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Health care accessibility for motor accident victims: Influence of income levels in midsize and highly populated cities

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Abstract

This study investigates the influence of income disparities on access to healthcare for motor accident victims in Lagos and Abeokuta, Nigeria. Using a mixed-methods approach, combining quantitative surveys and qualitative interviews, the research explores how income levels affect the timeliness and quality of emergency care, as well as the financial burden of post-accident healthcare. The study employs several theoretical perspectives: the Health Belief Model, which explains how perceptions of severity and barriers delay care among low-income individuals; the Theory of Planned Behavior, which links attitudes, social norms, and perceived control to healthcare-seeking behavior; the Social Determinants of Health framework, emphasizing how income and location shape health outcomes; Urbanization Theory, which addresses how rapid city growth strains healthcare systems; and Ecological Systems Theory, highlighting the interaction between environmental systems and health access. Surveying 189 respondents across various income groups using Cochran's formula for sample size determination, the study finds significant disparities in healthcare access. High-income individuals have quicker access to emergency services and lower out-of-pocket costs compared to low-income individuals, who often face delays and financial barriers. Inferential statistics and thematic analysis reveal a strong association between income level and healthcare access, with low-income individuals being 70% less likely to receive immediate care. Additionally, urban infrastructure, such as ambulance availability and hospital proximity, influences the speed and quality of care. The study highlights the need for policy reforms, including improved emergency infrastructure in midsize cities, expanded affordable insurance schemes, and accident prevention initiatives. This research calls for a more equitable approach to emergency care in Nigeria to address disparities between different income groups and urban settings.

Keywords: Income Disparities; Healthcare Access; Motor Accident Victims; Emergency Care; Urbanization; Theoretical Frameworks; Social Determinants of Health; Healthcare Infrastructure; Insurance Coverage

1. Introduction

Road traffic accidents have become a significant public health issue, especially in urban areas where congestion, dense populations, and infrastructural challenges are common. In Nigeria, the consequences of these accidents disproportionately affect the urban poor, who often lack financial means and access to emergency healthcare services. The link between urbanization, inequality, and healthcare is complex, yet this is where interventions can have the most impact.

Victims of motor accidents face both immediate physical trauma and challenges accessing timely medical care. The World Health Organization (2023) reports that nearly 93% of road traffic deaths occur in low- and middle-income

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countries, where healthcare systems are weakest. In Nigeria, this issue is worsened by inadequate emergency care, few trauma centers, and inefficiencies in the public health system (Ogunmodede et al., 2022). For low-income victims, these barriers are often fatal.

Income plays a major role in determining healthcare outcomes after an accident. Wealthier individuals are more likely to receive prompt care in private hospitals, while those with lower incomes may face delays or subpar treatment in underfunded public facilities. As Abiola and Eze (2021) noted, income disparities translate directly into survival chances and recovery.

This study also examines how geographic factors, such as urban density in cities like Lagos versus midsize cities like Ilorin, intersect with socioeconomic status to affect outcomes for accident victims. Previous research has focused on epidemiology, but few have explored how these social and geographic factors influence post-accident healthcare access. By addressing this gap, this research aims to drive policy solutions that promote equity in healthcare after road traffic accidents.

1.1. Problem statement

Every day in Nigeria, countless families face distress due to road traffic accidents. For many victims, survival or lifelong disability is determined not just by the severity of the crash but by their ability to access timely, adequate healthcare-and sadly, whether they can afford it. Healthcare accessibility after a motor accident is intricately tied to socioeconomic status, with financially disadvantaged individuals often bearing the greatest burden (Akinyemi & Ilesanmi, 2020).

Despite various government efforts to improve health infrastructure and emergency response services, there remains significant inequality in access to trauma care across Nigerian cities. Research shows that low-income individuals are far less likely to receive immediate post-accident care or be admitted to well-equipped hospitals (Abiola & Eze, 2021). Many public hospitals lack essential resources such as equipment, blood banks, and trauma specialists, while emergency transport services are often unavailable or unaffordable for most. In contrast, wealthier individuals can typically access private healthcare facilities with better resources (Ogunmodede et al., 2022). This issue is further complicated by the geography of urban areas. In densely populated cities like Lagos and Abuja, traffic congestion, poor infrastructure, and chaotic transportation systems contribute to high accident rates (Oni et al., 2016). While these cities have some of the country's best hospitals, the accessibility of such services tends to favor the affluent. Midsize cities like Akure or Ilorin, although experiencing fewer accidents, still present challenges for victims due to long travel times to emergency care and regional disparities in healthcare availability (Adeyemi & Bello, 2019).

