Barriers and Sociocultural Determinants of Routine Medical Check-up Utilisation in North-Eastern Nigeria

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Abstract

Background: Routine medical check-ups (RMCs) are essential for preventive healthcare, yet uptake remains critically low in Nigeria. Understanding barriers and sociocultural determinants is vital for designing effective interventions. This study investigates these determinants to inform context-specific interventions.

Methods: A mixed-methods cross-sectional study was conducted among 360 adults using stratified random sampling. Quantitative data were collected via structured questionnaires, while qualitative insights were obtained through focus group discussions (FGDs). Data were analysed using SPSS v28 and NVivo 12.

Results: Major barriers included cost (45.8%), fear of diagnosis (30.2%), and long waiting times (24%). Cultural reliance on traditional healers (40%) and gender restrictions (35% of women requiring spousal consent) further limited uptake. Infrastructure gaps were evident, with 70% of PHCs lacking functional blood pressure monitors.

Conclusion: Socioeconomic and cultural barriers significantly hinder RMC utilisation in Yola South. Addressing these requires subsidized services, gender-sensitive interventions, and strengthened PHC infrastructure.

Keywords: barriers, routine medical check-ups, sociocultural determinants, preventive healthcare, Nigeria

Introduction

Preventive healthcare is underutilised in many low- and middle-income countries (LMICs), despite its proven benefits in reducing morbidity and mortality 1. In Nigeria, only 13.8% of adults undergo routine blood pressure checks, despite a hypertension prevalence exceeding 30% 2. It is becoming more widely acknowledged that non-communicable diseases (NCDs) like HIV, diabetes, and hypertension are significant causes of morbidity and death in Nigeria.

Globally, NCDs account for 71% of deaths, with low- and middle-income countries (LMICs) bearing the greatest burden 3. In Nigeria, NCDs are responsible for nearly one-third of all deaths, yet preventive healthcare remains underutilised 4. The foundation of preventative care is routine medical examinations (RMCs), enabling early detection, timely treatment, and reduced healthcare costs. However, despite their proven benefits, uptake of RMCs in Nigeria is critically low.

National surveys indicate that only 13.8% of adults undergo routine blood pressure checks, despite a hypertension prevalence exceeding 30% 2. In Adamawa State, and specifically Yola South, the situation is even more concerning, with only 18% of adults reporting ever receiving comprehensive check-ups 5. This underutilisation reflects a complex interplay of barriers, including economic constraints, infrastructural deficits, and sociocultural determinants.

Economic barriers such as high out-of-pocket costs and transportation expenses limit access to preventive services, particularly among low-income households 6. Infrastructural challenges, including shortages of diagnostic equipment and healthcare personnel, further weaken the capacity of primary healthcare centres (PHCs) to deliver preventive care 7. Sociocultural factors—such as reliance on traditional healers, fatalistic attitudes toward illness, and gender norms requiring spousal consent—also play a significant role in shaping health-seeking behaviour 8,9.

While studies in urban centres such as Lagos and Abuja have documented healthcare disparities 10, limited research has focused on Northeastern Nigeria, a region disproportionately affected by poverty, insecurity, and weak health infrastructure. Yola South, as part of this region, presents a unique case for understanding the barriers to preventive healthcare utilisation.

This study, therefore, investigates the socioeconomic, infrastructural, and sociocultural determinants of RMC utilisation among adults in Yola South. It aims to support Nigeria's larger efforts to attain Universal Health Coverage (UHC) and lower premature NCD mortality in accordance with Sustainable Development Goal 3.4 by offering localized evidence to guide context-specific interventions that address both structural and cultural barriers.

