questionnaires were retrieved. Digital data entry involved cross-verifying 20% of entries to minimize errors. Collected data was anonymized, with physical copies stored in locked cabinets and digital files saved on password-protected, encrypted drives. Retention aligned with institutional guidelines, maintaining records for five years. To accommodate local livelihoods, interviews were timed for mornings or evenings, with gender-matched assistants assigned to female participants to enhance comfort and cultural sensitivity. This systematic yet adaptive approach ensured rigorous, ethical, and contextually grounded data collection, critical for generating actionable insights into Ugwuaji's dental care barriers.

Data Management and Analysis

The gathered information was cleaned and double-checked for accuracy and completeness before being loaded into the SPSS version 23 program and were exported for analysis. To ascertain the general degree of the barriers to the utilization of government dental health services among low-income families in Ugwuaji, descriptive statistics in the form of participant proportions and frequencies were employed. The relationship between independent and dependent variables was ascertained using chi-square statistics. Chi-Square Tests examined sociodemographic associations and utilization with key outcomes ($p < 0.05$). A P-value of less than 0.05 was deemed statistically significant, and all statistical tests were performed at a 95% confidence interval. Results were presented using tables and essay to enhance clarity and interpretation.

Ethical Considerations

Ethical approval of the protocol was obtained from the Enugu State Ministry of Health Research and Ethics Committee (Reference Number: MH/MSD/REC21/837) as well as the Frontier University – Garowe. Research Ethics Committee (FU-REC/IDLPS/2025/007) and administrative clearance from the Enugu State Ministry of Health and Ugwuaji community leaders. Written informed consent which included publication of anonymized responses/direct quotes was obtained from all the participants who took part in the study in accordance with the Helsinki Declaration.¹⁹ All the data collected were kept securely in a cabinet under lock and key and only accessible to the investigator.

Results

Sociodemographic Profile

The study involved 437 participants with varying demographic characteristics (Table 1). The sample is predominantly female (56.30%), with males constituting 43.02%. The population is relatively young with the largest age cohort is 18–30 years (40.0%), closely followed by 31–45 years (35.0%). A substantial 30.0% reported no formal education whatsoever. A further 35.0% had only primary education, meaning a total of 65% of participants possess, at best, basic primary schooling. Secondary education was attained by 25.0%, while only 10.0% reached the tertiary level. Petty trading (23.34%) and artisan work (22.88%) are the most common occupations, followed by farming (18.76%). Formal employment constitutes only 20.37% of the sample. A significant proportion (14.65%) reported being unemployed. The modal income bracket is ₦20,000–₦50,000 (45.31%). While 31.35% earn ₦50,000–₦70,000, a notable 23.34% earn below ₦20,000. The vast majority (78.26%) face a substantial journey of 30–60 minutes to reach the clinic. A further 14.87% must travel for more than an hour. Only a tiny fraction (6.87%) enjoy the convenience of a clinic within 30 minutes.

Table 1 Sociodemographic Characteristics (N=437)

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	188	43.02%
	Female	246	56.30%
	Others	3	0.7%
Age group	18–30 years	175	40.0%
	31–45 years	153	35.0%
	46–60 years	85	19.5%
	61+ years	24	5.5%
Educational level	No formal education	131	30.0%
	Primary	153	35.0%
	Secondary	109	25.0%
	Tertiary	44	10.0%
Primary occupation	Farming	82	18.76%
	Petty trading	102	23.34%
	Artisan	100	22.88%
	Unemployed	64	14.65%
	Employed	89	20.37%
Monthly income	<₦20,000	102	23.34%
	₦20,000–₦50,000	198	45.31%
	₦50,000–₦70,000	137	31.35%
Travel time to clinic	<30 minutes	30	6.87%
	30–60 minutes	342	78.26%
	>1 hour	65	14.87%

Barrier Severity Analysis

Table 2 presents an analysis of the severity of barriers hindering healthcare access for the study population, measured by the percentage of participants who agreed or strongly agreed (Likert scale 4–5) with specific barrier statements. An overwhelming majority of participants (91.3%) identified clinic fees as prohibitively high (B1). This is closely followed by the cost of transportation to the clinic (84.0%, B2) and the impact of lost wages due to time taken off for visits (79.6%, B3). Structural barriers also present major challenges. 76.7% cited the excessive distance to the clinic (B4), directly corroborating the sociodemographic data showing that most face 30–60+ minute journeys. The long waiting times encountered at clinics, also agreed upon by 76.7% (B5). Furthermore, nearly two-thirds (65.4%) found clinic operating hours inflexible (B6), likely clashing with work schedules in the dominant informal sector occupations.

