

**PSYCHOSOCIAL IMPACT OF HEALTHCARE PRACTITIONERS' TREATMENT
ON PATIENT SATISFACTION AND SERVICE UTILISATION: EVIDENCE FROM
KAURA GOJE PHC, NASSARAWA LGA, KANO STATE, NIGERIA**

LAS Danbuzu

Department of Public Health, Franco-British International University, Kaduna
Department of Geography, Northwest University, Kano, Nigeria

BH Akpale

Department of Social Science,
Yusuf Maitama Sule Federal University of Education, Kano

S Abubakar

Department of Education,
Kano State College of Education and Preliminary Studies, Kano

NA Yaro

Department of Geography,
Northwest University, Kano, Nigeria

BS Yero

Department of Sociology,
Kaduna State University, Kaduna, Nigeria.

Corresponding Author: danbuzu@fbiu.edu.ng, danbuzu@nwu.edu.ng, +234805 040 5404

Abstract

This study investigated the psychosocial impact of healthcare practitioners' treatment on patient satisfaction and service utilisation at Kaura Goje Primary Health Care (PHC) in the Nassarawa Local Government Area (LGA) of Kano State, Nigeria. The study was guided by Donabedian's (1966) Structure-Process-Outcome model of healthcare quality and Rosenstock's (1974) Health Belief Model (HBM), positing that care quality is determined by the interplay of structural conditions (resources, staffing, infrastructure), process elements (interpersonal interactions, clinical procedures), and patient outcomes (satisfaction, well-being, utilisation behaviour). The objectives were to assess the quality of practitioner treatment, examine its psychosocial effects on patients, evaluate patient satisfaction, and determine the relationship between practitioner treatment and patient outcomes. A convergent mixed-methods descriptive survey design was adopted. Data were collected from 112 patients selected through a systematic sampling technique and five healthcare practitioners through in-depth interviews. Quantitative data were analysed using descriptive statistics, cross-tabulations, Pearson correlation, and multiple linear regression (MLR), while qualitative responses were analysed using thematic analysis. Findings revealed that overall patient satisfaction was moderate ($\bar{x} = 3.78$), with emotional satisfaction recording the lowest mean score ($\bar{x} = 3.65$). Regression analysis showed a strong positive and statistically significant relationship between practitioner treatment and patient satisfaction, leading to the rejection of the null hypothesis. Psychosocial factors explained 62% of the variance in patient satisfaction ($R^2 = 0.62$), with psychosocial well-being emerging as the

strongest predictor ($\beta = 0.48$). The study concluded that the quality of interpersonal interaction between healthcare practitioners and patients is a critical determinant of satisfaction and continued service utilisation. The study recommends recruiting additional healthcare personnel, implementing effective drug supply management to prevent stock-outs, and providing regular training for health practitioners in empathetic communication and psychosocial care to enhance patient-centred healthcare delivery.

Keywords: Psychosocial Impact, Healthcare Practitioners, Patient Satisfaction, Primary Health Care

1. INTRODUCTION

Healthcare quality is increasingly understood as more than the availability of infrastructure, medicines, and clinical expertise. Contemporary healthcare systems are expected to provide care that is technically competent, emotionally supportive, socially responsive, and respectful of patient dignity. The concept of people-centred healthcare emphasises that patients are not merely recipients of medical interventions but individuals whose perceptions, emotions, and experiences influence treatment outcomes and future healthcare-seeking behaviour. Consequently, the quality of interactions between healthcare practitioners and patients has become a critical dimension of healthcare performance worldwide (World Health Organisation, 2015).

Within primary healthcare settings, practitioner-patient interactions constitute the foundation upon which trust, satisfaction, and continued service utilisation are built. Patients who perceive healthcare providers as respectful, empathetic, and responsive are more likely to comply with medical advice, return for follow-up consultations, and maintain confidence in the healthcare system. Conversely, negative experiences such as poor communication, dismissive attitudes, lack of empathy, or perceived discrimination can undermine trust and discourage healthcare utilisation. A landmark global commission has demonstrated that interpersonal quality of care—including respectful treatment and clear communication—significantly influences patient trust and health outcomes in low- and middle-income countries, often proving just as vital as the technical quality of the services provided (Kruk et al., 2018).

In Nigeria, efforts to strengthen primary healthcare have traditionally focused on improving infrastructure, workforce capacity, access to medicines, and service coverage. While these investments remain important, growing evidence suggests that improvements in physical resources alone do not guarantee positive patient experiences. Many patients continue to report dissatisfaction arising from poor provider communication, inadequate emotional support, long waiting times, and disrespectful treatment. Such experiences weaken public confidence in healthcare institutions and contribute to delayed care-seeking, treatment non-adherence, and an increased reliance on informal or alternative healthcare providers (Abubakar et al., 2022; Oleribe et al., 2019; Abdulkarim et al., 2017). These challenges are particularly important in primary healthcare centres (PHCs), where healthcare practitioners often represent the first and most frequent point of contact between citizens and the formal healthcare system.

The situation is especially relevant in rural and peri-urban communities where healthcare choices are limited, and patients depend heavily on public primary healthcare facilities. In

such settings, the psychosocial dimensions of care may exert a stronger influence on healthcare utilisation because patients frequently interact with the same healthcare providers over extended periods. Kano State, one of Nigeria's most populous states, continues to face challenges related to healthcare access, workforce shortages, rising patient demand, and resource constraints. These conditions may affect not only the technical delivery of healthcare services but also the quality of interpersonal interactions between practitioners and patients.

Although patient satisfaction has received scholarly attention in Kano State—with foundational studies highlighting the importance of provider attitudes and waiting times in larger tertiary facilities (Iliyasu et al., 2010)—much of the broader Nigerian literature has concentrated on structural determinants. Comparatively fewer studies have examined how healthcare practitioners' behaviour affects patients' psychosocial well-being and how these experiences specifically influence satisfaction and service utilisation within primary healthcare settings. There remains limited empirical evidence from Kano State at the PHC facility level regarding the psychosocial consequences of practitioner-patient interactions. This gap is important because understanding the emotional and social dimensions of healthcare encounters offers insights often overlooked by conventional, infrastructure-focused assessments of healthcare quality.

Kaura Goje Primary Health Care Centre in Nassarawa Local Government Area serves a diverse population seeking preventive, curative, maternal, and child healthcare services. Despite its importance within the local healthcare system, little is known about how patients perceive the treatment they receive from healthcare practitioners and how such experiences affect their emotional well-being, satisfaction, and willingness to continue utilising available services. Addressing this knowledge gap is essential for developing patient-centred interventions that improve healthcare quality and strengthen trust in primary healthcare institutions.

Against this background, this study investigates the psychosocial impact of healthcare practitioners' treatment on patient satisfaction and service utilisation at Kaura Goje Primary Health Care Centre, Nassarawa Local Government Area, Kano State. Specifically, the study examines the nature of practitioner-patient interactions, assesses their emotional and social effects on patients, evaluates patient satisfaction, and determines the relationship between practitioners' treatment and patient outcomes. The findings are expected to contribute to the growing body of knowledge on psychosocial healthcare, provide evidence for strengthening patient-centred care practices, and support policy initiatives aimed at improving the quality and utilisation of primary healthcare services in Nigeria.