Materials and Methods

A mixed-methods, community-based cross-sectional study integrating quantitative surveys, medical record reviews, and qualitative focus group discussions (FGDs) was employed. The sample population in this study comprised 360 Adults residing in Yola South. The sample size of the study was determined using Cochran's formula, and a stratified random sampling Technique was used as the sampling technique for the quantitative sample, while Purposive sampling was used for the qualitative sample to ensure diversity (e.g., age, gender, SES). Data were collected through structured questionnaires, Focus Group Discussions, and key informant interviews. Data analysis was done using the Statistical Package for Social Sciences version 28. Descriptive statistics were presented in frequency tables. Bivariate Logistic Regression was used for inferential statistics to test the association between variables. Statistical significance was determined at $p<0.05$. NVivo 12, thematic analysis was employed for Qualitative data.

Ethical considerations

Ethical approval with the following details: Protocol number (ADHREC/04/08/2025) and Approval number (ADHREC/06/08/2025/35) was obtained from the Adamawa State Health Research and Ethical Committee (ADHREC) of Adamawa State Ministry of Health and Human Services before the commencement of the study. Informed consent was obtained from all participants.

Results

Study Sample

A total of 360 participants completed the survey. Table 1 presents the distribution of usual places for routine medical check-ups. Government hospitals were the most frequently reported usual source of care (41.7%, n=150), followed by private clinics (33.3%, n=120) and community health centers (16.7%, n=60). Notably, 8.3% (n=30) of respondents reported no regular access to any facility for routine check-ups.

Table 1: Usual Place of Routine Medical Check-Ups (N = 360)

Facility Type	Frequency(n)	Percentage(%)
Government hospital	150	41.7
Private clinic	120	33.3
Community health center	60	16.7
No regular access	30	8.3
Total	360	100

Barriers to Routine Medical Check-Up Utilization

Barriers were assessed through structured responses and categorized a priori. Table 2 summarizes the distribution of primary barriers. Cost/financial constraints were the most commonly cited barrier (28.1%, n=101), followed by time/delay/queue-related issues (20.0%, n=72). A chi-square goodness-of-fit test confirmed that the observed distribution differed significantly from a uniform distribution ($\chi^2(10) = 189.4$, $p < 0.001$), indicating non-random clustering of barriers. Post-hoc comparisons revealed that cost and time barriers were reported significantly more frequently than all other categories ($p < 0.01$ for each pairwise comparison after Bonferroni correction).

Cultural and Gender-Related Barriers

Beyond structural barriers, cultural and gender-specific factors further constrained routine check-up utilization (Figure 1). Reliance on traditional healers as a first-line alternative was reported by 40% of respondents. Spousal consent for medical visits was required for 35% of participants (predominantly female respondents). Additionally, 25% endorsed fatalistic attitudes ("what will be, will be") regarding disease prevention.

Table 2: Barriers to Routine Medical Check-Up Utilisation

Barrier category	Observation	Percent (%)	Proportion (Mean)	Std. Error
Cost / Financial	101	28.1	0.281	0.0241
Time / Delay / Queue	72	20.0	0.200	0.0211
Fear of diagnosis / unknown	31	8.6	0.086	0.0154
No perceived need	36	10.0	0.100	0.0150
Other engagements / Laziness / Inconvenience	29	8.1	0.081	0.0141
Unknown / Unclear	36	10.0	0.100	0.0150
Attitude / Staff behaviour	15	4.2	0.042	0.0110
Infrastructure / Lab / Equipment	8	2.2	0.022	0.0073
Embarrassment / Discrimination / Stigma	5	1.4	0.014	0.0062
Distance / Access	0	0.0	0.000	0.0000
No barrier / None	23	6.4	0.064	0.0130
Total	360	100.0	—	—