Dental Service Utilization and Sociodemographic Factors

Table 3 shows tests examined sociodemographic associations and utilization with key outcomes ($p < 0.05$). Income $\times$ Utilization ($\chi^2 = 38.72$, $p < 0.001$): 94.2% of low-income (<₦10,000) respondents never visited clinics vs 40.9% of high-income (₦20,001–₦30,000) which implies that Income is a primary predictor of access. Education $\times$ Utilization

Table 2 Shows Agreement Rates (Likert 4–5) for Barriers

Barrier Type	Statement	Agree (%)
Financial	B1. Clinic fees too high	91.3%
	B2. Transportation costs prohibitive	84.0%
	B3. Lost wages during visits	79.6%
Structural	B4. Clinic too far	76.7%
	B5. Long waiting times	76.7%
	B6. Inflexible clinic hours	65.4%
Cultural/Perceptual	B7. Preference for herbal remedies	58.1%
	B8. Tooth decay is caused by spiritual forces	24.3%
	B9. Fear of dental pain	82.6%
Service Quality	B10. Lack of modern equipment	73.2%
	B11. Unfriendly/unprofessional Staff	34.5%

Table 3 Inferential Statistics: Chi-Square Tests (Tests Examined Sociodemographic Associations and Utilization with Key Outcomes ($P < 0.05$))

Independent Variable	Dependent Variable	χ^2	df	p-value	Association Strength (Cramer's V)
Income level	Last dental visit user vs non user)	29.18	2	<0.05	0.30 (moderate)
Education level	Last dental visit	29.18	3	<0.05	0.26 (moderate)
Travel time	Last dental visit	41.05	2	<0.05	0.31 (moderate)
Occupation	B1 (fee barrier)	25.64	3	<0.05	0.24 (moderate)

Note: All χ^2 -tests met assumptions (expected frequencies ≥ 5); Cramer's V thresholds: 0.1=weak, 0.3=moderate, 0.5=strong (See Table 3).

($\chi^2=29.18$, $p < 0.001$), 78.6% with no formal education were non-users vs 18.2% with tertiary education meaning that education correlates with health-seeking behaviour. Travel Time $\times$ Utilization ($\chi^2=41.05$, $p < 0.001$), 96.9% traveling >1 hour never visited vs 22.7% within <30 minutes showing that distance is a critical structural barrier. For occupation $\times$ Financial Barrier ($\chi^2=25.64$, $p < 0.001$), 98.3% of farmers cited unaffordable fees (B1) vs 63.6% of artisans revealing that farmers face compounded economic vulnerability.

Dental Service History

Table 4 provides critical insights into the dental service utilization patterns and the primary reasons for non-attendance among the study population. Majority of participants, 240 (54.9%), reported never having visited a dentist at all. Furthermore, a significant quarter of respondents 109 (25.0%) last sought dental care more than three years ago. Sixty six (15.1%) visited between 1 and 3 years ago, and a mere 22 (5.0%) had visited within the last six months. The single most cited reason for not accessing dental care was cost 96 (56.2%) followed by the use of traditional healers 162 (46.4%). Distance to a dental clinic was a significant barrier for 88 (25.8%). Fear was cited by fewer individuals ($n=44$), approximately 12.6% of non-users as the primary reason for non-use.

Community-Driven Solutions for Improvement

Table 5 presents data collected on community preferences and suggestions for improving dental care services. Regarding the top Interventions desired, 81.7% of participants selected free check-ups. Mobile clinics were chosen by 74.6% of participants,

Table 4 Dental Service History

Variable	Category	Frequency (n)	Percentage (%)
Last Dental Visit	Never	240	54.9%
	>3 years ago	109	25.0%
	1–3 years ago	66	15.1%
	<6 months ago	22	5.0%
Reason for Non-Use	Cost	196	56.2%
	Distance	88	25.8%
	Fear	44	12.6%
	Traditional healer use	162	46.4%
	Others	21	6.0%
	n= 349 non-users		

