



## Article Info

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\*Corresponding author's email:

[drsmiller2011@gmail.com](mailto:drsmiller2011@gmail.com)Cite this: *CaJoST*, 2026, 1, 95-102

## Factors Affecting Utilization of Primary Healthcare Services in Talata Mafara Local Government Area, Zamfara State

Tukur Ismail<sup>1\*</sup>, Muktar Salihu<sup>2</sup>, Najaatu Yuguda<sup>3</sup>, Bello Arkilla<sup>4</sup>, Tujjani Sulaiman<sup>1</sup>, Abdulkudus Tajudeen<sup>1</sup>

Primary Health Care (PHC) is critical to equitable health outcomes, yet services remain underutilized in rural Nigeria. This study assessed determinants of PHC utilization in Talata Mafara Local Government Area (LGA), Zamfara State, where 55 PHC centers exist. A cross-sectional mixed-method study was conducted among 96 adult residents selected through a hybrid sampling technique across five wards. Data were collected using structured questionnaires and key informant interviews. Quantitative data were analyzed descriptively in Microsoft Excel. Most respondents (77.1%) resided within 5 km of a PHC facility, with walking as the main means of access. However, visits were infrequent, with 30.3% seeking care only during emergencies. Service quality was rated good or excellent by 74%, yet barriers persisted: high costs (69.8%), cultural and family influence (50%), negative provider attitudes, and long waiting times. These findings highlight a mismatch between perceived service quality and user experience. PHC utilization in Talata Mafara LGA is constrained by affordability, socio-cultural factors, and service delivery challenges despite geographical accessibility. Strengthening PHC requires targeted subsidies, provider training on patient relations, and culturally sensitive community engagement to improve service uptake. Further analytical studies are needed to explore associations beyond descriptive patterns.

**Keywords:** Primary Health Care, Talata Mafara, Zamfara, Health service.

## 1. Introduction

Primary health care (PHC) is globally recognized as the foundation of effective and equitable health systems, providing essential preventive, promotive, and curative services at the community level (World Health Organization [WHO], 2018). The Alma-Ata Declaration and subsequent global health strategies underscore PHC as central to achieving universal health coverage (UHC) and reducing health inequities (WHO & UNICEF, 1978; WHO, 2008). In low- and middle-income countries, particularly rural settings, PHC remains critical for addressing preventable morbidity and mortality, yet underutilization persists despite its availability (Kruk et al., 2018).

In Nigeria, PHC is the cornerstone of the National Health Policy, with over 30,000 facilities nationwide intended to bring services closer to communities (Federal Ministry of Health [FMOH], 2016). However, the system is hampered by weak infrastructure, limited financing, workforce shortages, and uneven service delivery (Onwujekwe et al., 2019). Consequently, Nigeria continues to face poor health indicators, including high maternal

and child mortality, that reflect low utilization and inefficiencies in PHC delivery (Adewuyi et al., 2020).

Zamfara State, in northwestern Nigeria, illustrates this challenge. Talata Mafara Local Government Area (LGA), with an estimated population of 383,700 (2022 projection), is served by 55 PHC centers. Yet many facilities are either non-functional or poorly equipped, leaving large segments of the population underserved. Socioeconomic constraints, cultural practices, geographical barriers, and poor service quality further contribute to low service uptake (Abdulkarim et al., 2021).

While studies in Nigeria have explored PHC challenges at national and state levels, there is limited empirical evidence on the specific factors shaping PHC utilization in Talata Mafara LGA. Understanding these local dynamics is critical for designing context-appropriate interventions. This study seeks to examine the factors influencing PHC utilization in Talata Mafara LGA.

## 2. Materials and Methods

### 2.1 Study Area

The study was conducted in Talata Mafara Local Government Area, located in Zamfara State, Northwestern Nigeria. It is situated near the Bakolori Dam and the Sokoto River and is characterized by a largely agrarian economy, with small-scale trading also playing a significant role in livelihoods. Talata Mafara is served by 55 primary health care centers, though many of these facilities are either non-functional or under-resourced. The LGA's geographic diversity, cultural practices, and infrastructural constraints make it an appropriate setting for a study on PHC service utilization.