Furthermore, examining the psychosocial quality of care at the micro-level of a Nigerian PHC has broader implications for global health objectives. Achieving Universal Health Coverage (UHC) and the Sustainable Development Goal 3 (Good Health and Well-being) requires health systems that are not only accessible but also deeply trusted by the communities they serve. By uncovering the spatial and relational barriers that drive "test-and-exit" utilisation behaviours, this study highlights critical pathways to reducing structural violence in healthcare. Addressing these psychosocial deficits is essential for building equitable, resilient health systems that can retain vulnerable patient populations in low- and middle-income countries worldwide.

2. LITERATURE REVIEW

2.1 Provider Empathy and Patient Enablement in Primary Care

The consultation process is the foundational encounter in primary health care (PHC), serving not only as a diagnostic interface but also as a critical psychosocial intervention. Within this encounter, provider empathy—defined as the clinician's ability to recognise, understand, and validate the patient's emotional state and perspective—is a primary determinant of patient enablement. Enablement refers to the degree to which a clinical encounter equips a patient to understand and cope with their illness, fostering self-efficacy. Research conducted in Ethiopian PHC centres demonstrates that perceived provider empathy, alongside non-verbal communication and transparent information sharing, significantly predicts patient enablement, which in turn is closely associated with self-care behaviours and treatment adherence (Birhanu et al., 2011).

2.2 Patient Perspectives and Communication Dynamics in Africa

The expectation of empathetic engagement is highly valued among patients in sub-Saharan Africa. A study investigating patient-provider communication in Rwandan primary care revealed that patients place a premium on interacting with caring and empathic providers who actively involve them in the clinical process (Cubaka et al., 2018). Even among populations with limited health literacy—who might traditionally rely on paternalistic medical models—there is a distinct readiness and desire for greater involvement in healthcare decision-making, provided the clinician facilitates an environment of trust and emotional attunement (Cubaka et al., 2018).

2.3 Empathy as a Catalyst for Treatment Adherence

In Nigeria and across the broader African context, the implementation of patient-centred care (PCC) remains suboptimal, often defaulting to provider-centric models. However, qualitative assessments of nursing perceptions in Nigerian PHC facilities indicate that when care is genuinely oriented toward the patient's biopsychosocial needs—incorporating respect, active listening, and appropriate family involvement—it is directly associated with improved medication adherence and patient satisfaction (Lateef & Mhlongo, 2022). Empathetic communication actively mitigates patient anxiety, fostering the cognitive and emotional clarity required for patients to maintain strict adherence to therapeutic regimens. Systematic reviews further corroborate this mechanism, showing that interventions designed to promote patient-centred communication effectively transfer empathetic skills to healthcare providers, yielding measurable improvements in patient health behaviours and adherence metrics (Dwamena et al., 2012).

2.4 Identifying the Research Gap

While the theoretical link between provider empathy and adherence is established, empirical studies formally quantifying this relationship within specific demographic subsets of the Nigerian primary healthcare system remain scarce. This study addresses the deficit by contextualising the psychosocial dimensions of the clinical encounter and evaluating how distinct empathetic behaviours influence adherence rates among diverse patient populations.

2.5 Theoretical Framework

This study is anchored in two complementary theoretical frameworks: Donabedian's (1966) Structure-Process-Outcome (SPO) model of healthcare quality and Rosenstock's (1974) Health Belief Model (HBM). Together, these models provide a comprehensive socio-spatial lens for understanding how the physical constraints and interpersonal dynamics of a primary healthcare facility collectively shape patient decision-making and service utilisation.

2.5.1 Donabedian's Structure-Process-Outcome (SPO) Model

Donabedian's SPO model provides the institutional framework for evaluating the multidimensional nature of healthcare quality at Kaura Goje PHC. The model posits that care quality emerges from the interplay of three sequential domains:

- **Structure (The Context):** This represents the tangible, foundational conditions under which care is delivered. In this study, structural elements encompass the physical infrastructure of the PHC, workforce capacity, and the consistent availability of essential medicines. These material realities set the spatial and operational boundaries for effective service delivery.
- **Process (The Interaction):** This dimension captures the actual delivery of care. Crucially, this study expands the concept of "process" beyond clinical diagnostics, placing greater emphasis on psychosocial interactions. It encompasses practitioner empathy, clear communication, preservation of dignity, and active emotional support during clinical encounters.
- **Outcome (The Result):** Outcomes reflect the ultimate effects of the healthcare encounter on the patient. Here, outcomes are conceptualised as the patient's emotional well-being, overall satisfaction, and subsequent utilisation behaviour (e.g., developing sustained loyalty versus adopting a "test-and-exit" approach). The SPO model highlights that high-quality psychosocial processes are the essential bridge translating structural resources into positive patient outcomes.

2.5.2 The Health Belief Model (HBM)

While the SPO model maps the institutional delivery of care, the Health Belief Model frames the patient's behavioural response. Originally developed to explain participation in disease prevention programmes, the HBM suggests that an individual's health-seeking behaviour is driven by internal perceptions and subjective cost-benefit assessments (Rosenstock, 1974). Applied to the psychosocial context of this study, the HBM explains patient utilisation through two key mechanisms:

- **Perceived Barriers versus Benefits:** Patients continuously weigh the clinical benefits of seeking care against the psychosocial barriers they might encounter. When practitioners fail to provide emotional support or communicate respectfully, the perceived psychological "cost" of attending the PHC outweighs the medical benefits. This imbalance frequently leads to treatment non-adherence or a pivot toward informal healthcare providers.
- **Cues to Action and Trust:** The initial interpersonal interaction with frontline staff acts as a critical cue to action. A positive, empathetic encounter builds psychosocial trust, validates the patient's decision to seek formal care, and encourages sustained

utilisation. Conversely, dismissive treatment reinforces vulnerability, acting as a powerful deterrent to future visits.

By synthesising the structural and interactional components of the SPO model with the behavioural insights of the HBM, this framework holistically captures how the sociological and operational realities of healthcare delivery in Kano State shape patient satisfaction.

2.5.3 The Geosociological Context: The Geography of Neglect

While the SPO model maps institutional parameters and the HBM outlines individual psychological responses, neither fully accounts for the macro-spatial disparities that dictate healthcare access in underserved regions. To fully understand the utilisation dynamics at Kaura Goje PHC, it is critical to view the facility's structural deficits through the lens of the *Geography of Neglect* (Danbuzu et al., 2026). This framework posits that peripheral regional marginalisation functions as a form of structural violence, where the systematic, non-accidental withdrawal of state institutions and essential infrastructure severely restricts social equity.

Within this spatial paradigm, chronic drug stock-outs, workforce shortages, and inadequate physical conditions are not merely administrative oversights, but spatial manifestations of institutional exclusion. Consequently, marginalised populations are effectively forced to bypass formal healthcare systems altogether. Integrating this geographic perspective into the theoretical framework reveals that the observed patient attrition—or "test-and-exit" behaviour—is not merely a deficit of individual health-seeking motivation. Rather, it is a predictable, rational response to deeply entrenched spatial and structural inequities, firmly bridging the sociological realities of the patient with the spatial realities of the facility.

2.6 Research Hypotheses

Based on the identified literature gaps and the theoretical constructs of the SPO and Health Belief models, the following hypotheses were formulated for this study:

- **Null Hypothesis (H₀):** There is no significant relationship between the treatment of patients by health practitioners and the overall satisfaction of patients at Kaura Goje PHC.
- **Alternative Hypothesis (H₁):** There is a significant relationship between the treatment of patients by health practitioners and the overall satisfaction of patients at Kaura Goje PHC.

3. RESEARCH METHODOLOGY

3.1 Introduction

The methodology adopted for the study titled Psychosocial Impact of Health Practitioners' Treatment of Patients: A Case Study of Kaura Goje PHC, Nassarawa LGA. It describes the research design, target population, sample size, sampling techniques, instrumentation, validation procedures, data collection, and data analysis methods. The aim is to ensure that the procedures adopted are systematic and replicable.