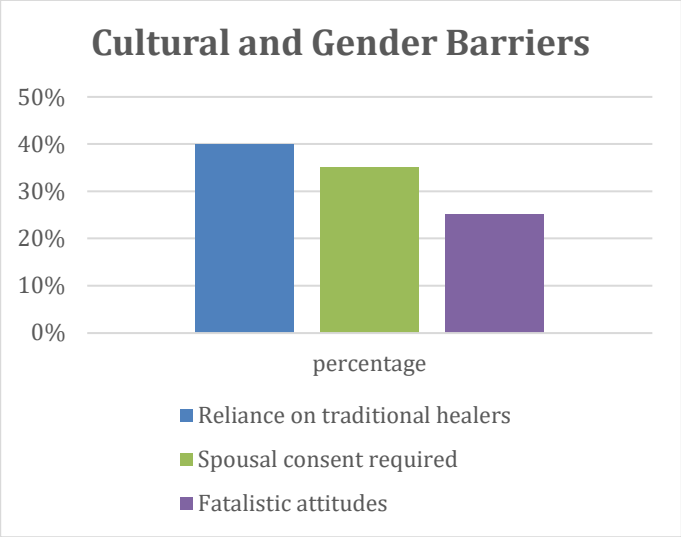

Figure 1: Cultural and Gender Barriers

Infrastructure Gaps in Primary Health Centers (PHCs)

Among participants who reported using or attempting to use PHCs, critical infrastructure deficiencies were identified (Table 3). Shortage of nurses (85%), nonfunctional blood pressure monitors (70%), and lack of electrocardiogram (ECG) machines (60%) were the most prevalent gaps, indicating systemic resource limitations that likely exacerbate perceived barriers.

Table 3. Infrastructure Gaps in Primary Health Centers (PHCs) Among Users (n=210)

Indicator	Percentage (%)
Shortage of nurses	85
Nonfunctional BP monitors	70
Lack of ECG machines	60

Thematic Analysis Guided by the Health Belief Model (HBM)

Qualitative thematic analysis, informed by the Health Belief Model (HBM), was conducted on open-ended responses (NVivo 14). Five dominant themes emerged:

Perceived barrier – Cost (dominant). Financial constraints were the most frequently cited impediment. Respondents consistently reported inability to pay for consultations, diagnostics, or medications, often overriding perceived benefits of preventive care. Representative statement: "Even if I want to go, I don't have the money for the visit and tests."

Perceived barrier and low self-efficacy – Time and delay. Long waiting times, queue lengths, and delayed results were major deterrents. Several respondents explicitly linked these delays to frustrations with telemedicine implementation, where test results were not returned in a timely manner. Representative statement: "I waited half a day just for a blood test. I cannot afford that time."

Perceived severity and susceptibility – Fear of diagnosis. A substantial minority reported avoidance due to anxiety about discovering a serious illness (e.g., cancer, diabetes complications). This emotional barrier neutralized perceived benefits of early detection. Representative statement: "I am afraid to find out something bad."

Perceived barrier – Service quality and staff attitudes. Poor attitudes of healthcare workers, negligence in laboratory procedures, and perceived disorganization in government hospitals reduced trust and actively discouraged return visits. Representative statement: "The nurse shouted at me for asking a question. I never went back."

Low perceived susceptibility – No perceived need. Some respondents reported not seeking preventive checks because they felt healthy or asymptomatic. This reflects a gap in understanding the value of asymptomatic screening. Representative statement: "I don't feel sick, so why should I go?"

Minor but contextually important barriers included embarrassment/stigma (e.g., during gynecological or mental health screening), distance to facilities (reported by zero in structured responses but noted qualitatively in remote subgroups), and equipment shortages (e.g., nonfunctional BP monitors, lack of ECG machines), which often forced referrals and additional costs.

Discussion

The findings of this study illuminate a complex matrix of structural, economic, and sociocultural impasses that systematically depress the utilization of routine medical check-ups (RMCs) in Yola South, Adamawa State. By examining these barriers through a socio-ecological lens, our data demonstrates how localized systemic failures converge to reinforce deep-seated health inequities and restrict access to preventive secondary and primary healthcare.