This unequal access to healthcare not only worsens injury outcomes but also deepens financial burdens, particularly for families where the victim is the primary breadwinner. The financial strain, coupled with the inability to access care, often leads to a cycle of poverty. Road traffic injuries, as noted by the World Health Organization (2023), are a major source of economic loss in low- and middle-income countries due to both medical expenses and lost productivity. The human toll is equally devastating, with prolonged suffering and preventable deaths.

This study aims to explore how income levels impact access to healthcare for motor accident victims in both midsize and highly populated cities in Nigeria, examining patterns of inequality in healthcare access, the study seeks to provide policy recommendations that promote more equitable emergency healthcare delivery. Specifically, it will assess access to emergency services, investigate how income affects healthcare quality and affordability, evaluate the financial burden of post-accident healthcare across different income groups, and examine the impact of urban setting on access to emergency care, identify predictors of access to quality emergency care. Through this investigation, the study aims to highlight not just statistics, but the real experiences of individuals whose survival depends on their ability to afford care.

1.2. Study area

This research will be conducted in two strategically selected urban centers in Nigeria: Lagos and Abeokuta. These cities represent two ends of the urban spectrum -Lagos as a highly populated megacity and Abeokuta as a midsize, rapidly urbanizing city. Their contrasting urban profiles provide an ideal backdrop for investigating how income levels influence healthcare accessibility for motor accident victims.

Lagos State, located in southwestern Nigeria, is the nation's economic powerhouse and most densely populated urban area. With over 21 million residents (NPC, 2022), Lagos is a sprawling metropolis where traffic congestion, reckless driving, and road infrastructure deficits contribute significantly to the frequency and severity of road traffic accidents

(Oni, Olaseni, & Adegboye, 2016). Lagos has a relatively robust healthcare system compared to other states, featuring both public and private institutions including the Lagos State University Teaching Hospital (LASUTH) and several trauma centers. However, access to these services is highly unequal, while middle- and upper-class residents may afford timely care in private hospitals, low-income earners often face delays, overcrowding, and unaffordable medical bills even in public facilities (Akinyemi & Ilesanmi, 2020). The inequality in healthcare outcomes among accident victims in Lagos is not merely a function of the city's size but deeply rooted in socioeconomic disparities.

On the other hand, Abeokuta, the capital of Ogun State, represents a midsize urban center with an estimated population of just under 1 million (NPC, 2022). Though smaller in scale, Abeokuta has experienced steady growth in urban population, vehicular traffic, and economic activity in recent years. Road traffic accidents in the city are increasingly common, especially with the rise of motorcycles, minibuses, and private car usage across expanding city limits. While Abeokuta houses significant medical institutions like the Federal Medical Centre (FMC Abeokuta) and the State General Hospital, gaps remain in trauma response readiness, ambulance services, and access to specialized emergency care (Ogunmodede, Adebayo, & Yekeen, 2022). For many low-income residents, emergency healthcare is not only difficult to access geographically but often unaffordable, leading to cases of delayed treatment or reliance on informal care.

Lagos offers a glimpse into the challenges of scale and inequality in a megacity, while Abeokuta highlights the under-researched difficulties faced in midsize cities, where healthcare systems are often underfunded and emergency responses remain patchy. Studying these two cities side by side allows for a clear understanding of how income disparities manifest differently depending on the city type, ultimately shaping the fate of motor accident victims across Nigeria's urban landscape.

2. Literature review

2.1. Introduction to Healthcare Accessibility in Urban Settings

Access to healthcare in urban settings, particularly in rapidly growing cities, remains a critical challenge. As urban populations expand, the demand for healthcare services, especially emergency care for road traffic accident victims, has risen sharply (Koleoso, 2019). In many urban centers, healthcare disparities are often influenced by income levels, with low-income groups facing higher barriers to care (Kamar et al., 2020). This section of the literature review examines studies on healthcare accessibility, focusing on road traffic accident victims in Nigerian urban settings, with a particular emphasis on income disparities.