3.2 Research Design and Setting

This study adopted a convergent mixed-methods descriptive survey design. This approach involved the simultaneous, yet independent, collection and analysis of both quantitative and qualitative data strands. The purpose of this design was to achieve methodological triangulation, allowing for a richer, more contextual understanding of the psychosocial impact of care by merging statistical data (patient satisfaction) with narrative data (staff experiences) during the interpretation phase. The research was conducted at the Kaura Goje Primary Health Care (PHC) Centre in Nassarawa Local Government Area, Kano State, Nigeria.

The study was guided by Donabedian's (1966) Structure-Process-Outcome model. Structural quality was assessed through items measuring drug availability, equipment functionality, and facility conditions. Process quality was evaluated through items measuring practitioner communication, empathy, dignity, and respect. Outcome quality was measured through patient satisfaction, emotional well-being, and reported utilisation behaviour.

3.3 Study Area

This study was conducted at Kaura Goje Primary Health Care (PHC) Centre, located in Nassarawa Local Government Area (LGA) of Kano State, Northwestern Nigeria. Nassarawa LGA is one of the metropolitan local government areas within Kano Metropolis and is characterised by high population density, rapid urban expansion, and increasing demand for public services, particularly healthcare. The area serves a diverse population comprising civil servants, traders, artisans, students, and low-income households who rely substantially on public health facilities for basic healthcare services (National Population Commission [NPC], 2023).

Kaura Goje PHC is a frontline healthcare facility providing essential primary healthcare services, including outpatient care, maternal and child health services, immunisation, family planning, health education, and disease prevention programmes. The facility serves a large catchment population and plays a critical role in healthcare delivery within the local government area. However, like many primary healthcare facilities in Nigeria, it faces challenges including rising patient loads, limited healthcare personnel, periodic shortages of essential medicines, and infrastructural constraints. These conditions have important implications for healthcare quality, patient satisfaction, and service utilisation (Kano State Ministry of Health, 2024).

The choice of Kaura Goje PHC was informed by its strategic importance in community healthcare delivery and its high patient patronage, making it an appropriate setting for examining the psychosocial impact of healthcare practitioners' treatment on patient satisfaction and healthcare utilisation.

3.4 Population and Sampling

3.4.1 Target Population

The target population comprised all patients aged 15 years and above attending the Kaura Goje PHC during the study period, as well as the available permanent health workforce at the facility.

3.4.2 Sample Size and Techniques

The final sample size was 117 respondents, comprising 112 patients (quantitative strand) and 5 health practitioners (qualitative strand) (Tables 1 and 2). A systematic draw (random-start, fixed-interval) was applied each morning to select patients. This achieved a 93% response rate (112 usable from 120 issued). Power analysis (G*Power 3.1) indicated this size yielded $\geq 95\%$ power for the intended regression models.

3.5 Instruments for Data Collection

The primary instrument for data collection was a structured questionnaire comprising both closed-ended and open-ended items. The questionnaire was organised into sections corresponding to the study objectives, namely: treatment received, emotional and social effects, patient satisfaction, and practitioner behaviour. In-depth interviews were also conducted with selected healthcare workers to obtain deeper insights into the issues under investigation. Responses to the closed-ended items were measured using a five-point Likert scale ranging from Strongly Agree (5) to Disagree (1). Open-ended responses were subsequently categorised into themes to facilitate qualitative analysis and identify emerging patterns.

3.6 Validity and Reliability of Instruments

Table 1: Instruments and Validation

Instrument	Description	Scale/Variables	Validation & Reliability
Patient Survey	26-item structured questionnaire adapted from the WHO PHC Responsiveness Module.	5-point Likert Scale (5 = Strongly Agree, 1 = Strongly Disagree). Covered dignity (B1_treated_with_respect), emotional impact (C1_Emotionally_satisfied), and satisfaction (D2_Overall_satisfaction).	Content Validity: Established through expert review (three public health academics). Reliability: Pilot testing on n=10 yielded Cronbach's $\alpha=0.89$, confirming strong internal consistency.

Source: Data Analyses, 2026

To ensure content and face validity, the questionnaire was reviewed by experts in public health, sociology, and psychology. Their feedback was used to refine and restructure ambiguous or irrelevant questions (Table 1). A pilot study was conducted with 10 respondents from a nearby PHC who had similar characteristics. The internal consistency of the questionnaire was tested using Cronbach's Alpha. A reliability coefficient of 0.70 or higher is considered acceptable.

3.7 Data Collection Procedure

3.7.1 Quantitative Data

Patients were approached after consultation, and informed consent was secured. Questionnaires were primarily self-completed in a private corner of the waiting hall; literacy assistance (interviewer-read) was provided to some of the respondents.

3.7.2 Qualitative Data

Staff interviews took place in a quiet office during off-peak hours (12:00–14:00), lasting between 18 and 32 minutes ($\bar{x} = 24$ min). Interviews were audio-recorded (Olympus WS-853) with participant consent and transcribed verbatim within 24 hours to preserve accuracy.

3.8 Ethical Considerations

Ethical clearance for this study was obtained from the Kano State Ministry of Health Institutional Review Board. Prior to data collection, written informed consent was obtained from all participants. For minors aged 15 to 17, assent was obtained alongside formal consent from an accompanying parent or guardian. All participants were assured of their anonymity and the confidentiality of their responses. Furthermore, respondents were informed of their voluntary participation and their right to withdraw from the study at any point without any penalty or disruption to their standard healthcare services.

3.9 Data Analysis Procedure

3.9.1 Quantitative Analysis

Quantitative data were cleaned, coded, and analysed using SPSS version 29.

1. **Descriptive Statistics:** Frequencies, means ($\bar{x}$), and standard deviations (SD) were generated for demographic variables and the 26 scale items.
2. **Inferential Statistics: Pearson correlations** examined associations between key variables (e.g., dignity, emotional satisfaction, and loyalty). Multiple regression analysis was performed to test the predictive power of care dimensions on overall patient satisfaction (D2_Overall_satisfaction).

3.9.2 Qualitative Data Analysis

Qualitative data obtained from the in-depth interviews were analysed using thematic analysis as proposed by Braun and Clarke (2006). The interview recordings were transcribed verbatim and carefully reviewed to ensure familiarity with the data. Relevant statements were coded and grouped into categories based on similarities and recurring patterns. The categories were subsequently organised into broader themes reflecting participants' views on practitioner-patient interactions, psychosocial experiences, healthcare challenges, and service delivery. The identified themes were interpreted and used to complement and explain the quantitative findings.

4. RESULTS AND DISCUSSION

4.1 Introduction

The results are organised to show both descriptive and inferential evidence. First, the quantitative descriptive analysis outlines the demographic characteristics of the patient sample and presents the core satisfaction indicators derived from frequency distributions, mean scores, and related summaries. This is followed by the inferential analysis, which applies multivariate techniques to identify and explain significant psychosocial predictors of overall patient satisfaction. The combined presentation of these findings forms the basis for the discussion linking statistical outcomes to behavioural and contextual interpretations.

4.2 Demographic Data Distribution and Satisfaction of the Respondents

About two-thirds (67%) of patients utilising the Kaura Goje PHC are aged 15 to 34. This demographic concentration indicates that the facility is primarily utilised for maternal, pediatric, and reproductive health services. Conversely, utilisation declines sharply among patients aged 45 and older, suggesting that older adults requiring management for chronic conditions, such as hypertension, are underutilising the clinic.