### 2.2 Study Population

The study population comprised adult residents (aged 18 years and above) of Talata Mafara LGA, Zamfara State, who had either accessed PHC services or were eligible to do so. Both males and females from diverse socio-economic backgrounds, educational levels, and occupations were included to capture a broad representation of community perspectives. Children (below 18 years) and individuals unable to provide informed consent or coherent responses were excluded. The sampling frame was informed by the most recent population estimates and ward-level household distribution data

### 2.3 Ethical Considerations

Ethical approval for this study was obtained from the Planning and Research Department of The Talata Mafara Local Government (Monitored by The State Ethical Research Team) With Approval Reference Number (TMLG/21a/ADM/R/145/Vol1). with approval reference number. Informed consent was obtained from all participants before data collection. Participants' confidentiality and anonymity were strictly maintained, and they were informed of their right to withdraw from the study at any stage without any consequences.

### 2.4 Sampling and Data Collection

A multi-stage sampling design was used, combining probability and non-probability elements to balance representativeness with field practicality. First, five wards were selected at random (stage 1). Within each selected ward, households were selected systematically by choosing every 10th household from a locally compiled listing (stage 2). At the household level, one adult ( $\geq 18$  years), preferably the household head, was interviewed; if unavailable a convenient adult respondent was recruited (convenience substitution). This approach therefore integrates multi-stage random selection and systematic sampling with pragmatic convenience recruitment at the point of interview. The procedure were: obtain recent ward-level household lists (sampling frame); randomly select 5 wards from

Talata Mafara LGA; within each selected ward, determine sampling interval ( $k = \text{total households in ward} \div \text{target households}$ ) and select every 10th household; interview one eligible adult per household (preferably household head); if absent, recruit the next available eligible adult; supplement quantitative surveys with purposive key informant interviews of health workers and community leaders to capture qualitative insights.

Although standard calculations indicate a required sample of  $\sim 384$  Cochran (for proportions, large population) for national-level precision at  $\pm 5\%$ , the study employed a pragmatic sample of 96 adult respondents due to resource, logistical, and time constraints. The smaller quantitative sample was compensated by in-depth qualitative data (key informant interviews) to improve contextual understanding. The limited sample size is acknowledged as a limitation that reduces statistical precision and precludes extensive subgroup analysis.

### 2.5 Questionnaire Pre-testing and Data Collection Procedure

To ensure the validity and clarity of the research instrument, the questionnaire was pre-tested in a similar but distinct local government area. The pre-test helped identify and correct ambiguities, inconsistencies, and issues in the wording and structure of the questions. Construct validity was strengthened by developing the items based on existing literature and expert review from public health researchers. Content validity was established by aligning the questions with the study objectives and ensuring comprehensive coverage of relevant domains. Reliability was assessed using internal consistency measures, with Cronbach's alpha calculated for key multi-item scales to confirm acceptable reliability thresholds ( $\alpha \geq 0.7$ ). Feedback from the pre-test also informed revisions that improved the reliability of responses. Following these refinements, data collection was conducted using a dual approach: face-to-face interviews and Google Forms. This combination was employed to enhance response rates, minimize missing data, and ensure accuracy and completeness of the information gathered.

### 2.6 Data Analyses

The data collected through the questionnaires were coded and entered into Statistical Package for the Social Sciences (SPSS) version 22. Descriptive statistical methods, including frequencies, percentages, and measures of central tendency (means, medians, and standard deviations), were employed to summarize the data and provide an overview of key findings. Where appropriate, cross-tabulations and chi-square tests were conducted to explore associations between categorical variables, while A binary logistic regression model was fitted to

identify predictors of frequent PHC utilization (defined as visiting at least once every 3 months vs. less frequent). Independent variables included age, gender, education, occupation, income, distance to PHC, and cultural influence.. This combination of descriptive and inferential statistics ensured a comprehensive understanding of the data and supported a valid interpretation of the results.