Table 5 Percentages of Responses on Improvements for Better Utilization

Variables	Statements	Percentage %
Top Interventions	Free check-ups	81.7%
	Mobile clinics	74.6%
	Evening/Saturday hours	62.2%
Preferred communication method	Radio announcements	24.5%
	SMS reminders	52%
	Church/mosque announcements	78%
	Posters at water points	36.2%
Suggestion to improve dental care in the community	Attach dental clinic to the healthcare centre in the community	74.5%
Trust in Providers	Traditional healers	52%
	Government dentists	68%
Community Action	Volunteers for dental outreaches	68.4%

and 62.2% indicated evening or Saturday hours as a preferred intervention. For Preferred Communication Method, several options were presented to the community. Radio announcements, church/mosque announcements, and posters at water points were listed as methods. The specific percentage agreeing to use SMS reminders was 52%. When asked for a specific Suggestion to Improve Dental Care in the Community, 74.5% of participants suggested attaching a dental clinic to the existing healthcare centre within the community. The table also reports levels of Trust in Providers. Trust in traditional healers was reported by 52% of participants, while trust in government dentists was indicated by 68% of participants. Finally, concerning Community Action, 68.4% of participants expressed willingness to volunteer for dental outreach programs.

Discussion

This study revealed insights into dental service underutilization in rural Ugwuaji, Nigeria, contextualizing findings within Andersen's Behavioural Model of Health Services Use.⁵ The participants in age category (18–30) utilized dental services more than the older population showing that as age increases, utilization of government dental services decreases. This is in

alignment with the study carried out by Miira et al,²⁰ where they concluded that dental care utilization decreased from 40.5% in 2001 to 37.0% in 2010 for adults and increased from 43.2% in 2001 to 46.3% in 2010 for children ($p<0.05$). In Nigeria, gender and educational level shape barriers to the use of government dental services among low-income families. Women often face financial dependence and time constraints, while men may delay care due to poor health seeking behavior. Low educational attainment reduces awareness of oral health needs and available public services, leading to late presentation and reliance on self-medication or traditional care.²¹ Furthermore, gender and educational level significantly affect socioeconomic opportunities and development outcomes. Studies in Nigerian journals show that higher educational attainment improves employment prospects, income, and social mobility for both genders.²² However, females continue to experience lower access to quality education due to cultural norms, poverty, and early marriage, especially in rural areas.²³ These disparities limit women's participation in the labour force and national development.²⁴ Addressing gender gaps in education is therefore essential for economic growth, health improvement, and social equity in Nigeria.

Multidimensional Barriers to Utilization

The present study (Table 2) findings revealed landscape of obstacles, with financial constraints emerging as the most pervasive and severe challenge. Financial barriers constituted the most significant impediment. An overwhelming majority of participants (91.3%) identified clinic fees as prohibitively high (B1). This is closely followed by the cost of transportation to the clinic (84.0%, B2) and the impact of lost wages due to time taken off for visits (79.6%, B3). Aikins & Braimoh²⁵ similarly found that cost was a major deterrent among civil servants in Port Harcourt. Ogbuji & Edetanlen²⁶ identified high treatment costs as a key barrier in Benin, particularly among low-income groups and De Rubeis et al²⁷ showed that low-income individuals in Canada were three times less likely to visit dentists due to financial constraints. This means that the financial barrier is universal across different regions and income levels, reinforcing the need for subsidized dental care and insurance schemes as suggested by Abodunrin et al.²⁸

In the present study, the structural barriers also presents major challenges, 90% traveled >30 minutes to clinics, with 96.9% of those >1 hour away never visiting, 76.7% cited the excessive distance to the clinic (B4), directly corroborating the sociodemographic data showing that most face 30–60+ minute journeys. This agrees with the studies of Uguru et al²⁹ showing that geographical location and government policies critically influenced access in Enugu. The long waiting times encountered at clinics, also agreed upon by 76.7% (B5) as a barrier. Furthermore, nearly two-thirds (65.4%) found clinic operating hours inflexible (B6), likely clashing with work schedules in the dominant informal sector occupations.

Socioeconomic Determinants of Access and Utilization

The present study found that 23.4% earned <₦20,000/month, directly explaining why 91.3% cited unaffordable fees (B1) and 56.1% named cost as their primary non-use reason. This aligns with Frencken et al,² confirming income as the strongest predictor of dental neglect in low-resource settings. Only 10% had tertiary education, yet this group showed 5.6× higher clinic use than non-educated peers. Education likely enables health literacy and problem recognition.³⁰ Farmers (54.9%) faced compounded barriers, 98.3% cited fee unaffordability (vs 63.6% of artisans) and lost daily wages during clinic visits (79.6% agreement). Seasonality of farm income further destabilizes access. Similarly, Dahl et al¹¹ linked low socioeconomic status with poor oral health access and outcomes in Norway. This goes to say that if dental fees are subsidized, more people would utilize the dental care services provided by the government.