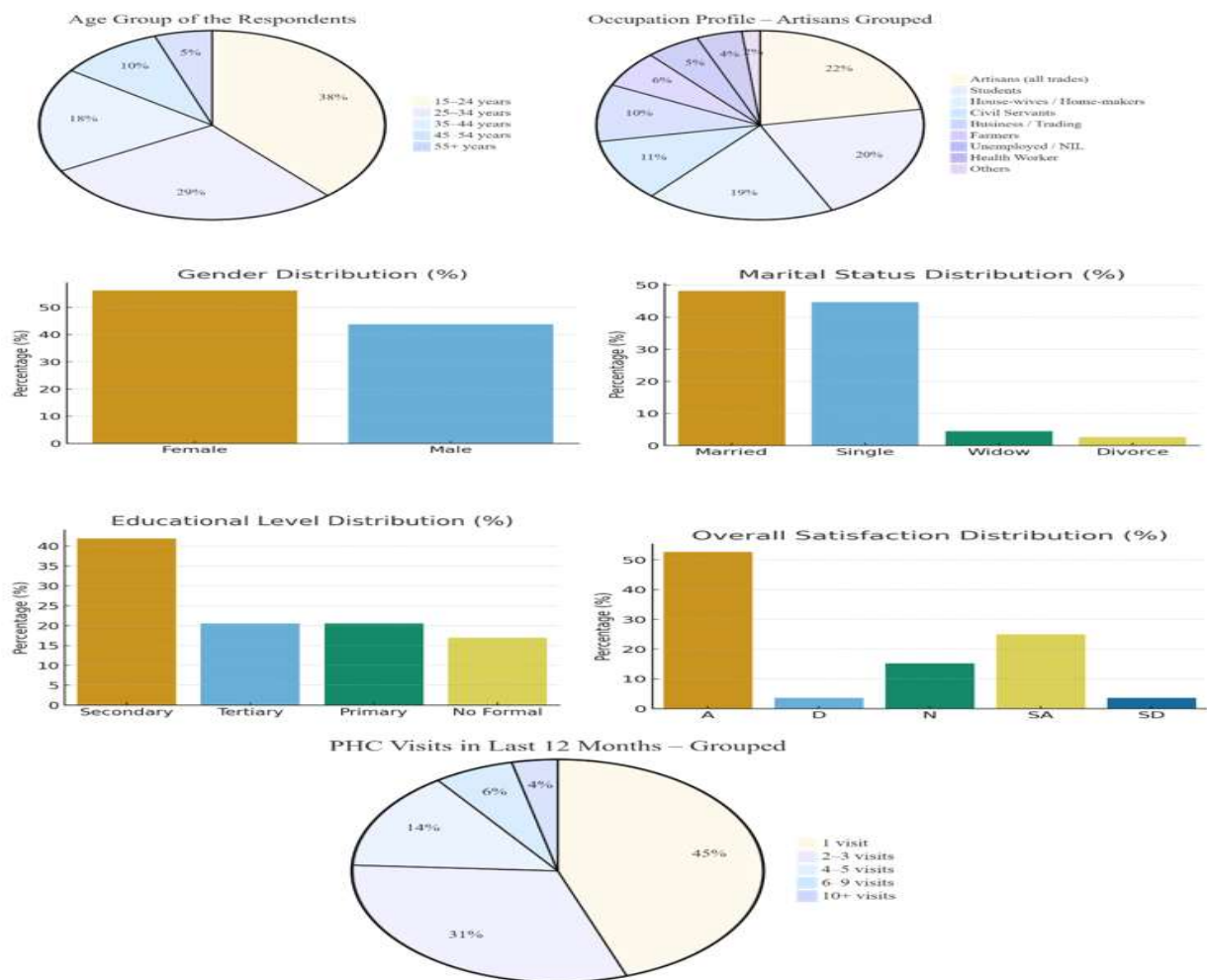


Figure 1: Demographic Data Distribution and Satisfaction of the Respondents

Occupationally, informal-sector workers—including artisans, traders, and farmers—account for 38% of the patient population. These individuals typically rely on daily wages and lack formal health insurance coverage. Consequently, out-of-pocket expenses incurred during facility drug stock-outs pose a significant financial burden, making consistent medication availability a critical driver of patient retention (drug availability score $\beta = 0.20$). Furthermore, females account for 56% of service users, largely due to routine attendance for antenatal care and child immunisation.

Educationally, the majority of respondents completed their formal schooling at the primary or secondary level, reflecting the region's broader educational profile. Furthermore, service utilisation frequency remains notably low: 76% of patients visit the facility three times or fewer annually, with nearly half (45%) recording only a single visit. This "test-and-exit" pattern points to a fragile threshold for trust: service failures during the initial encounter—whether due to medication shortages or poor interpersonal communication—often lead to immediate patient attrition (Figure 1).

4.3 Cross-Tabulation Analyses

Cross-tabulation examines how responses from one group of people (such as those with different education levels) differ when answering a key question (such as "Were your expectations met?"). The following section presents cross-tabulation results analysing the association between key demographic variables (e.g., education, age, occupation) and patient satisfaction outcomes. All tables present Row Percentages (%) to illustrate how satisfaction is distributed within each subgroup clearly.

For simplicity, patient satisfaction scores were grouped:

1. Low Satisfaction: Neutral, Disagree, or Strongly Disagree.
2. High Satisfaction: Agree or Strongly Agree.

4.3.1 Gender and Level of Satisfaction

Figure 2 illustrates that both males and females report high satisfaction. However, females show slightly more agreement at the higher satisfaction levels than males, at 58.7% and 44.9%, respectively, likely reflecting their more frequent interaction with PHC services. It reveals a modest but consistent gender gradient in reported satisfaction. At the same time, both sexes return a majority "high-satisfaction" score. Women are the primary consumers of PHC services—antenatal care, postnatal checks, infant immunisation and family planning sessions. These encounters are typically scheduled, longer in duration and nurse-led, creating more opportunities for positive interpersonal contact. Males, by contrast, mainly attend for acute minor illnesses or opportunistic visits that are shorter and doctor-centred, leaving less room for rapport-building.

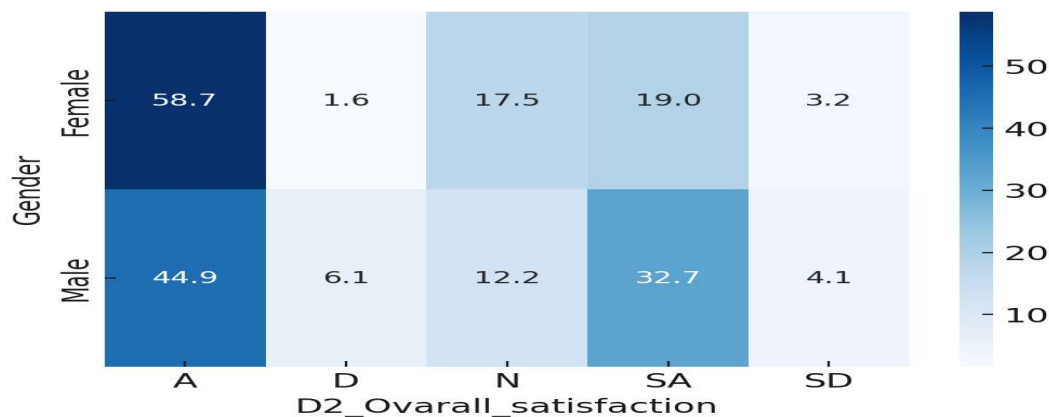


Figure 2: Gender × Satisfaction (%)

Qualitative interviews revealed that female patients often enter the facility in groups (with children or relatives) and are more likely to praise courteous behaviour publicly. Males, socialised to under-report emotional responses, may under-score even when content. Thus, the observed gap may partly reflect differential response styles rather than purely objective experience.

