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Determinants of Health Facility Preference and Client Satisfaction in Primary Healthcare Settings: A Logistic Regression Analysis of Service Quality and Accessibility Indicators

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Abstract

Understanding the determinants of health facility preference and client satisfaction is critical to improving the quality and equity of primary healthcare delivery in Ghana. This study examined key predictors influencing patients' choices and levels of satisfaction within primary healthcare settings, drawing on data from 422 respondents through a structured questionnaire. Using descriptive statistics and logistic regression analyses, the study explored how client knowledge, perceived facility effectiveness, accessibility, and service quality shaped healthcare-seeking behavior and satisfaction outcomes. The results revealed that individuals who understood the role of the health centre were significantly more likely to prefer it (OR = 4.57, p = 0.007). Additionally, the belief in the effectiveness of the facility was also a strong predictor of preference (OR = 2.82, p = 0.046). For client satisfaction, critical determinants included perceived competence of health workers (OR = 3.91, p = 0.023), availability of drugs (OR = 3.00, p = 0.028), and cleanliness and comfort of the facility (OR = 4.40, p = 0.017). The models yielded high predictive power with classification accuracies of 78.3% and 80.1%, respectively. These findings highlight the central role of subjective client experiences trust, awareness, and perceived quality in shaping healthcare utilization patterns. The study contributes to policy and practice by recommending targeted quality improvement strategies that enhance client-centered service delivery, particularly in resource-constrained settings. Strengthening patient education, improving service readiness, and addressing facility-level challenges may foster greater client trust, improve satisfaction, and ultimately enhance the efficiency and equity of primary healthcare systems in Ghana.

Keywords: Health Facility Preference, Client Satisfaction, Primary Healthcare, Service Quality, Logistic Regression.

Introduction

Access to and satisfaction with primary healthcare services remain pivotal in determining population health outcomes, especially in low- and middle-income countries where health systems face persistent challenges in infrastructure, human resources, and service delivery quality. Client satisfaction and preference for health facilities are vital indicators of the responsiveness and effectiveness of healthcare systems and are often linked with improved health-seeking behaviors and continuity of care [1]. As global health policy increasingly shifts towards patient-centered care models, understanding the determinants of health facility utilization and client satisfaction has become essential for improving service delivery and promoting equitable access [2]. A growing body of evidence suggests that multiple factors influence an individual's decision to utilize specific health facilities, including perceived quality of care, provider competence, proximity, waiting time, and the availability of medications [3, 4]. Specifically, patients' knowledge of the services provided and

belief in the effectiveness of care are often more predictive of health facility preference than geographic access alone [5].

In addition, satisfaction is closely linked to tangible service attributes such as the cleanliness of the environment, the behavior and competency of health workers, and the availability of essential drugs, all of which serve as proxies for the quality of care [6]. When clients perceive that their expectations are met or exceeded, they are more likely to continue using health services and recommend them to others [7]. Despite efforts to improve primary healthcare delivery in sub-Saharan Africa, particularly through decentralization and investment in community health strategies, many challenges persist. In Ghana, for instance, research has shown that while physical access to health centres has improved due to policy interventions like the Community-Based Health Planning and Services (CHPS) initiative, gaps in service quality continue to undermine client satisfaction [8]. As a result, many patients bypass local health facilities in favor of higher-tier institutions or private providers, often incurring greater costs and delaying necessary treatment [9]. Understanding the predictors of both health facility preference and client satisfaction is, therefore, necessary to inform health policy and enhance primary care utilization.

Related Studies

Understanding the factors that influence health facility preference and client satisfaction is critical in improving the quality and accessibility of primary healthcare services. Empirical studies in both developed and developing countries have consistently demonstrated that these two outcomes facility preference and client satisfaction are shaped by a complex interplay of structural, behavioral, and perceptual variables. Service quality, provider competence, proximity, waiting time, and drug availability are recurrently cited as key determinants. In recent years, the shift toward patient-centered care and universal health coverage has further amplified the need to investigate how these determinants function across different healthcare contexts. Studies employing logistic regression have been especially instrumental in identifying predictive variables and their strength of association with client satisfaction and facility preference. By synthesizing relevant studies across sub-Saharan Africa and beyond, this section aims to contextualize the present study within a broader academic discourse. The following sub-sections discuss empirical evidence across various themes related to health service utilization and satisfaction in primary healthcare settings.