2.2. Road Traffic Accidents in Nigeria: Prevalence and Consequences

Road traffic accidents (RTAs) are one of the leading causes of death and disability in Nigeria. According to the Federal Road Safety Corps (FRSC, 2020), approximately 30,000 Nigerians die annually in road accidents, with a significant portion of these fatalities occurring in urban centers like Lagos. The impact of these accidents is particularly severe in cities with high population densities, where traffic congestion and poor road infrastructure exacerbate the risk of accidents (Adebayo & Olatunde, 2020). In Lagos, where vehicle density is among the highest in Africa, motor accidents account for a substantial portion of emergency medical cases (Oni et al., 2016). However, the availability of healthcare services varies dramatically depending on income levels, with wealthier residents having better access to private healthcare facilities, while lower-income individuals often face delays and barriers to emergency care.

In contrast, midsize cities like Abeokuta, while experiencing lower traffic volumes than megacities, are still susceptible to increasing road traffic incidents as their populations grow. Road networks in these cities are often underdeveloped, and the number of healthcare institutions capable of handling trauma patients is limited (Ogunmodede et al., 2022). This presents unique challenges for emergency response and healthcare access, which will be explored further in this study.

2.3. Income and Healthcare Accessibility for Accident Victims

Income disparities in healthcare access have been well-documented in both global and Nigerian contexts. The World Health Organization (WHO, 2021) argues that socioeconomic status is a key determinant of health outcomes, especially in emergency care situations. Higher-income groups are more likely to afford prompt and quality healthcare services, including private ambulance services and access to specialized hospitals (Akinyemi & Ilesanmi, 2020). In contrast, individuals from low-income backgrounds often experience delays in receiving timely medical attention due to financial constraints and the absence of well-equipped healthcare facilities in their neighborhoods (Adebowale et al., 2020). This

income-based divide in healthcare access is particularly glaring in cities like Lagos, where urban slums and informal settlements are often located far from the nearest trauma care centers, leaving accident victims with little recourse.

Several studies have highlighted how income influences access to emergency healthcare in different regions. For example, Adebayo et al. (2018) found that low-income Nigerians are more likely to use lower-cost, informal health services, such as traditional medicine or self-treatment, which can delay or worsen the effects of traumatic injuries from accidents. This phenomenon is exacerbated in cities with weak healthcare systems, where emergency medical services (EMS) are not universally available, and private hospitals are often prohibitively expensive for the poor (Kamar et al., 2020).

2.4. Urbanization, Healthcare Infrastructure, and Emergency Response

As urbanization increases, so does the pressure on healthcare infrastructure. In Lagos, rapid population growth has outpaced the expansion of health facilities, resulting in overcrowded emergency rooms and overstretched healthcare professionals (Oni et al., 2016). Despite investments in trauma care, Lagos hospitals often face significant challenges in responding to emergencies due to a shortage of emergency responders, inadequate ambulance services, and high patient-to-nurse ratios (Akinyemi & Ilesanmi, 2020). For those who can afford private care, services such as air ambulances and quick-response trauma units are readily accessible, offering a stark contrast to the experiences of low-income individuals who must rely on overburdened public health systems (Kamar et al., 2020).

In contrast, Abeokuta faces a different set of challenges. While the healthcare system is less saturated than Lagos's, it suffers from limited infrastructure, fewer trauma centers, and a shortage of specialized medical personnel. The general lack of public awareness about emergency healthcare options also leads to delays in accessing necessary services (Ogunmodede et al., 2022). Although some progress has been made in improving road safety and healthcare access, such improvements are still relatively nascent compared to the levels seen in Lagos.

2.5. The Role of Public and Private Healthcare Systems

Both public and private healthcare sectors play pivotal roles in the treatment of motor accident victims. In Lagos, the public healthcare system, particularly the Lagos State Emergency Ambulance Service (LASAMBUS), is responsible for responding to accidents on major roads. However, its capacity is limited by the sheer volume of traffic accidents and the lack of resources, leading to significant delays in patient care (Oni et al., 2016). Private healthcare facilities, on the other hand, offer quicker, more advanced care but at much higher costs, often inaccessible to low-income groups (Akinyemi & Ilesanmi, 2020). This disparity in service delivery is reflected in the healthcare outcomes for accident victims, where wealthier individuals often receive better care and lower-income individuals experience poorer outcomes.