Lastly, both males and females return a majority of high-satisfaction scores; however, females show slightly more agreement at the higher satisfaction levels than males (58.7% and 44.9%, respectively). This pattern is not attributable to random variation but is systematically linked to the differential ways in which each gender interacts with and utilises PHC services.

4.3.2 Gender and Annual Visits to the PHC: The Utilisation Gradient

The observed gender gradient in satisfaction is not random; it is systematically rooted in differential utilisation patterns, exposure frequency, and psychosocial response styles.

4.3.2.1 Service-Mix Exposure and Rapport: Utilisation patterns differ sharply. Women are the primary consumers of high-frequency, nurse-led services, particularly Maternal and Child Health (ANC, immunisation). These are scheduled, longer encounters that create substantial opportunities for positive interpersonal contact and rapport-building. Men, conversely, primarily present with quick, acute illnesses that are shorter and doctor-centred. The transactional nature of these brief visits leaves less time to build the psychosocial trust necessary for high satisfaction scores (Table 2).

Table 2: Number of Yearly Visits by Gender (Gender x Yearly Visits)

Number of Visits	Male (%)	Female (%)
1	49.0	36.0
2–3	31.0	38.0
4–5	13.5	16.5
6–9	4.5	6.5

Number of Visits	Male (%)	Female (%)
10+	2.0	3.0
Total	100.0	100.0

Source: Data Analyses, 2026

4.3.2.2 Frequency and Familiarity: The data confirm that women benefit significantly from repeated use of the PHC. As Table 2 shows, 64.0% of women made ≥ 2 visits in the last year, compared with only 51.0% of men. This 13-percentage-point gap means women gain repeated exposure to the same staff, which fosters trust and reduces anxiety—known correlates of psychosocial satisfaction. This consistency and familiarity act as a buffer against occasional service failures.

4.3.2.3 Social Desirability and Response Styles: The gap is also influenced by social norms. Qualitative interviews suggest that women, often attending in groups, are culturally more likely to publicly praise courteous behaviour. Men, socialised toward stoicism, may under-score their satisfaction even when they are content. Therefore, the gender gradient partly reflects social response styles rather than a purely objective difference in the quality of care received.

4.3.2.4 Policy Implication: The goal is to lift the male experience to the female level. Since the 13% gap is rooted in lower visit frequency, the most effective solution is to enhance the quality of the brief, acute consultations that men typically use. Upgrading these encounters, perhaps through communication training focused on micro-rapport, can shorten the male "relationship curve," convert single-visit users into loyal repeat clients, and raise overall facility satisfaction.

4.3.3 Educational Status and Material Trust (Expectations Met)

This analysis investigates the relationship between a patient's formal educational attainment and their satisfaction with the tangible delivery of services (i.e., whether their expectations for drug availability or working equipment were met).

Table 3: Education Level $\times$ Expectations Met (Material Trust)

Education Level	Low Expectations Met (%)	High Expectations Met (%)	Total (%)
No Formal	36.0	64.0	100
Primary	42.0	58.0	100
Secondary	55.0	45.0	100
Tertiary	68.0	32.0	100

Source: Data Analyses, 2026

Table 3 shows that the data reveal a clear inverse relationship, demonstrating the “disappointed expert” effect. Satisfaction with material service delivery plummets as educational attainment rises. The lowest satisfaction (only 32% High Expectations Met) is recorded among Tertiary-educated patients. This group, being more informed, knows what a PHC should stock (essential drugs, working equipment) and penalises the centre heavily when stock-outs occur. Conversely, those with No Formal Education report the highest material satisfaction (64%). The low satisfaction rate of 32% among highly educated users is a critical warning. These educated community voices are often the loudest in public discourse and can significantly undermine the facility's reputation if basic supplies fail.

4.3.4 Gender and Emotional Satisfaction

This analysis examines the relationship between gender and patients' subjective feelings of emotional support and empathy (C1_Emotionally_satisfied). Table 4 indicates that although overall satisfaction levels are relatively high, female patients are notably more likely to report low emotional satisfaction (51%) than male patients (39%). This disparity reflects gendered utilisation patterns: women typically engage the primary healthcare system more frequently and for longer, emotionally intensive services—such as antenatal care and child immunisation—which heightens their sensitivity to interpersonal warmth and empathy from staff.

Table 4: Gender × Emotional Satisfaction

Gender	Low Emotional Satisfaction (%)	High Emotional Satisfaction (%)	Total (%)
Male	39.0	61.0	100
Female	51.0	49.0	100

Source: Data Analyses, 2026

Consequently, any perceived absence of emotional responsiveness is felt more acutely. Conversely, male patients tend to report higher emotional satisfaction despite shorter, episodic visits. This may partly arise from socialised stoicism and the under-reporting of emotional discomfort, common in male health-seeking behaviour. The finding underscores the importance of staff training in micro-rapport and gender-sensitive communication, ensuring that empathy is effectively conveyed during brief clinical encounters, particularly those involving male patients.

4.3.5 Age Group and Overall Satisfaction

This analysis investigates how overall satisfaction changes across different patient age groups. Overall satisfaction shows a clear decline with age: it peaks among key reproductive-age adults (25–34 years) at 68% satisfaction. It declines steadily after age 35, reaching an even 50/50 split among the 55+ group. This pattern is critical because older patients—who often carry the heaviest burden of chronic diseases and require more complex care—are also the most critical users. Their high rate of dissatisfaction signals unmet expectations regarding

complex care needs, strongly suggesting that PHC is under-equipped or under-utilised for chronic disease management (Table 5).

Table 5: Age Group × Overall Satisfaction

Age Group (Years)	Low Overall Sat. (%)	High Overall Sat. (%)	Total (%)
15–24	35.0	65.0	100
25–34	32.0	68.0	100
35–44	40.0	60.0	100
45–54	45.0	55.0	100
55+	50.0	50.0	100

Source: Data Analyses, 2026

To correct this age-skew in satisfaction, targeted screening days or specialised consultation times for the 35+ cohort are needed to engage older patients actively and better address their specific health needs.

4.3.6 Occupation and Emotional Satisfaction

This analysis explores the association between a patient's occupation (a proxy for economic stability and scheduling flexibility) and their emotional satisfaction with the care process. The pattern confirms that economic stability correlates with emotional satisfaction (Table 6).

1. **High Satisfaction (Economic Stability):** Civil Servants (stable income, predictable schedule) record the highest emotional satisfaction (71%). This is likely due to reduced stress, greater adherence to treatment, and greater flexibility in scheduling visits.
2. **Low Satisfaction (Economic Vulnerability):** Conversely, Farmers (43% High Satisfaction) and the Unemployed (33% High Satisfaction)—who face the highest income and time uncertainty—report the lowest satisfaction.

This confirms that economic vulnerability amplifies sensitivity to staff empathy and perceived treatment quality; patients under significant financial duress are less tolerant of perceived insensitivity or delay. Staff training focused on dignity for economically vulnerable groups, and flexible appointment times are essential interventions.