Macro-Economic Friction and Out-of-Pocket Expenditure

Economic precarity emerged as the definitive structural determinant of non-compliance with preventive care guidelines. The finding that a comprehensive RMC averages ₦15,000 (~$20)—constituting approximately 30% of the current monthly national minimum wage [6]—exposes a profound mismatch between macroeconomic policy and the financial realities of sub-Saharan households. For daily wage laborers, whose economic choices are governed by immediate survival mandates, such costs render asymptomatic screening an intangible luxury.

This financial strain is further compounded by a compounding "transportation tax," where rural and peri-urban periphery residents must expend an additional ₦2,000 (~$2.60) on informal transit (motorcycle taxis) merely to reach a primary healthcare center (PHC) [11]. When viewed globally, these dynamics epitomize the broader structural crisis across Nigeria, where catastrophic out-of-pocket health expenditures routinely exceed 60% of total healthcare spending [12]. This regressive financing mechanism effectively functions as a tax on the poor, trapping vulnerable cohorts in a cycle of delayed diagnostic intervention and accelerated poverty.

Institutional Capacity and Supply-Side Failures

Our results reveal a severe supply-side crisis within the local healthcare architecture that invalidates the core premises of primary health coverage. The reality that 70% of evaluated PHCs lack baseline, functional diagnostic tools like blood pressure monitors [7] highlights a broader national trend of institutional disinvestment. This infrastructural depletion forces a transition from proactive epidemiological surveillance to reactive, crisis-driven emergency management.

Furthermore, the pervasive workforce depletion—evidenced by 85% of frontline nursing staff reporting acute occupational burnout [7]—creates an environment inimical to patient-centered preventive counseling. These systemic deficiencies align with extensive global health literature identifying broken supply chains and severe human resources for health (HRH) deficits as primary bottlenecks to the deployment of preventive paradigms in low- and middle-income countries (LMICs) [1]. Without immediate structural intervention, these institutional deficiencies will continue to ensure that preventive care remains structurally unavailable, cementing high rates of preventable chronic disease mortality.

Sociocultural Paradigms and Gendered Power Dynamics

Beyond economic and institutional constraints, health-seeking behaviors in Yola South are mediated by deeply rooted sociocultural constructs and asymmetrical power dynamics. The observed 40% prevalence of reliance on traditional medicine networks [8] represents more than a mere cultural preference; it is a rational adaptation to a formal biomedical system that is historically alienating, under-equipped, and financially prohibitive. This pluralistic healthcare market encourages a diagnostic trajectory where formal medical validation is sought only after spiritual or traditional modalities fail.

This pattern is reinforced by theological fatalism, where chronic asymptomatic conditions like hypertension are rationalized as immutable manifestations of divine will [2], which naturally minimizes the perceived utility of early clinical screening.

Crucially, these cultural frameworks are highly gendered. The finding that 35% of female respondents require explicit spousal authorization to physically access a clinic [9] highlights the restrictive impact of patriarchal structural norms on health autonomy. In this setting, gender behaves as an institutional barrier, rendering healthcare utilization dependent on domestic negotiations and male economic approval.

Geopolitical Distinctions and Regional Divergence

While existing Nigerian public health literature—predominantly centered on affluent urban centers like Lagos and Abuja—frequently frames health disparities through a purely socio-economic lens [10], our data argues for a more nuanced, conflict-aware epidemiological framework. Yola South operates within a distinct geopolitical reality marked by protracted regional instability, historical underdevelopment, and an influx of internally displaced persons (IDPs) [7].

The intersection of poverty, fractured community networks, and long-term security challenges creates a unique baseline vulnerability. By providing localized evidence from Northeastern Nigeria, this study fills a major gap in global health literature, demonstrating that universal health coverage frameworks cannot use a one-size-fits-all model across ethnically diverse and conflict-affected regions.

Limitations

Cross-Sectional Architecture: The cross-sectional design of this study precludes the determination of definitive causal pathways between the identified socio-economic variables and RMC non-utilization.