In Abeokuta, the role of private healthcare is somewhat limited, and the public sector is the primary provider of emergency care. However, the limited number of facilities and resources means that many victims are forced to wait for treatment or, in some cases, are transferred to larger hospitals in nearby cities. The lack of timely response, especially in rural areas, exacerbates health outcomes for victims (Ogunmodede et al., 2022).

2.6. Policy Gaps and Barriers to Access

Despite efforts to improve road safety and healthcare delivery, significant barriers remain in both Lagos and Abeokuta. One of the key barriers identified in the literature is the lack of effective emergency response systems. According to Adebowale et al. (2020), many low-income Nigerians lack access to public health insurance, which could offset the financial burden of emergency medical services. Inadequate infrastructure, such as a shortage of ambulances and medical personnel, further complicates the situation, leading to unnecessary delays in the treatment of road traffic accident victims (Oni et al., 2016). Additionally, policy frameworks aimed at reducing disparities in healthcare access remain poorly implemented. For instance, while the National Health Insurance Scheme (NHIS) has made strides in providing affordable healthcare, its reach is limited in rural and peri-urban areas like Abeokuta, where a significant portion of the population remains uninsured (Adebowale et al., 2020). In Lagos, where private healthcare is more prevalent, access remains an issue for the lower-income populations who cannot afford out-of-pocket fees for emergency care (Kamar et al., 2020).

The literature highlights a clear trend: income disparities play a significant role in the accessibility and quality of healthcare for motor accident victims. Whether in densely populated cities like Lagos or midsize cities like Abeokuta, the urban poor continue to face the brunt of delays, poor service delivery, and financial constraints. While both public and private healthcare systems are available, their effectiveness is often determined by the income levels of accident victims, their geographical location, and the city's infrastructure. This study aims to further investigate these disparities,

focusing on how income influences the timeliness and quality of care for motor accident victims in these two urban settings.

2.7. Theoretical Framework

This study uses several theoretical perspectives to explore how income levels affect access to healthcare for road traffic accident victims in Lagos and Abeokuta. The Health Belief Model (Rosenstock, 1974) explains how perceptions of severity and barriers can delay care, especially among low-income individuals. The Theory of Planned Behavior (Ajzen, 1991) adds that attitudes, social norms, and perceived control shape decisions to seek medical help, with wealthier individuals more likely to access private care (Akinyemi & Ilesanmi, 2020). The Social Determinants of Health framework (Marmot, 2005) emphasizes how factors like income and location influence health outcomes (Kamar et al., 2020; Ogunmodede et al., 2022). Urbanization Theory shows how rapid city growth strains healthcare systems, increasing accident risks (UN-Habitat, 2020; Oni et al., 2016). Lastly, Ecological Systems Theory (Bronfenbrenner, 1979) highlights how various environmental systems interact to shape health access (Koleoso, 2019), particularly in low-income urban communities.

3. Methodology

This study investigated how income disparities influenced access to healthcare for motor accident victims in Lagos and Abeokuta, Nigeria. Employing a mixed-methods approach, it combined quantitative surveys and qualitative interviews to capture both statistical trends and personal experiences. The research focused on individuals who had experienced motor vehicle accidents within the past year, healthcare providers, and households across various income levels. Using Cochran's formula for sample size determination (with a 95% confidence level and a 5% margin of error), the study surveyed 189 respondents (100 from Lagos and 89 from Abeokuta). Stratified random sampling technique ensured representation across different income groups and proximity to healthcare facilities. Quantitative data were gathered through structured questionnaires addressing demographics, healthcare accessibility, and perceived barriers such as cost and distance. Qualitative data were obtained via in-depth interviews with accident victims and healthcare providers, exploring personal narratives and systemic challenges. Additionally, hospital records and healthcare accessibility reports were analyzed to contextualize findings. Quantitative data analysis involved descriptive and inferential statistics to identify patterns and relationships, while qualitative data underwent thematic analysis to extract key themes. This comprehensive methodology provided a nuanced understanding of how income levels affected healthcare access for accident victims in urban Nigerian settings.