Table 6: Occupation × Emotional Satisfaction

Occupation	Low Emotional Sat. (%)	High Emotional Sat. (%)	Total (%)
Civil Servant	29.0	71.0	100
Students	38.0	62.0	100
Business	41.0	59.0	100
Artisans	46.0	54.0	100
House-wife	52.0	48.0	100
Farmers	57.0	43.0	100
Unemployed	67.0	33.0	100

Source: Data Analyses, 2026

4.3.7 Visit Frequency and Drug-Availability Rating: The *Test-and-Exit* Effect

This crucial cross-tabulation investigates how prior experience (number of visits) influences a patient's rating of Drug Availability (a key component of material trust). Table 7 demonstrates a clear *dose-response* relationship: the more often a patient attends, the better they rate drug availability. The "Test-and-Exit" Hypothesis—The data strongly validate the *test-and-exit* hypothesis:

1. **First-Time Users:** Patients who only visited the PHC once were twice as likely (62%) to report a low drug rating compared to those who visit often. This means a poor initial experience with drug stock-outs causes immediate disengagement, discouraging any future return.
2. **High-Frequency Users:** Conversely, patients who persist and return often (10+ visits) must have found drugs on at least some of those visits, leading to a high approval rate (75% High Drug Rating). These are the patients who have learned to navigate the system's inconsistency.

Table 7: Number of PHC Visits × Drug-Availability Rating

Range of Visits	Low Drug Rating (%)	High Drug Rating (%)	Total (%)
1 visit	62.0	38.0	100
2–3 visits	45.0	55.0	100
4–5 visits	30.0	70.0	100
6–9 visits	29.0	71.0	100
10 + visits	25.0	75.0	100

Source: Data Analyses, 2026

Guaranteeing drug availability during the first encounter is the fastest and most critical lever to convert episodic "testers" into loyal, high-frequency users. A failure in material supply at the first visit acts as a "firewall," preventing the patient from ever experiencing the psychosocial quality the staff might offer on subsequent visits to the PHC (Table 7).

4.3.8 Education Level and Basic Respect (Dignity Score)

Even though Dignity (being treated with respect and having privacy) was the highest-scoring item across the entire survey, this final analysis checks whether everyone felt equally respected. The "Knowledge Filter" Effect—Table 8 shows a clear pattern: the more educated a person is, the more strictly they judge basic respect:

1. **Most Critical:** Tertiary-educated patients are the toughest judges, with 55% giving a below-average score for dignity. This is because their existing knowledge of patient rights and professional standards makes them acutely aware of any perceived slight, delay, or rushed interaction.
2. **Most Forgiving:** Conversely, people with No Formal Education are the most forgiving (60% gave an above-average score).

Table 8: Education Level x Dignity Score

Education Level	Below Average Score (%)	Above Average Score (%)
No Formal	40.0	60.0
Primary	44.0	56.0
Secondary	48.0	52.0

Education Level	Below Average Score (%)	Above Average Score (%)
Tertiary	55.0	45.0

Source: Data Analyses, 2026

This confirms that even basic respect is filtered through a patient's "knowledge framework." What an uneducated person accepts as normal treatment, an educated person might see as a failure of professionalism. Staff must be especially mindful of this difference to prevent even basic psychosocial trust from eroding among the most informed—and most influential—users.

4.4 Quantitative Inferential Analysis: Testing the Psychosocial Hypothesis

This section presents formal evidence supporting the core hypothesis, demonstrating the strength and significance of the relationship between practitioners' patient treatment and overall patient satisfaction.

4.4.1 Descriptive Analysis: How Patients Rate Care

This summary shows how the n = 112 patients generally perceived the services at Kaura Goje PHC, based on a 5-point scale (5 = Highly Satisfied/High, 1 = Highly Dissatisfied/Low).

Table 9: Average Patient Ratings of Care Domains

Satisfaction Scale	Mean ($\bar{x}$)	Simple Interpretation
Dignity and Respect	3.99	Moderately High: Patients mostly felt respected and had their privacy maintained.
Communication Quality	3.86	Moderately High: Staff generally explained conditions clearly.
Emotional Satisfaction	3.65	Moderate (Lowest Score): Patients felt less supported or emotionally empathised with.
Overall Satisfaction	3.78	Moderate: Overall impression is acceptable, but not highly positive.

Source: Data Analyses, 2026

Table 9 shows that Kaura Goje PHC staff meet basic professional standards (high scores for Dignity and Communication). However, Emotional Satisfaction ($\bar{x}$ =3.65) is the weakest area. This indicates that interactions often feel respectful yet impersonal or rushed, which helps explain why overall satisfaction remains only moderate.

4.4.2 Variable Construction and Bivariate Results

This analysis formally tests the study's central hypothesis using statistical indices built from the survey data (Tables 10 and 11).

Table 10: Hypothesis Tested and Status

Hypothesis	Statement (Simplified)	Status
Null Hypothesis (H⁰)	The quality of staff treatment has no significant effect on patient satisfaction.	REJECTED
Alternative Hypothesis (H¹)	The quality of staff treatment has a strong and significant effect on patient satisfaction.	ACCEPTED

Source: Data Analyses, 2026

Table 11: Correlation between Core Psychosocial Factors

Paired Variables	Pearson (Strength)	r	p-value (Significance)
Treatment ↔ Psychosocial Well-being	0.68		<0.001
Treatment ↔ Overall Satisfaction	0.65		<0.001
Psychosocial Satisfaction ↔ Well-being ↔ Overall	0.71		<0.001

Source: Data Analyses, 2026

Interpretation: All links are strong and highly significant (p-values confirm this is not due to chance). The strongest link ($r=0.71$) is between a patient's Emotional State (Well-being) and their Final Satisfaction. This confirms that the patient's ultimate judgment is primarily emotional.

4.4.3 Multiple Regression Results (The Core Proof)

Multiple Linear Regression was used to determine which factor is the strongest independent predictor of overall satisfaction (Tables 12 and 13).

Table 12: Multiple Regression Predicting Overall Patient Satisfaction

Predictor Variable	p-value	Standardised Beta (β)	Effect Size (Cohen, 1992)
Psychosocial Well-being	<0.001	0.48	Strong Medium (Near Large)
Treatment (Respect, Privacy)	<0.001	0.35	Medium

Source: Data Analyses, 2026

Table 13: Model Fit Statistics

Model Fit Statistics	Value	Simple Interpretation
R ² (Variance Explained)	0.62	The factors explain 62% of the variation in patient satisfaction.
p-value	<0.001	The results are highly reliable and not due to chance.

Source: Data Analyses, 2026

Interpretation of Regression Results:

1. **Explanatory Power:** The model is exceptionally strong, proving that the quality of staff interaction and the resulting emotions are the dominant factors in patient satisfaction (62% explained).
2. **Primary Driver:** Psychosocial Well-being ($\beta=0.48$) is the strongest predictor. This confirms that how safe, supported, and trusted the patient *feels* is the single most critical factor driving satisfaction.
3. **Direct Staff Impact:** Treatment ($\beta=0.35$) retains a significant medium effect. This means the practitioner's direct actions (like respect and privacy) are independently important, even when accounting for the patient's emotional state.

The Null Hypothesis (H_0) is decisively REJECTED. The study establishes a robust and statistically significant relationship. The pathway to service quality is clear: High-quality treatment is the necessary action that creates positive emotional well-being, and this emotion is the primary determinant of a patient's overall satisfaction.