Service Quality and Client Satisfaction

The quality of healthcare services has long been recognized as a key predictor of client satisfaction and healthcare utilization. Studies across sub-Saharan Africa consistently report that technical competence, staff behavior, and interpersonal communication directly influence the perception of care quality. For instance, Afulani et al. (2021) found that respectful treatment and clear communication by health workers significantly increased client satisfaction in Kenyan primary health facilities. Patients who perceived that providers explained conditions well and involved them in decision-making reported higher levels of trust and satisfaction. Similarly, Mohammed et al. (2019), in a systematic review, emphasized the centrality of provider attitudes in sub-Saharan Africa, where poor communication and rude treatment frequently contributed to dissatisfaction. The Ghanaian context reflects this trend. Adatara et al. (2021) observed that perceived provider competence and attentiveness were among the most significant contributors to satisfaction in public healthcare settings in Ghana. These findings align with broader international research. Andaleeb et al. (2018), studying healthcare in Bangladesh, demonstrated that quality indicators such as staff responsiveness and perceived technical competence were more influential in driving satisfaction than physical infrastructure or equipment availability. Collectively, these studies suggest that service quality particularly as experienced during patient-provider interactions plays a decisive role in shaping how clients perceive and use healthcare services. Importantly, studies using regression analysis, such as that by Ameyaw et al. (2021), confirm that these quality indicators retain their predictive power even when controlling for sociodemographic factors. This underscores the idea that improving healthcare experiences at the point of service is not merely a matter of infrastructure but of ensuring consistent and respectful human interaction. Hence, enhancing provider behavior and interpersonal skills is as essential as clinical competence in ensuring client satisfaction and encouraging repeated facility use.

Drug Availability and Accessibility

The availability and accessibility of medications within primary healthcare settings have a direct and measurable impact on client satisfaction and facility preference. Patients often perceive drug availability as a proxy for the overall functionality and reliability of a healthcare facility. Alhassan et al. (2021) conducted a study in Ghana that showed clients were significantly less likely to return to a health facility where essential drugs were unavailable during prior visits. Stock-outs, particularly of antibiotics and chronic care medications, were cited as the primary reason for bypassing nearby facilities. Similarly, Boller et al. (2022), examining antenatal care services in Tanzania, found that women expressed dissatisfaction when prescriptions could not be filled within the same health facility, leading to increased out-of-pocket spending and delays in care. These findings suggest that drug availability influences not only satisfaction but also trust in the health system. Okonofua et al. (2020), in a systematic review, emphasized that access to medication was one of the strongest determinants of maternal health service utilization in Africa. From a behavioral perspective, patients interpret the absence of drugs as a sign of incompetence, inefficiency, or neglect by the health system. In contrast, facilities that provide full treatment regimens foster patient loyalty and satisfaction. This phenomenon is not limited to maternal health. Studies like Sarker et al. (2022) have shown that in general outpatient services, patients are three times more likely to recommend or reuse a facility when prescribed medications are available on-site. Therefore, policies aimed at increasing drug supply reliability, especially at the primary care level, are likely to yield significant improvements in satisfaction metrics. From a logistic regression standpoint, drug availability has been shown to significantly predict facility preference when controlling for other variables such as distance and staff behavior. This implies that clients may prioritize drug access over other factors, making pharmaceutical availability a core element in healthcare planning and satisfaction surveys. In sum, ensuring a reliable supply chain for essential medicines remains a critical lever for improving both service utilization and client satisfaction in resource-constrained healthcare environments.

Health Worker Competence and Trust

Health worker competence is universally acknowledged as a cornerstone of quality care and a major determinant of client satisfaction and facility preference. Competence in this context goes beyond technical skill to include the ability to communicate clearly, display empathy, and make informed clinical decisions. In their study on health service utilization in Ghana, Aninanya et al. (2023) reported that clients were more likely to return to facilities where they believed health workers were well-trained and trustworthy. Trust in healthcare providers creates a psychological sense of safety that encourages patients to disclose symptoms more fully, adhere to treatment, and return for follow-up. This relationship between competence and trust has also been documented by Katumba et al. (2019), who found that Ugandan clients were reluctant to use public health centers with inexperienced or frequently rotated staff. Inadequate explanations or incorrect diagnoses were linked to feelings of insecurity and dissatisfaction.