The present study found that over half of the participants (54.9%, $n=240$) reported never having visited a dentist. This is an exceptionally high figure, indicating a complete lack of access to formal dental care for a majority. Adding those who last visited over three years ago 25.0%, ($n=109$), a staggering 79.9% of the total sample ($n=349$) have not accessed dental services within the last three years. This represents chronic under-utilization. Only a small minority accessed care recently: 15.1% ($n=66$) within the past 1–3 years and a mere 5.0% ($n=22$) within the last six months. Reliance on traditional healers, was cited by 46.4% ($n=162$) of non-users. This indicates a cultural preference or perceived accessibility of alternative care, potentially driven by cost, cultural familiarity, or dissatisfaction/lack of access to formal services and this is in support of Folorunsho et al³¹ study that noted that social beliefs influenced older Nigerians' care-seeking behavior. Fear (likely of pain, procedures, or dentists) was cited by 12.6% ($n=44$) of non-users just like in Ajayi & Arigbede³² study that identified fear of injections and dental drills as major deterrents in Ibadan.

Community Provided Solutions for Improvement

The current study found that the highest priority intervention is free check-ups which is requested by a vast majority (81.7%) of participants. This directly addresses the previously identified primary barrier of cost and the high agreement on clinic fees being prohibitive this agrees with Abodunrin et al²⁸ study recommending innovative insurance schemes to drive preventive care. Mobile clinics were the second most requested intervention 74.6%. This aligns perfectly with the barrier of distance where 25.2% of non-users and with 93% faces 30+ minute travel times, therefore, the suggestion to attach a clinic to the existing health centre.

Furthermore, evening or Saturday hours were requested by 62.2%, highlighting a need to accommodate the schedules of those engaged in informal sector work (petty trading, artisan, farming) who cannot easily attend during standard weekday hours, a structural barrier previously noted. The above aligns with the study of³³ where he concluded that cash transfers alone did not increase public dental visits in Finland, suggesting that structural reforms are needed like the mobile dental clinic. Also, Uguru et al²⁹ called for better government funding and strategic facility placement for easy access. This implies that a multipronged approach combining affordability (subsidies), accessibility (mobile clinics), and community engagement is essential, as evidenced by both Ugwuaji's data and global studies.

Conclusion

Under utilizations of dental services in Ugwuaji is primarily economic and geographic. This mirrors systemic health inequities across rural Nigeria. Poverty and physical isolation create interdependent barriers that systematically exclude farmers, low-income earners, and the less educated. Cultural beliefs and mistrust in government services compound underutilization. Fear of pain and preference for traditional care reflect failures in health communication and patient-centred service design. Community-driven and multi-tiered interventions are essential. Solutions must simultaneously address affordability (subsidies), physical access (mobile units), and perceptual trust gaps (cultural competency training).

Study Limitations

The limitations of this study came from self-reporting bias resulting from reliance on participants' recall of dental visits/costs which could have led to inaccuracies. Social desirability bias in underreporting of traditional healer use due to stigma or shame, the cross-sectional study could not establish causal relationships, and findings are only specific to Igbo-majority peri-urban contexts, therefore, not transferable to rural North or urban Lagos.

Recommendation

For Policy and Practice, the following recommendations will guide advocates and policy makers for effective utilization of dental services among the people of Ugwuaji community and the masses at large.

1. Targeted Subsidies: Waive fees for low-income groups like farmers and <₦70,000 (ie the minimum wage).
2. Mobile Clinics: Deploy units to markets/schools prioritizing remote areas to address distance barriers.
3. Community Health Worker (CHW) Integration: Train CHWs in basic dental screening and referral, leveraging high trust scores (4.1/5).
4. Dental Clinics should be attached to the healthcare centres in the community, at least for basic dental needs and care.
5. National Health Insurance Scheme (NHIS) Inclusion: Advocate for mandatory dental coverage in Nigeria's NHIS.

Abbreviations

LGA, Local Government Area; FMOH, Federal Ministry of Health (Nigeria).

Data Sharing Statement

Data sources are available on request. The request can be sent to the corresponding authors at nndvd45@gmail.com and anikelcy@gmail.com.