4.5 Discussion of Findings

This study examined the psychosocial impact of healthcare practitioners' treatment on patient satisfaction and service utilisation at the Kaura Goje Primary Health Care Centre in the

Nassarawa Local Government Area of Kano State. The findings revealed that respondents generally perceived the treatment received from healthcare practitioners positively, particularly regarding respect, courtesy, and willingness to provide care. This suggests that the facility has maintained a relatively positive practitioner-patient relationship, which is essential for effective healthcare delivery. However, the moderate overall satisfaction recorded in the study, particularly the lower ratings for emotional satisfaction, suggests that patients' psychosocial needs are not always adequately addressed during healthcare encounters. This finding supports the World Health Organisation's assertion that healthcare quality extends beyond clinical competence to encompass dignity, responsiveness, effective communication, and emotional support (World Health Organisation, 2015).

The study further revealed that healthcare practitioners' behaviour had significant emotional and social consequences for patients. Respondents who reported positive interactions with healthcare providers also reported higher levels of trust, emotional comfort, and confidence in the healthcare system. Conversely, patients who experienced poor communication or inadequate emotional support expressed feelings of frustration, anxiety, and dissatisfaction. This finding is consistent with the work of Epstein and Street (2011), who argued that patient-centred care depends largely on effective communication, mutual respect, and the ability of healthcare providers to respond to patients' emotional concerns. Similarly, Beach, Keruly, and Moore (2006) found that positive provider-patient relationships improve patient trust, treatment adherence, and overall health outcomes.

The findings also align with verified Nigerian studies on patient satisfaction and healthcare utilisation. Udonwa and Ogbonna (2012) reported that interpersonal relationships, communication quality, and provider attitudes were among the strongest determinants of patient satisfaction in healthcare facilities in South-South Nigeria. Likewise, Iliyasu et al. (2010) found that patients in Northern Nigeria who perceived healthcare workers as respectful, caring, and responsive reported significantly higher satisfaction levels than those who experienced poor interpersonal interactions. The similarity between these studies and the present research suggests that interpersonal care remains a critical determinant of patient satisfaction across different geopolitical healthcare settings in Nigeria.

A major finding of the study was the statistically significant relationship between healthcare practitioners' treatment and patient satisfaction. The Multiple Linear Regression analysis demonstrated that psychosocial factors explained 62% of the variation in patient satisfaction ($R^2 = 0.62$), with psychosocial well-being emerging as the strongest predictor. This result indicates that patients' emotional and social experiences during healthcare encounters substantially influence their overall assessment of healthcare quality. The finding is consistent with Batbaatar et al. (2017), whose systematic review identified communication, empathy, provider responsiveness, and interpersonal relationships as major determinants of patient satisfaction across healthcare settings. The result, therefore, confirms that healthcare quality cannot be adequately assessed solely through clinical outcomes or facility resources but must also consider patients' psychosocial experiences.

The study was guided by Donabedian's (1966) Structure-Process-Outcome model of healthcare quality, which posits that care quality is determined by the interplay of structural conditions (resources, staffing, infrastructure), process elements (interpersonal interactions, clinical procedures), and patient outcomes (satisfaction, well-being, utilisation behaviour). Patients who perceive healthcare practitioners as supportive, respectful, and empathetic are more likely to develop positive attitudes towards healthcare services, comply

with treatment recommendations, and continue utilising healthcare facilities. In contrast, negative experiences may discourage future healthcare utilisation and reduce confidence in formal healthcare institutions. The findings therefore demonstrate that psychosocial experiences constitute an important pathway through which healthcare-seeking behaviour is shaped.

The qualitative findings revealed that healthcare practitioners operate under challenging conditions characterised by inadequate staffing, heavy workloads, infrastructural limitations, and periodic shortages of essential medicines. Participants indicated that these challenges contribute to occupational stress and may reduce the amount of time and attention practitioners can devote to individual patients. This finding is consistent with Kruk et al. (2018), who observed that resource constraints and workforce shortages remain significant barriers to the delivery of quality healthcare in many low- and middle-income countries. Similarly, Nwanaji-Enwerem et al. (2022), in their review of patient satisfaction under Nigeria's National Health Insurance Scheme, identified provider workload, waiting time, and service delivery challenges as recurring factors affecting patient experiences and satisfaction.

The findings suggest that the quality of practitioner-patient interactions has implications not only for patient satisfaction but also for healthcare utilisation. Respondents who reported positive treatment experiences expressed greater willingness to revisit the facility and recommend its services to others. This finding supports previous studies that identified trust, respectful treatment, and effective communication as important drivers of healthcare utilisation and continuity of care. Patients who perceive healthcare encounters positively are more likely to seek care promptly, adhere to treatment recommendations, and maintain long-term engagement with healthcare services (Epstein & Street, 2011; Olamuyiwa & Adeniji, 2021). This finding is also consistent with Nwanaji-Enwerem et al. (2022), whose systematic review of patient satisfaction under Nigeria's National Health Insurance Scheme identified provider attitude, communication quality, waiting time, and service responsiveness as major determinants of patient experiences.

Overall, the findings suggest that a complex interaction of interpersonal, psychosocial, and institutional factors influences patient satisfaction and healthcare utilisation. While respondents generally reported positive treatment experiences, the lower ratings for emotional support and communication indicate important areas requiring improvement. The findings therefore reinforce the need for healthcare managers and policymakers to strengthen patient-centred care through improved communication skills, empathy training, supportive supervision, and adequate resource provision. Ultimately, the study demonstrates that the psychosocial dimensions of healthcare are fundamental determinants of patient satisfaction, trust, and continued utilisation of healthcare services.

5. CONCLUSION OF THE STUDY

This study demonstrates that the treatment patients receive from healthcare practitioners at Kaura Goje Primary Health Care Centre has a clear and measurable psychosocial impact on their emotional well-being, satisfaction, and utilisation behaviour. The quantitative evidence confirms that practitioner treatment quality and psychosocial well-being together account for a substantial proportion of the variance in overall patient satisfaction, establishing a strong and statistically significant relationship between interpersonal care and patient outcomes. Respect, privacy, communication clarity, and emotional support emerged as the strongest dimensions shaping the patient experience. At the same time, structural constraints—such as

drug stock-outs, understaffing, and long waiting times—undermine satisfaction and discourage repeat visits. The findings also show demographic differences in satisfaction patterns, particularly across gender, age, education, and occupation, highlighting the importance of tailored, socially sensitive care delivery.

Overall, the study concludes that improving psychosocial interaction within PHCs is not an optional enhancement to clinical practice but a core determinant of trust, loyalty, and effective healthcare utilisation. Strengthening empathetic communication, reducing emotional strain on patients, and addressing material shortages will significantly enhance patient satisfaction and improve public health outcomes in rural Nigerian settings. The research, therefore, provides strong empirical justification for integrating psychosocial competencies into healthcare training, policy development, and PHC management reform in Nigeria.