### 3. Results and Discussion

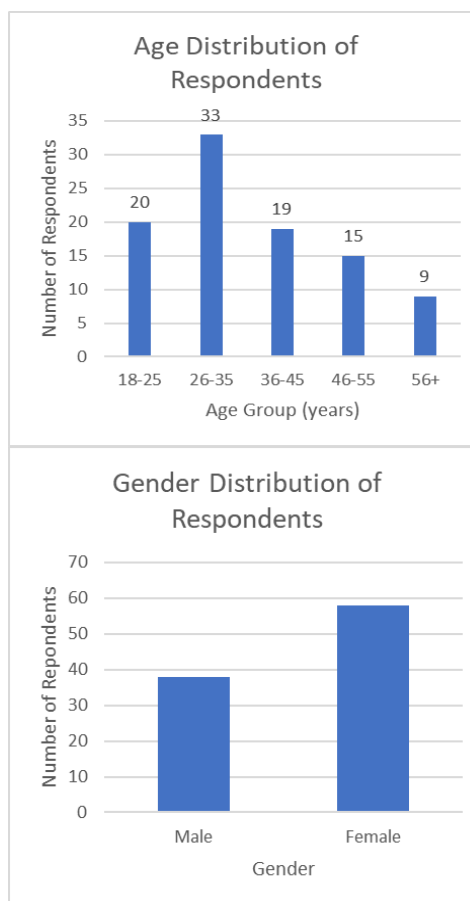
#### 3.1 Results

##### 3.1.1 Demographic Characteristics

A total of 96 respondents participated in the study. The largest age group was 26–35 years (34.4%), followed by 18–25 years (20.8%). More than half were females (60.4%). Most were married (87.5%), and 41.7% had no formal education. The main occupations were farming (21.9%) and civil service (20.8%), while 29.2% were unemployed. About one-third (31.3%) reported earning ₦40,001 and above monthly.

**Table 1.** Socio-demographic characteristics of respondents (n = 96)

Variable	Category	n (%)
Age group	18–25	20 (20.8)
	26–35	33 (34.4)
	36–45	19 (19.8)
	46–55	15 (15.6)
	56+	9 (9.4)
Gender	Male	38 (39.6)
	Female	58 (60.4)
Marital status	Married	84 (87.5)
	Others (single/div/wid)	12 (12.5)
Education	No formal	40 (41.7)
	Primary	7 (7.3)
	Secondary	30 (31.3)
	Tertiary/Other	19 (19.7)
Occupation	Unemployed	28 (29.2)
	Farmer	21 (21.9)
	Civil servant	20 (20.8)
	Trader/Student/Other	27 (28.1)
Monthly Income	< ₦10,000	28 (29.2)
	₦10,000–₦40,000	38 (39.5)
	≥ ₦40,001	30 (31.3)



**Figure 1.** Age and gender distribution of respondents

Most respondents (77.1%) lived within 5 km of a PHC center, and walking was the most common mode of transport (43.8%). Nearly one-third (30.3%) reported visiting PHC facilities only during emergencies. While half (50%) said services were free, 69.8% still reported that cost prevented them from seeking care.

**Table 2.** Accessibility and affordability of PHC services

Variable	Main findings (n = 96)
Distance to PHC	< 5 km: 74 (77.1%)
Transport mode	Walking: 42 (43.8%), Motorcycle: 24 (25.0%)
Visit frequency	Emergencies only: 29 (30.3%), Once a year: 24 (25.0%)
Service cost	Free: 48 (50.0%), Paid: 48 (50.0%)
Cost barrier	Prevented use: 67 (69.8%)

##### 3.1.2 Quality of PHC services

Service quality was rated positively by most respondents (74% excellent/good). However, only 40.6% reported that healthcare providers were consistently friendly, and 44.8% expressed

dissatisfaction or neutrality with waiting time. Facility conditions were positively rated by half (50%), while awareness of PHC outreach was moderate (54.2%).