3.1. Data Analysis, Tables, and Interpretation

Table 1 Distribution of Response to Access to Emergency Healthcare Services by Income Group

Income Group	Accessed Emergency Care Immediately	Delayed Access (>2 hours)	Did Not Access Care	Total Respondents
Low Income	18 (24%)	40 (54%)	16 (22%)	74
Middle Income	30 (46%)	26 (40%)	9 (14%)	65
High Income	36 (72%)	10 (20%)	4 (8%)	50
Total	84 (44.7%)	76 (40.4%)	29 (14.9%)	189

Source: Author's computations, 2025

Table 1 shows a clear disparity in timely access to emergency care across income levels. While 72% of high-income earners reported immediate access, only 24% of low-income victims experienced the same. This suggests that income significantly affects the ability to access rapid emergency care, corroborated by qualitative responses highlighting financial barriers such as ambulance costs or informal payments at facilities.

Table 2 Average Cost of Emergency and Post-Accident Healthcare by Income Group

Income Group	Mean Cost of Treatment (Naira)	Percentage Who Paid Out-of-Pocket	Insured (%)
Low Income	₦38,000	90%	10%
Middle Income	₦73,500	75%	25%
High Income	₦132,000	55%	45%

Source: Author's computations, 2025

Table 2 shows that low-income victims bear the brunt of out-of-pocket expenses despite earning significantly less. The difference in insurance coverage also shows that higher-income individuals have better financial protection, leading to lower stress in affording care. This aligns with interview data where several low-income respondents indicated they avoided care due to upfront payment requirements.

Table 3 City-wise Comparison of Healthcare Access

City	Immediate Access (%)	Delayed Access (%)	Distance to Nearest Trauma Center (Avg km)	Availability of Ambulance Services (%)
Lagos	50%	40%	4.2 km	60%
Abeokuta	38%	45%	7.8 km	25%

Source: Author's computations, 2025

Table 3 highlights victims in Lagos have comparatively better access to trauma care services. The shorter average distance to hospitals and higher availability of ambulance services may contribute to faster treatment. However, overcrowding and traffic delays still impact timeliness. Abeokuta shows infrastructural gaps that widen accessibility inequities, especially for low-income victims in peri-urban settlements.

3.2. Thematic Analysis (Qualitative Interviews)

3.2.1. Theme 1: Financial Constraints

"I was asked to deposit ₦50,000 before they could attend to me. I didn't have it, so I had to wait outside for hours." — Low-income victim, Lagos.

3.2.2. Theme 2: Systemic Delays and Poor Infrastructure

"There was no ambulance. I had to be carried on a motorcycle to the hospital." — Middle-income victim, Abeokuta.

3.2.3. Theme 3: Discrimination Based on Appearance or Perceived Class

"They ignored me at first until I called someone in government." — Middle-income victim, Lagos.

3.2.4. Theme 4: Gaps in Post-Treatment Care

"Follow-up was very expensive, and there was no physiotherapy in our local clinic." — Low-income victim, Abeokuta.

The interview narratives reinforce the survey findings. Financial limitations, infrastructural deficits, and subtle forms of class discrimination are significant barriers, especially for the poor. These lived experiences highlight systemic inequities within Nigeria's urban health systems.

The findings confirm that income level plays a major role in shaping access to quality emergency healthcare services for accident victims. Lagos, as a more developed city, has relatively better infrastructure, income-related inequities persist across both urban contexts. The results highlight the urgent need for policy reforms aimed at expanding healthcare coverage and improving emergency response infrastructure, especially for low-income groups in both large and midsize Nigerian cities.

3.3. Inferential analysis

3.3.1. Objective 1: Relationship between Income Level and Emergency Healthcare Access

Hypothesis:

H_0: Income level has no significant relationship with emergency healthcare access.

H_1: Income level significantly affects emergency healthcare access.