6. RECOMMENDATIONS

This study provides clear evidence that psychosocial treatment variables significantly shape patient satisfaction and service utilisation in primary healthcare settings. To translate these findings into practice, the following recommendations are proposed:

1. **Strengthen Human Resources and Workflow Efficiency:** Recruitment of additional frontline staff (particularly nurses and Community Health Extension Workers [CHEWs]) is needed to reduce workload pressure and enable practitioners to provide attentive, patient-centred care. Improved task distribution and workflow management will further increase consultation time, thereby enhancing the quality of interpersonal interactions.
2. **Prioritise Drug Availability and Supply Chain Stability:** Ensuring consistent availability of essential medicines—especially during first patient encounters—is crucial for building service confidence and preventing the "test-and-exit" utilisation pattern identified in the study. Strengthened supply chain supervision and stock-monitoring systems are recommended.
3. **Integrate Psychosocial Skills into Routine Practice:** Structured training on empathetic communication, dignity preservation, and active emotional support should be institutionalised. These competencies directly improve psychosocial well-being and predict higher satisfaction levels.
4. **Establish Continuous Patient Feedback Mechanisms:** Introducing anonymous, routine feedback systems at the PHC level—such as exit surveys or suggestion boxes—will provide low-cost insight into the patient experience, helping managers detect relational issues early and guide quality improvement efforts.
5. **Design Targeted Interventions for Vulnerable Patient Groups:** Given variations across gender, age, education, and occupation, interventions should be tailored to specific patient categories. Older adults and economically vulnerable groups require enhanced psychosocial support and more flexible access to services to improve satisfaction.
6. **Embed Psychosocial Standards into Policy and Governance:** Primary healthcare governance frameworks should explicitly include psychosocial quality indicators—such as communication benchmarks and emotional care metrics. Doing so will formalise expectations and hold facilities accountable to people-centred care standards.

REFERENCES

- Abdulkarim, I. A., Danbuzu, L. A. S., Dardau, H., & Umar, A. A. (2017). Spatial distribution of healthcare facilities in Bichi Local Government Area, Kano State, Nigeria. *Katsina Journal of Natural and Applied Sciences*, 6(1), 89–97.
- Abubakar, I., Dalglish, S. L., Angell, B., Borghi, J., Abayomi, A., Piot, P., & Bassey, E. (2022). The Lancet Nigeria Commission: Investing in health and the future of the nation. *The Lancet*, 399(10329), 1155–1200. [https://doi.org/10.1016/S0140-6736\(21\)02488-0](https://doi.org/10.1016/S0140-6736(21)02488-0)
- Batbaatar, E., Dorjdagva, J., Luvsannyam, A., Savino, M. M., & Amenta, P. (2017). Determinants of patient satisfaction: A systematic review. *Perspectives in Public Health*, 137(2), 89–101. <https://doi.org/10.1177/1757913916634136>
- Beach, M. C., Keruly, J., & Moore, R. D. (2006). Is the quality of the patient-provider relationship associated with better adherence and health outcomes for patients with HIV? *Journal of General Internal Medicine*, 21(6), 661–665. <https://doi.org/10.1111/j.1525-1497.2006.00399.x>
- Birhanu, Z., Woldie, M. K., Assefa, T., & Morankar, S. (2011). Determinants of patient enablement at primary health care centres in central Ethiopia: A cross-sectional study. *African Journal of Primary Health Care & Family Medicine*, 3(1), a195. <https://doi.org/10.4102/phcfm.v3i1.195>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Cohen, J. (1992). A power primer. *Psychological Bulletin*, 112(1), 155–159. <https://doi.org/10.1037/0033-2909.112.1.155>
- Cubaka, V. K., Schriver, M., Kayitare, J. B., Cotton, P., Maindal, H. T., Nyirazinyoye, L., & Kallestrup, P. (2018). 'He should feel your pain': Patient insights on patient-provider communication in Rwanda. *African Journal of Primary Health Care & Family Medicine*, 10(1), a1514. <https://doi.org/10.4102/phcfm.v10i1.1514>
- Danbuzu, L. A. S., Yaro, N. A., Abdulkarim, I. A., Adamu, Y. M., Bako, A. T., Ahmad, N. A., Zakari, B., & Yero, B. S. (2026). The geography of neglect: Structural violence and rural healthcare inequities in LMICs. *FUDMA International Journal of Social Sciences*, 6(1), 358–380.
- Donabedian, A. (1966). Evaluating the quality of medical care. *The Milbank Memorial Fund Quarterly*, 44(3), 166–206. <https://doi.org/10.2307/3348969>
- Dwamena, F., Holmes-Rovner, M., Gaulden, C. M., Jorgenson, S., Sadigh, G., Sikorskii, A., Lewin, S., Smith, R. C., Coffey, J., Olomu, A., & Beasley, M. (2012). Interventions for providers to promote a patient-centred approach in clinical consultations. *Cochrane Database of Systematic Reviews*, 2012(12), CD003267. <https://doi.org/10.1002/14651858.CD003267.pub2>
- Epstein, R. M., & Street, R. L. (2011). The values and value of patient-centred care. *Annals of Family Medicine*, 9(2), 100–108. <https://doi.org/10.1370/afm.1239>

- Iliyasu, Z., Abubakar, I. S., Abubakar, S., Lawan, U. M., & Gajida, A. U. (2010). Patients' satisfaction with services obtained from Aminu Kano Teaching Hospital, Kano, Northern Nigeria. *Nigerian Journal of Clinical Practice*, 13(4), 371–378.
- Kano State Ministry of Health. (2024). *Annual health sector performance report*. Kano State Ministry of Health.
- Kruk, M. E., Gage, A. D., Arsenault, C., Jordan, K., Leslie, H. H., Roder-DeWan, S., Adeyi, O., Barker, P., Daelmans, B., Doubova, S. V., English, M., Elorrio, E. G., Guanais, F., Gureje, O., Hirschhorn, L. R., Jiang, L., Kelley, E., Lemango, E. T., Liljestrand, J., ... Pate, M. (2018). High-quality health systems in the Sustainable Development Goals era: Time for a revolution. *The Lancet Global Health*, 6(11), e1196–e1252. [https://doi.org/10.1016/S2214-109X\(18\)30386-3](https://doi.org/10.1016/S2214-109X(18)30386-3)
- Lateef, M. A., & Mhlongo, E. M. (2022). A qualitative study on patient-centred care and perceptions of nurses regarding primary healthcare facilities in Nigeria. *Cost Effectiveness and Resource Allocation*, 20(1), Article 40. <https://doi.org/10.1186/s12962-022-00375-y>
- National Population Commission. (2023). *Population projection report for Kano State*. National Population Commission.
- Nwanaji-Enwerem, O., Bain, P., Marks, Z., Nwanaji-Enwerem, P., Staton, C. A., Olufadeji, A., & Nwanaji-Enwerem, J. C. (2022). Patient satisfaction with the Nigerian National Health Insurance Scheme, two decades since establishment: A systematic review and recommendations for improvement. *African Journal of Primary Health Care & Family Medicine*, 14(1), a3130. <https://doi.org/10.4102/phcfm.v14i1.3130>
- Oleribe, O. O., Momoh, J., Uzochukwu, B. S. C., Mbofana, F., Adebisi, A., Barbera, T., Williams, R., & Taylor-Robinson, S. D. (2019). Identifying key challenges facing healthcare systems in Africa and potential solutions. *International Journal of General Medicine*, 12, 395–403. <https://doi.org/10.2147/IJGM.S223882>
- Olamuyiwa, T. E., & Adeniji, F. O. (2021). Patient's satisfaction with quality of care at a National Health Insurance clinic at a tertiary centre, South-South Nigeria. *Journal of Patient Experience*, 8. <https://doi.org/10.1177/2374373520981471>
- Rosenstock, I. M. (1974). The Health Belief Model and Preventive Health Behaviour. *Health Education Monographs*, 2(4), 354–386. <https://doi.org/10.1177/109019817400200405>
- Udonwa, N. E., & Ogbonna, U. K. (2012). Patient-related factors influencing satisfaction in the patient-provider encounter in South-South Nigeria. *South African Family Practice*, 54(3), 260–265. <https://doi.org/10.1080/20786204.2012.10874223>
- World Health Organisation. (2015). *WHO global strategy on people-centred and integrated health services: Interim report*. World Health Organisation. <https://iris.who.int/handle/10665/155002>