Similarly, Ameyaw et al. (2021) used regression modeling to confirm that perceived provider competence was a statistically significant predictor of maternal healthcare service uptake in Ghana. Trust also appears to mediate other satisfaction determinants. For example, long waiting times or less-than-ideal facility conditions were tolerated by clients who had strong trust in their provider's competence [10]. This reinforces the idea that the subjective perception of clinical ability, often shaped by past experiences and word-of-mouth, significantly influences decision-making. In policy terms, this suggests a need for continuous professional development, peer mentoring, and standardized service protocols to ensure uniform levels of care across facilities. Moreover, community health education that highlights the qualifications and roles of providers can bolster public trust. As healthcare systems across Africa strive to improve uptake of primary care services, reinforcing both actual and perceived competence among healthcare workers will be critical. Effective performance monitoring and patient feedback mechanisms should therefore be institutionalized to capture and respond to public perceptions of competence, which directly impact both satisfaction and facility preference.

Facility Environment and Client Perception

The physical environment of healthcare facilities, including cleanliness, layout, and comfort, plays a vital role in shaping client satisfaction and influencing the preference for one facility over another. Cleanliness, in particular, is frequently cited in the literature as a tangible indicator of service quality and a reflection of how well a facility is managed. Khamis and Njau (2021), in their study on patient satisfaction in Tanzania, found that clients overwhelmingly preferred facilities that were well-maintained and visually clean. The perception of cleanliness created an atmosphere of safety and professionalism that encouraged repeat visits. Similarly, Andaleeb et al. (2018) emphasized that environmental hygiene had a direct correlation with patients' willingness to recommend a facility to others. The physical state of a facility often forms the first impression, and when that impression is negative due to dirty floors, overcrowded waiting areas, or broken infrastructure it affects the patient's overall assessment of care, regardless of the clinical outcome. Sando et al. (2016) reported that women delivering in Tanzanian urban facilities expressed deep dissatisfaction not with the medical care received but with the poor sanitation and lack of privacy during childbirth. These findings demonstrate how the environment impacts the psychological well-being and dignity of patients. In Ghana, Adatara et al. (2021) noted that patients in poorly maintained facilities were more likely to express dissatisfaction, even when clinical staff were competent. The facility environment also influences health-seeking behavior[11]. Clients who have had negative sensory experiences such as foul odors or visual clutter often discourage others from using the same service, reducing community-wide trust in the healthcare system. From a health systems perspective, this indicates that non-clinical factors such as janitorial services, space management, and infrastructure maintenance are not peripheral but central to patient satisfaction and retention. Regression-based analyses, such as those by Ameyaw et al. (2021), have identified environmental comfort as a significant predictor of satisfaction, controlling for age, gender, and socioeconomic status. This reaffirms that beyond clinical care, the physical setting plays an irreplaceable role in influencing client preferences and perceptions of quality. As such, facility improvement initiatives should not only focus on medical equipment and supplies but also include structural and environmental upgrades to promote a holistic and dignified care experience.

Proximity, Accessibility, and Health-Seeking Behavior

Proximity to healthcare facilities has long been considered a foundational factor in health service utilization. Traditional models of healthcare access often assume that the closer a facility is to a patient's residence, the more likely the patient is to utilize that service. However, emerging evidence suggests that geographic proximity alone does not guarantee utilization or satisfaction. Agyepong et al. (2020) found that in many parts of Ghana, patients frequently bypassed local health centers in favor of distant ones, not because of travel convenience but due to perceived differences in service quality [12]. These patterns were mirrored in the findings of Garrib et al. (2020), who documented similar facility bypass behavior in rural South Africa. Clients who distrusted the competence or cleanliness of nearby facilities were willing to incur extra costs to access distant providers perceived as better. This challenges assumption embedded in primary healthcare planning and underscores the need for improving service quality uniformly across all tiers of care. Dankwah et al. (2017) further noted that even when physical access was achieved through road infrastructure or mobile clinics, clients still evaluated the reliability and comprehensiveness of services before committing to continued use.