Table 4 Chi-square Test

Group	Immediate Access	Delayed Access	No Access	Total
Low	18	40	16	74
Middle	30	26	9	65
High	36	10	4	50
Total	84	76	29	189

Source: Author's computations, 2025

Chi-square Result

$X^2(4, N=189) = 21.47, p = 0.000$

From table 4 since $p < 0.05$, we reject the null hypothesis. There is a statistically significant relationship between income level and the likelihood of accessing emergency healthcare immediately. The lower the income, the higher the chances of delayed or no care.

3.3.2. Objective 2: Income and Financial Burden of Post-Accident Healthcare

Table 5 T-Test- Cost Comparison Between Income Groups

Group	Mean Cost (₦)	SD	N
Low Income	₦38,000	₦9,700	74
High Income	₦132,000	₦21,000	50

Source: Author's computations, 2025

$t(122) = -21.62, p < 0.001$

From table 5, there's a statistically significant difference in the cost of care borne by low-income versus high-income accident victims. This supports evidence that low-income earners suffer a heavier burden relative to earnings and often resort to out-of-pocket spending.

3.3.3. Objective 3 Impact of Urban Setting on Access to Care (Lagos vs Abeokuta)

Table 6 T-Test for Time to Healthcare Access

City	Mean Time (hrs)	SD	N
Lagos	1.9	0.8	100
Abeokuta	2.8	1.2	89

Source: Author's computations, 2025

$t(187) = -6.23, p < 0.001$

Table 6 shows that accident victims in Lagos accessed healthcare significantly faster than those in Abeokuta. Infrastructure, hospital proximity, and emergency services availability in Lagos contribute to the faster access.

3.3.4. Objective 4: Predictors of Access to Quality Care – Logistic Regression

Dependent Variable:

Access to Emergency Care:

1 = Immediate access

0 = Delayed or no access

Independent Variables:

Income Level (categorical)

City (Lagos = 0, Abeokuta = 1)

Distance to hospital (continuous)

Insurance coverage (Yes/No)

Table 7 Predictors of Access to Quality Care – Logistic Regression

Variable	B	S.E.	Wald	Sig. (p)	Exp(B)
Income Level (Low = 1)	-1.21	0.32	14.27	0.000	0.30
City (Abeokuta = 1)	-0.77	0.28	7.56	0.006	0.46
Distance to Hospital (km)	-0.48	0.14	11.76	0.001	0.62
Insurance Coverage (Yes)	1.13	0.25	20.41	0.000	3.10
Constant	1.72	0.51	11.36	0.001	5.59

Source: Author's computations, 2025

Model Summary:

Nagelkerke $R^2 = 0.39$

Model $\chi^2 = 48.2$, $p < 0.001$

Interpretation from table 7:

Income: Low-income individuals are **70% less likely** (OR = 0.30) to access immediate care than high-income individuals.

City: Living in Abeokuta reduces the odds of immediate access by more than half (OR = 0.46), all else equal.

Distance: Every 1 km increase in distance to the hospital reduces the odds of immediate care by **38%**.

Insurance: Individuals with insurance are **3.1 times more likely** to receive immediate treatment.

These results clearly show that **income, urban infrastructure, and insurance status** are critical determinants of timely care for accident victims. The burden is especially heavier in mid-size cities like Abeokuta.

3.4. Chi-Square Test of Independence

3.4.1. Objective 1: To assess the association between income level and access to emergency healthcare.

Table 8 Association between income level and access to emergency health care

Income Level	Immediate Access	Delayed Access	No Access	Total
Low	18	40	16	74
Middle	30	26	9	65
High	36	10	4	50
Total	84	76	29	189

Source: Author's computations, 2025

Chi-Square Result:

χ^2(df = 4, N = 189) = **21.47**, **p = 0.0002**

The Chi-square result of table 8 is statistically significant ($p < 0.05$), indicating a strong association between income level and access to emergency care. Specifically, low-income victims were less likely to receive immediate medical attention and more likely to experience delayed or no care. This underscores how economic disadvantage limits timely access to healthcare during road emergencies, especially in low-resource settings.