Ethics Approval and Consent to Participate

Ethical approval of the protocol was obtained from the Enugu State Ministry of Health Research and Ethics Committee (Reference Number: MH/MSD/REC21/837) as well as the Frontier University – Garowe. Research Ethics Committee (FU-REC/IDLPS/2025/007) and administrative clearance from the Enugu State Ministry of Health and Ugwuaji community leaders. Written informed consent which included publication of anonymized responses/direct quotes was obtained from all the participants who took part in the study. In compliance with the Helsinki Declaration,¹⁴ the respondents were requested to voluntarily participate after being aware of the purpose of the study. Care was taken to ensure confidentiality and anonymity of all personal data generated during the study. All collected data was anonymized; names and identifiers were replaced with unique codes (eg, R001, R002).

Acknowledgments

I am appreciative of the participants' willingness to take part in the study as well as the Ugwuaji community leaders and the Enugu State Ministry of Health for granting us access to them.

Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

Funding

This work was supported by the Self-funded.

Disclosure

The authors declare that there is no conflict of interest.

References

1. World Health Organization. Oral health fact sheet. 2022. Available from: <https://www.who.int/health-topics/oral-health>. Accessed February 04, 2026.
2. Frencken JE, Sharma P, Stenhouse L, Green D, Lavery D, Dietrich T. Global epidemiology of dental caries and severe periodontitis—a comprehensive review. *J Clin Periodontol*. 2017;44:S94–105. doi:10.1111/jcpe.12677
3. Federal Ministry of Health. National Oral Health Policy. Nigeria. 2022.
4. Federal Ministry of Health. *National oral health survey report*. Government of Nigeria Press. 2022.
5. Alkhawaldeh A, ALBashtawy M, Rayan A, et al. Application and use of Andersen's behavioral model as theoretical framework: a systematic literature review from 2012-2021. *Iran J Public Health*. 2023;52(7):1346–1354. PMID: 37593505; PMCID: PMC10430393. doi:10.18502/ijph.v52i7.13236
6. CDC. Health disparities in oral health, health workforce shortage areas: explore HPSAS. health resources & services administration. Available from: <https://data.hrsa.gov/topics/health-workforce/shortage-areas>. Accessed January 18, 2024.
7. Uguru N, Onwujekwe O, Uguru C, Ogu U, Okwuosa C, Okeke C. Oral health-seeking behavior among different population groups in Enugu Nigeria. *PLoS One*. 2021;16(2):e0246164. doi:10.1371/journal.pone.0246164
8. Enugu State Ministry of Health. Annual health sector performance report. Enugu Government Press. Enugu State, Nigeria. 2021.
9. Okeke C, Onwujekwe O, Okoye I. Patterns of dental service utilization among school children in Enugu State, Nigeria. *Nigerian J Clin Pract*. 2021;24(3):412–418.
10. Okwor N, Umezudike A. Dental caries treatment patterns in urban and rural clinics of Enugu State. *J Dent Res Pract*. 2021;3(1):12–18.
11. Dahl KE, Calogiuri G, Jönsson B. Perceived oral health and its association with symptoms of psychological distress, oral status and socio-demographic characteristics among elderly in Norway. *BMC Oral Health*. 2018;18(1):93. doi:10.1186/s12903-018-0556-9
12. Uguru N, Onwujekwe O, Uguru CC, Ogu UU. Achieving universal health coverage in Nigeria: the dilemma of accessing dental care in Enugu state, Nigeria, a mixed methods study. *Heliyon*. 2021;7(1):e05977. doi:10.1016/j.heliyon.2021.e05977
13. UCLA Health. Report identifies barriers to accessing dental care for low-income in Californians. 2021. Available from: <https://www.uclahealth.org>. Accessed February 04, 2026.
14. Krejcie V, Morgan W. Determining sample size for research activities. *Educ Psychol Meas*. 1970;30(3):607–610. doi:10.1177/001316447003000308
15. Guest G, Bunce A, Johnson L. How many interviews are enough? An experiment with data saturation and variability. *Field Methods*. 2006;18(1):59–82.
16. Umar N, Gambo A. Barriers to utilization of oral health care services in a tertiary hospital in Northwest Nigeria. *Nigeria J Clin Pract*. 2019;22(11):1576–1582.
17. Joshi A, Kale S, Chandel S, Pal D. Likert-scale: explored and explained. *Curr J Appl Sci Technol*. 2015;7(4):396–403. doi:10.9734/BJAST/2015/14975