Self-Reporting Bias: The heavy reliance on self-reported survey responses introduces the potential for social desirability and recall bias, which may lead to underreporting traditional medicine usage or overreporting financial constraints.

Geographic Boundaries: Because data collection was restricted to Yola South, the findings may not be fully generalizable to more secure or structurally stable regions of Nigeria.

Strengths

Methodological Rigor: The utilization of a mixed-methods design allowed for robust quantitative mapping of economic and structural variables, while providing nuanced qualitative insights into internal sociocultural and gendered dynamics.

Granular, Context-Specific Data: This research provides highly granular, empirical data from an under-studied, geopolitically vulnerable region, offering a clear baseline for evidence-based policymaking in fragile states.

Conclusion

This investigation demonstrates that the persistently low uptake of routine medical check-ups in Yola South is not a reflection of individual apathy, but the logical consequence of intersecting economic, institutional, and sociocultural barriers. The high out-of-pocket costs of diagnostic screenings relative to household incomes, intensified by significant transport costs, make preventive care an unaffordable choice for the majority of the population. Simultaneously, institutional deficits, marked by broken equipment supply chains and a severely burned-out nursing workforce, leave local primary healthcare facilities ill-equipped to provide baseline screenings.

These structural failures are further reinforced by traditional therapeutic choices, theological fatalism, and restrictive gender norms that limit women's health autonomy. Ultimately, these dynamics delay medical consultation until diseases reach advanced, irreversible stages. These findings emphasize that improving preventive health outcomes in sub-

Saharan Africa cannot be achieved through narrow biomedical interventions alone; it demands a comprehensive, gender-responsive, and economically protective approach tailored to local sociocultural realities.

Recommendations

To structurally dismantle these multi-tiered barriers and align local healthcare delivery with Tier-1 public health benchmarks, the following interventions are recommended:

1. Macro-Economic Protection and Financing Reforms

Strategic Purchase Subsidies: Design and deploy a targeted financial subsidy model that completely waives fees for essential RMCs (lipid profiles, blood pressure monitoring, fasting blood glucose) for households living below the poverty line.

NHIA Integration: Formally integrate a standard package of preventive screenings into the National Health Insurance Authority (NHIA) primary care bundle, shifting the financial model from out-of-pocket expenditure to risk-pooled public financing.

2. Primary Care Infrastructure and Workforce Optimization

Diagnostic Standardization: Launch a targeted procurement campaign to equip every PHC in Yola South with functional, durable diagnostic packages (automated blood pressure monitors, point-of-care glucometers, simple lipid panels, and ECG machines). This must be supported by contracted biomedical maintenance engineers to prevent equipment down-time.

Workforce Support and Task-Shifting: Mitigate nursing burnout by recruiting more auxiliary health workers and implementing task-shifting strategies (consistent with WHO guidelines) that train community health extension workers (CHEWs) to handle basic screening triage.

3. Sociocultural Interventions and Community Partnerships

Collaborative Traditional Healing Frameworks: Develop formal, non-adversarial referral networks with registered traditional healers, training them to recognize early signs of metabolic and cardiovascular risks and incentivizing them to refer patients to PHCs.

Community-Led Health Literacy Initiatives: Engage trusted religious and community leaders to co-design health campaigns that counter fatalistic medical beliefs, framing early screening as an act of proactive family care rather than a lack of faith.

4. Decentralized and Gender-Responsive Delivery Models

Mobile Screening Clinics: Deploy community-based mobile health units to rural and peri-urban outskirts on fixed schedules, bringing diagnostic capabilities directly to underserved neighborhoods to eliminate transport costs.

Gender-Accessible Clinics: Establish women-only community wellness days or integrate family-planning services with non-communicable disease screenings to maximize privacy, reduce social friction, and enhance female health autonomy.

5. Policy Alignment

Ensure all localized preventive health frameworks are explicitly aligned with the decentralization and community ownership targets outlined in Nigeria's National Health Policy (13), using local health committees to monitor program accountability.

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