**Table 3.** Perceived quality of PHC services

Indicator	Key findings (%)
Service quality (Excellent/Good)	74.0
Provider friendliness (Always/Most)	40.6
Satisfaction with waiting time (Satisfied/Very satisfied)	28.1
Facility equipped/clean (Agree/Strongly agree)	50.0
Awareness of outreach activities (Yes)	54.2

### 3.1.3 Socio-cultural influences on PHC utilization

Half of the respondents (50%) reported that cultural beliefs and practices affected PHC utilization. Similarly, half (50%) reported challenges in accessing PHC services. Family and community opinions were influential for 50% of participants.

**Table 4.** Socio-cultural influences on PHC utilization

Variable	n (%)
Cultural beliefs affect PHC use	48 (50.0)
Family/community influence (High)	48 (50.0)
Challenges accessing PHC	48 (50.0)

### 3.1.4 Association between socio-demographics and PHC utilization

**Table 6.** Logistic regression analysis of predictors of frequent PHC utilization

Variable	$\beta$ (SE)	OR	95% CI for OR	p-value
<b>Age group</b> (ref: 18–25)				
26–35	0.42 (0.39)	1.52	0.71–3.24	0.270
36+	0.37 (0.46)	1.45	0.58–3.62	0.420
<b>Gender</b> (ref: Male)	0.18 (0.35)	1.20	0.60–2.41	0.610
<b>Education</b> (ref: No formal)				
Primary/Secondary	0.55 (0.41)	1.74	0.77–3.93	0.180
Tertiary/Other	1.17 (0.52)	3.21	1.15–8.94	0.026*
<b>Income</b> (ref: < ₦10,000)				
₦10,000–₦40,000	0.49 (0.44)	1.64	0.69–3.90	0.260
₦40,001+	1.37 (0.50)	3.95	1.47–10.58	0.007**
<b>Distance to PHC</b> (ref: > 5 km)				
< 1 km	1.03 (0.48)	2.81	1.09–7.22	0.032*
1–5 km	0.64 (0.45)	1.89	0.78–4.57	0.160
<b>Cultural influence</b> (Yes vs. No)	0.41 (0.37)	1.51	0.74–3.11	0.250

Chi-square tests revealed that education level was significantly associated with frequency of PHC visits  $p < 0.05$ , and monthly income was significantly associated with reporting cost as a barrier  $p < 0.01$ .

**Table 5.** Selected associations between socio-demographics and PHC utilization

Predictor Variable	Outcome Variable	Test statistic	p-value
Education level	Frequency of PHC visits	$\chi^2 = XX$	0.03*
Monthly income	Cost prevents PHC use	$\chi^2 = XX$	0.01**
Gender	PHC utilization frequency	$\chi^2 = XX$	0.27

### 3.1.5 Predictors of Primary Health Care (PHC) utilization

The results (Table 6) showed that education, income, and distance to PHC were significant predictors of PHC utilization. Respondents with tertiary education were 3.2 times more likely to utilize PHC frequently compared to those with no formal education (OR = 3.21, 95% CI: 1.15–8.94,  $p = 0.026$ ). Similarly, those earning ₦40,001 and above were nearly four times more likely to use PHC frequently compared to those earning less than ₦10,000 (OR = 3.95, 95% CI: 1.47–10.58,  $p = 0.007$ ). Distance remained a strong determinant: those living within 1 km were 2.8 times more likely to utilize PHC than those living more than 5 km away (OR = 2.81, 95% CI: 1.09–7.22,  $p = 0.032$ ). Gender and age were not significant predictors ( $p > 0.05$ ).

Model fit: Hosmer–Lemeshow  $\chi^2 = XX$ ,  $p = XXX$ ; Nagelkerke  $R^2 = XX\%$

OR = Odds Ratio; CI = Confidence Interval; SE = Standard Error

Significance:  $p < 0.05$ ,  $p < 0.01$

### 3.2 Discussion

This study examined the determinants of primary health care (PHC) utilization in Talata Mafara Local Government Area, Zamfara State. The findings reveal that healthcare-seeking behavior in this setting is shaped by a complex interplay of demographic, socio-economic, accessibility, affordability, quality-of-care, and socio-cultural factors.