18. Burns E, Duffett M, Kho ME, et al. A guide for the design and conduct of self-administered surveys of clinicians. *Canad Med Surv Assoc J*. 2008;179(3):245–252. doi:10.1503/cmaj.080372
19. World Medical Association. Declaration of Helsinki: ethical principles for medical research involving human subjects. *J Am Med Assoc*. 2013;310(20):2191–2194. doi:10.1001/jama.2013.281053
20. Vehkalahti MM, Palotie U, Varsio S, Hiltunen K. Sector-differences in adults' dental care service utilisation: 11-year register-based observations. *Int Dent J*. 2025;75(3):2025–2033. doi:10.1016/j.identj.2024.12.035
21. Federal Ministry of Health, Nigeria (2012) National Oral Health Policy, Nigeria. Available from: https://extranet.who.int/ncdccs/Data/NGA_B8_ORALHEALTHPOLICY.pdf. Accessed February 04, 2026.
22. Adewale M, Oladipo E. Gender inequality and economic development in Nigeria. *Nigerian J Soc Sci*. 2022;18(2):45–56.
23. Akanbi O, Alao A. Educational attainment and labour market outcomes in Nigeria. *Afr Educ Res J*. 2021;25(1):112–124.
24. Ogunyemi O. Gender disparities in access to education in Nigeria. *J Social Educ Africa*. 2020;14(3):67–79.
25. Aikins A, Braimoh B. Utilization of dental services among civil servants in Port Harcourt, Nigeria. *J Dent Res Rev*. 2015;2:62–66. doi:10.4103/2348-2915.161202
26. Ogbuji S, Edetanlen B. Pattern of utilization of dental services among Nigerian population in the University of Benin community: a prospective study. *Saudi J Oral Sci*. 2023;10(3):145–150. doi:10.4103/sjoralsci.sjoralsci_68_23
27. De Rubeis V, Jiang Y, de Groh M. et al. Barriers to oral care: a cross-sectional analysis of the Canadian longitudinal study on aging (CLSA). *BMC Oral Health*. 2023;23:294. doi:10.1186/s12903-023-02967-3
28. Abodunrin OR, Adebayo ET, Adewole IE, et al. Factors associated with the dental service utilization by enrollees on the Lagos State health insurance scheme, Nigeria. *BMC Health Serv Res*. 2025;25:14. doi:10.1186/s12913-024-12177-4
29. Uguru N, Onwujekwe O, Ogu UU, et al. Access to Oral health care: a focus on dental caries treatment provision in Enugu Nigeria. *BMC Oral Health*. 2020;20:145. doi:10.1186/s12903-020-01135-1
30. Ghalenow HR, Nikpeyma N, Kazemnejad A, Ansari M, Pashaeypoor S. Effect of educational program based on health literacy index on self-care ability among older adults: a randomized clinical trial. *Int J Prev Med*. 2022;13:24. PMID: 35392307; PMCID: PMC8980827. doi:10.4103/ijpvm.IJPVM_506_20
31. Folorunsho S, Ajayi V, Sanmori M, Suleiman M, Abdullateef R, Abdulganiyu A. Access to and utilization of dental care services by older adults in Nigeria: barrier and facilitators. *Spec Care Dentist*. 2025;45(3):e70040. PMID: 40326488; PMCID: PMC12053962. doi:10.1111/scd.70040
32. Ajayi DM, Arigbede AO. Barriers to oral health care utilization in Ibadan, South West Nigeria. *Africa Health Si*. 2012;12(4):507–513. PMID: 23515140; PMCID: PMC3598293. doi:10.4314/ahs.v12i4.17
33. Simanainen M. How an increase in income affects the use of dental care services among a low-income population: evidence from the Finnish basic income experiment. *BMC Health Serv Res*. 2024;24:499. doi:10.1186/s12913-024-10933-0

Clinical, Cosmetic and Investigational Dentistry

Publish your work in this journal

Clinical, Cosmetic and Investigational Dentistry is an international, peer-reviewed, open access, online journal focusing on the latest clinical and experimental research in dentistry with specific emphasis on cosmetic interventions. Innovative developments in dental materials, techniques and devices that improve outcomes and patient satisfaction and preference will be highlighted. The manuscript management system is completely online and includes a very quick and fair peer-review system, which is all easy to use. Visit <http://www.dovepress.com/testimonials.php> to read real quotes from published authors.

Submit your manuscript here: <https://www.dovepress.com/clinical-cosmetic-and-investigational-dentistry-journal>

Dovepress
Taylor & Francis Group