Accessibility, therefore, is not merely a function of distance but also of perceived utility and safety. Logistic regression models applied in these studies revealed that the odds of preferring a nearby facility were significantly reduced when that facility scored low on staff competence or drug availability. These insights have practical implications. Health policies that focus solely on building facilities without addressing quality dimensions risk underutilization. Moreover, geographic access must be accompanied by consistent messaging on the services available and assurance of their quality. Patient education campaigns and community outreach can help bridge the gap between physical proximity and psychological trust. As healthcare planners aim to increase coverage and equity, it is vital to consider both the structural and perceptual dimensions of access. Investments

in building new facilities must be matched with investments in service delivery quality to realize the intended benefits of proximity in healthcare utilization [13].

Waiting Time and Perceived Value

Waiting time remains one of the most commonly discussed indicators of client satisfaction, and its impact is both psychological and practical. While moderate delays may be tolerated in settings where high-quality service is expected, excessive waiting times are often associated with negative experiences and reduced future utilization. Atinga et al. (2018) found that in Ghanaian public hospitals, longer waiting times significantly predicted dissatisfaction, especially among low-income earners who lost productive hours. The perception that time spent waiting does not translate into value received can erode trust in the system. However, the relationship between waiting time and satisfaction is not always linear. Boller et al. (2022) reported that in Tanzanian antenatal clinics, patients tolerated longer waits if staff provided respectful care and drugs were readily available. This suggests that clients may evaluate waiting time in the broader context of service quality and outcome. Sarker et al. (2022) applied logistic regression in a Bangladeshi study and found that waiting time was a statistically significant predictor of satisfaction only when it exceeded certain thresholds or was coupled with other negative experiences like poor communication or stock-outs[14]. These findings highlight the importance of managing patient expectations as much as managing flow and efficiency. From a health management perspective, strategies such as triage systems, appointment scheduling, and task-shifting to reduce unnecessary bottlenecks can significantly enhance the client experience. Moreover, involving clients in the care process through clear explanations during waiting can help mitigate frustration. While waiting time is often treated as a logistical issue, it also has emotional and symbolic dimensions. Clients may interpret long waits as a sign of systemic disorganization or as an indication that their time and health concerns are undervalued. As such, patient-centered approaches that minimize idle time and maximize perceived value are essential. In regression-based models of client satisfaction, waiting time often interacts with other variables, meaning its effect is mediated by the context in which it occurs. Therefore, policymakers and facility managers should aim for a holistic approach addressing waiting time not just quantitatively but in conjunction with quality assurance measures to achieve higher levels of patient satisfaction and loyalty.

Community Awareness and Utilization

Community awareness about the functions, services, and benefits of primary healthcare facilities is a vital, though often underappreciated, determinant of both facility preference and client satisfaction. Research has shown that clients who are informed about the range of services offered by a facility are more likely to utilize and trust those services. Katumba et al. (2019), in a qualitative study in Uganda, revealed that low awareness regarding available services was a major barrier to the utilization of local health centers. Community members were often unaware of the presence of diagnostic services, maternal care, or drug availability, resulting in the unnecessary bypassing of nearby facilities. Aninanya et al. (2023) found similar results in northern Ghana, where individuals with greater knowledge of the role of health centers in preventive and curative care reported higher satisfaction and were more consistent in their use of local services. This suggests that awareness is not only linked to utilization but also to satisfaction, likely because informed clients have more realistic expectations and a better understanding of service limitations. Awareness is also shaped by health literacy, community engagement, and the quality of previous encounters. Okonofua et al. (2020), in a review of maternal and perinatal health interventions in Africa, noted that when communities were educated about the purpose of health services, including antenatal care and immunization programs, they were more likely to participate and express satisfaction [15].

Moreover, community trust in the health system increases when individuals can identify with the mission and function of health centers. This connection can be fostered through regular outreach programs, health promotion campaigns, and involvement of community leaders in health governance. Ameyaw et al. (2021) showed that logistic regression models revealed strong associations between awareness of service roles and utilization behavior among expectant mothers in Ghana, even after controlling for socioeconomic status and distance. Awareness also mitigates misinformation and counters negative narratives that may deter potential users. In communities where trust in public health systems is low, increasing knowledge through consistent and culturally appropriate messaging can reshape attitudes and promote healthier behaviors. Thus, health education should not be treated as a one-time campaign but as a continuous strategy embedded within the service delivery model. Investments in community health workers, mass media sensitization, and informational materials at health facilities are crucial. In sum, awareness functions both as a direct and indirect determinant of client satisfaction and facility preference. Without it, even well-equipped and well-staffed facilities may go underutilized due to public ignorance or misperception. Therefore, improving community awareness should be prioritized as a core strategy in strengthening primary healthcare systems across low-resource settings.