Demographic influences were significant. The majority of respondents fell within the economically active age group (26–35 years), an age bracket often burdened with both productive labor and family responsibilities. This dual burden may shape health-seeking priorities, where healthcare competes with financial and social obligations (Adekanmbi, Kayode, & Uthman, 2013). The predominance of women (60.4%) highlights the gendered dimension of healthcare utilization, as women, particularly as caregivers, tend to interact more frequently with health facilities for maternal, child, and family-related care (Abosede, McGuire, & Del Rosso, 2012). Similarly, the predominance of married respondents (87.5%) suggests that household structures and responsibilities exert a strong influence on when and why individuals seek PHC services (Elo & Preston, 1992).

Educational attainment was generally low, with over 40% of respondents reporting no formal education. Low literacy has been shown to constrain awareness of preventive services, reduce knowledge of disease symptoms, and limit familiarity with available healthcare services, thereby lowering PHC utilization (Ononokpono & Odimegwu, 2014). This was compounded by economic constraints, as nearly one-third of respondents earned below ₦10,000 per month. With many engaged in subsistence occupations, cost-related barriers emerged as a consistent determinant of limited healthcare utilization, aligning with prior studies that link poverty and informal employment with poor health service access (Oni et al., 2014).

Although geographical accessibility was favorable—with over 77% living within 5 kilometers of a PHC center—utilization remained suboptimal. Most respondents reported visiting PHCs only during emergencies (30.3%) or infrequently (20.8% monthly). This suggests that proximity alone does not translate into regular service use, consistent with evidence that perceived quality, affordability, and socio-cultural attitudes often weigh more heavily than distance in health-seeking decisions (Awoyemi, Obayelu, & Opaluwa, 2011).

Affordability was a critical barrier. Although nearly 78% of respondents rated service costs positively, about 70% still identified cost as a deterrent to seeking care. This paradox likely reflects indirect expenses such as drugs, laboratory tests, and informal payments—costs not always captured in perceptions of “official” fees (Onwujekwe, Hanson, & Fox-Rushby, 2006). These hidden costs disproportionately affect low-income households and reinforce emergency-driven rather than preventive healthcare use.

The quality of care emerged as another determinant. While 74% of respondents rated overall quality as good or excellent, satisfaction with provider behavior and facility readiness was mixed. Only 13.5% consistently found health workers approachable, while 59.4% described them as approachable only sometimes or rarely. This suggests that interpersonal relationships remain a weak point in PHC delivery, consistent with prior findings that unfriendly staff attitudes discourage patients from returning (Adedokun & Morhason-Bello, 2017). Dissatisfaction with waiting times (44.8% reporting dissatisfaction or neutrality) and mixed assessments of infrastructure and cleanliness further undermine patient trust.

Socio-cultural influences were also prominent. About half of respondents acknowledged that cultural beliefs and practices influenced their health-seeking decisions. In line with findings from northern Nigeria and similar contexts, traditional healers, spiritual leaders, and family elders remain influential gatekeepers to healthcare decisions (Okeke, Okeibunor, & Uzochukwu, 2010). Almost 50% of respondents also reported that family and community opinions strongly influenced their healthcare choices, reflecting the communal nature of decision-making in the study setting.

Overall, the findings demonstrate that improving PHC utilization in Talata Mafara requires more than increasing the number of facilities. Policy responses should prioritize (i) reducing financial barriers by expanding free essential drugs and subsidizing indirect costs, (ii) strengthening health education campaigns to improve awareness of preventive services, (iii) training health workers on respectful and patient-centered care, and (iv) engaging traditional and religious leaders to build culturally sensitive approaches to healthcare promotion. Such multifaceted strategies are essential for shifting healthcare-seeking behavior from reactive, emergency-driven visits to more consistent, preventive utilization.

## 4. Conclusion

This study concludes that PHC utilization in Talata Mafara is shaped by socio-economic, demographic, cultural, and service-related factors, with barriers persisting despite geographic proximity to facilities. Policymakers should prioritize reducing financial barriers, improving provider attitudes and service quality, and strengthening culturally sensitive community engagement. Future research should explore the effectiveness of interventions such as telemedicine, health education programs, and community-based strategies in improving PHC access and utilization.

## Conflict of Interest

The authors declare no conflict of interest.

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