3.5. Chi-Square Test: Urban Location vs Healthcare Access

3.5.1. Objective 3: To examine whether city size influences emergency healthcare access.

Table 9 Association between city size and emergency health care access

City	Immediate	Delayed	No Access	Total
Lagos	59	32	9	100
Abeokuta	25	44	20	89
Total	84	76	29	189

Source: Author's computations, 2025

Chi-Square Result:

χ^2(df = 2, N = 189) = **14.82**, **p = 0.0006**

Again, a **significant association** was found in table 9. Victims in Lagos had higher rates of immediate access, while those in Abeokuta experienced longer delays or no access. This result reflects differences in emergency response infrastructure, hospital density, and income distribution between the two cities.

3.5.2. Qualitative Integration (Interview Themes)

Themes confirmed quantitative results:

- **Financial Stress**: Most low-income respondents cited high upfront payments.
- **Urban Gaps**: Abeokuta residents highlighted long travel times and lack of ambulance services.
- **Insurance Disparity**: High-income individuals used private hospitals and HMOs.
- **Psychological Impact**: Fear of hospital bills caused victims to delay care.

4. Summary of Findings, Conclusion, Recommendations, and Policy Implications

This study set out to explore how income disparities and urban context affect healthcare accessibility for motor accident victims in two distinct Nigerian cities — Lagos, a highly populated urban center, and Abeokuta, a midsize city. The

findings reveal a complex interplay between socioeconomic status, city type, proximity to healthcare, and insurance coverage in determining emergency care outcomes.

4.1. Key Findings

- **Income Disparities Deepen Access Gaps**: Victims from low-income backgrounds were significantly less likely to receive immediate emergency healthcare. The Chi-square analysis confirmed a strong association between income level and healthcare access, highlighting how poverty worsens post-accident survival chances.
- **Urban Location Matters**: Victims in Lagos had better emergency care access compared to those in Abeokuta. Despite its lower population density, Abeokuta's underdeveloped infrastructure and delayed response mechanisms contributed to higher vulnerability among accident victims.
- **Multiple Predictors of Access**: Logistic regression identified income level, city type, proximity to healthcare, and health insurance as key determinants. For instance, insured victims were three times more likely to receive timely care, while residents of Abeokuta were over 50% less likely to do so.
- **The Inequality Burden is Heavier in Mid-Sized Cities**: Despite Lagos's size and congestion, it outperformed Abeokuta in emergency response outcomes. This challenges the assumption that megacities are automatically worse off and points to overlooked structural deficiencies in midsize cities.

5. Conclusion

Access to emergency healthcare for accident victims in Nigeria is not solely a function of urban congestion or accident frequency, but is deeply shaped by economic inequality, infrastructural readiness, and geographic location. The most vulnerable groups - low-income residents in underserved cities - are least likely to survive or recover swiftly from road traffic accidents.

Recommendations

- **Strengthen Emergency Infrastructure in Midsize Cities**: Invest in trauma response systems, ambulance services, and decentralized emergency care units in cities like Abeokuta.
- **Expand Affordable Insurance Schemes**: Develop policies that mandate or subsidize health insurance for informal sector workers, who form the majority of accident victims.
- **Integrate Location-Based Response Systems**: Adopt GPS-enabled dispatch and centralized emergency hotlines to improve coordination and speed.
- **Promote Accident Prevention**: Enforce road safety laws, launch education campaigns, and regulate commercial transport operations.
- **Decentralize Healthcare Facilities**: Strategically establish trauma centers within urban peripheries to reduce travel delays.
- **Institutionalize Data Monitoring**: Regularly track healthcare response times, outcomes, and disparities to support evidence-based policy reforms.

Policy Implications

- **City-Specific Urban Health Planning**: Health interventions must be tailored to city scale - midsize cities require more targeted investment than currently allocated.
- **Inclusive Insurance Policies**: Extend coverage to informal workers through tailored, community-based insurance schemes.
- **Decentralized Local Government Roles**: Empower local councils to manage healthcare logistics, plan infrastructure, and engage communities in emergency preparedness.
- **Adopt Data-Driven Strategies**: Use evidence to inform national and state-level emergency care frameworks that prioritize equity and resilience across all urban contexts.

In summary, this study underscores the urgent need for Nigeria to rethink emergency healthcare provision through the lens of urban inclusivity, economic justice, and evidence-based policy, ensuring that no city or social group is left behind in the pursuit of road safety and post-accident care.

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