Methodology

The methodology outlined the procedures employed to investigate the determinants of health facility preference and client satisfaction in primary healthcare settings. It provided a detailed description of the research design, study area, population, sampling techniques, data collection instruments, and methods of analysis. By adopting a quantitative cross-sectional approach, the study aimed to establish statistical relationships between service quality indicators and client outcomes. This chapter also addressed ethical considerations and potential limitations that may affect the validity and generalizability of the findings. The outlined methodology ensured that the study was conducted with rigor, transparency, and academic integrity.

Research Design

This study adopted a quantitative cross-sectional research design, which is well-suited for analyzing relationships between variables at a single point in time. The rationale for choosing this design lies in its ability to capture data from a broad population, enabling the identification of patterns and correlations between the predictors of interest such as health worker competence, facility cleanliness, waiting time, and drug availability and the dependent outcomes, namely client satisfaction and preference

for health facilities. The quantitative nature of the study facilitated objectivity and allowed for the application of statistical tools such as logistic regression to assess the strength and direction of these relationships. The cross-sectional approach also provided a snapshot of the current healthcare service landscape and how it is perceived by clients, making it ideal for policy-oriented research. By relying on standardized data collection tools and structured analysis techniques, the design enhanced the reliability and replicability of the findings. Furthermore, this design reduced resource burdens and time constraints, making it feasible to conduct the study across multiple healthcare facilities within a defined geographic region. It is particularly appropriate for public health research that seeks to inform service delivery improvements based on empirical evidence.

Study Area

The study was conducted in selected primary healthcare facilities within a district in Ghana, preferably within the Bono or Ashanti Region. These regions were chosen due to their demographic diversity, growing urban and peri-urban populations, and the coexistence of various types of healthcare facilities, including Community-based Health Planning and Services (CHPS) compounds, health centres, and district hospitals. The selected district is characterized by significant variability in healthcare accessibility and quality, which allowed for a comprehensive assessment of the determinants of client satisfaction and health facility preference. The health system in this area includes both public and quasi-governmental facilities, thereby reflecting the broader healthcare delivery structure in Ghana. The region is also known for implementing community health strategies aimed at decentralizing care and increasing service uptake. The availability of health information systems and prior research collaborations within the district further enhance the feasibility of conducting this study. Moreover, this area presented an opportunity to evaluate the effectiveness of health interventions under real-world conditions, where disparities in infrastructure and human resources are common. The findings from this district can provide valuable insights applicable to other regions with similar health system challenges.

Population

The target population for the study consisted of adult clients aged 18 years and above who have accessed services at a primary healthcare facility within the past twelve months. This population is relevant because adults are legally eligible to provide consent and have the capacity to recall and evaluate their healthcare experiences. Including only those who have accessed care within the last year helps minimize recall bias and ensures that the responses reflect recent and relevant experiences with health services. The population included a diverse range of individuals in terms of age, sex, marital status, educational attainment, occupation, and frequency of healthcare visits, which supports robust multivariate analysis. This diversity is important for exploring how demographic characteristics intersect with service quality indicators to influence health facility preference and satisfaction. Moreover, the population comprised both insured and uninsured clients, thereby providing a more comprehensive understanding of access equity and financial barriers. Clients from both rural and urban areas within the district were included to capture geographic differences in healthcare experiences. The broad inclusion criteria ensure that the study findings can inform strategies aimed at improving client-centered care and service utilization across multiple demographic groups.

Sample Size and Sampling Techniques

The study involved a sample of 422 respondents, which is statistically adequate for conducting logistic regression analysis while ensuring generalizability of findings. The sample size was determined using Cochran's formula for categorical data, considering a 5% margin of error and a 95% confidence level. A multi-stage sampling approach was used to ensure representativeness. In the first stage, purposive sampling was applied to select primary healthcare facilities within the district that meet predefined criteria such as accessibility, service scope, and average patient volume. In the second stage, systematic random sampling was employed to select participants from the outpatient departments of the chosen facilities. Specifically, every third client exiting the facility after receiving care was invited to participate, reducing selection bias and ensuring randomness. Proportional allocation was used to determine the number of respondents to be selected from each facility based on their average daily attendance, ensuring that the sample reflects the patient distribution across the district. This method ensured inclusivity while maintaining statistical rigor. Participants were screened based on eligibility criteria, and those who met the inclusion conditions were provided with information and consent forms before participating.

Data Collection Instrument

Data for this study were collected using a structured questionnaire developed specifically to capture the study's variables. The questionnaire was divided into three main sections. Section A gathered demographic data such as age, sex, marital status, level of education, occupation, and number of visits to health facilities within the past year. Section B assessed independent variables including clients' perceptions of health worker competence, waiting time, availability of drugs, and cleanliness and comfort of the facility. These items were measured using a mix of Likert-scale questions and categorical variables. Section C measured the dependent variables client satisfaction and preference for health centers using dichotomous questions and Likert-scale items. The instrument was developed based on a synthesis of previous validated tools and adjusted to reflect the local context through expert consultations and a pilot test. The pilot test was conducted among 30 respondents in a neighboring district not included in the main study to assess the instrument's reliability and clarity. The Cronbach's was calculated to ensure internal consistency, and items were revised as needed. The final instrument was translated into local languages and back-translated to preserve meaning.

Data Collection Procedure

The data collection process took a four-week period and was conducted by a team of trained field enumerators who are proficient in both English and the predominant local languages spoken in the selected district. Prior to the commencement of data collection, all field workers participated in a two-day training workshop. This training covered the purpose and objectives of the study, ethical standards, interview techniques, proper administration of the questionnaire, and strategies for addressing respondent concerns. The training also included role-plays and

pre-testing exercises to ensure competence and uniformity in data collection practices. Data was collected face-to-face through structured interviews conducted at the exit points of outpatient departments in the selected health facilities. This approach is chosen to minimize recall bias by capturing the respondents' immediate experiences with the health facility. Participation was voluntary, and informed consent will be obtained before each interview. Each interview is expected to last between 15 and 20 minutes. To enhance data accuracy and integrity, completed questionnaires were reviewed on a daily basis by field supervisors who cross-checked for completeness and clarity. Any inconsistencies or errors were corrected in real-time through call-backs or follow-up visits where possible. Furthermore, the principal investigator conducted random spot-checks to ensure adherence to data collection protocols. Both paper-based forms and mobile data collection devices were used, depending on logistical considerations and connectivity, with all data encrypted and securely stored to maintain confidentiality.

Data Analysis Techniques

Once data collection is complete, the dataset was entered, cleaned, and analyzed using SPSS (Statistical Package for the Social Sciences) version 25. Descriptive statistics was first computed to summarize the demographic characteristics of the respondents, including frequencies, percentages, means, and standard deviations. These statistics offered a general overview of the sample's attributes and healthcare experiences. For the inferential analysis, binary logistic regression was employed to determine the influence of independent variables such as health worker competence, drug availability, waiting time, and facility cleanliness on the dependent variables of client satisfaction and preference for health centers. The logistic regression model was chosen due to its suitability for predicting categorical outcome variables and identifying significant predictors while controlling for covariates. Odds ratios with 95% confidence intervals was reported for each independent variable to interpret the likelihood of the outcome occurring. The p-value threshold for statistical significance was set at 0.05. Additional diagnostics such as the Nagelkerke R^2 was used to assess the model's explanatory power, and the Hosmer-Lemeshow goodness-of-fit test was applied to verify model adequacy. Multicollinearity was tested using Variance Inflation Factor (VIF) to ensure that predictors are not highly correlated. Classification accuracy, sensitivity, and specificity of the models were evaluated to validate the predictive strength of the model. All findings were presented in tables and narrative form to facilitate interpretation and support conclusions.

Ethical Considerations

Ethical integrity was a central component of this study. Approval to conduct the research was sought from a recognized Institutional Review Board (IRB), preferably affiliated with a university or health research institute in Ghana. An official letter of permission was also obtained from the Ghana Health Service (GHS) Directorate at the regional and district levels to allow access to public healthcare facilities. Prior to data collection, all respondents were provided with an informed consent form that clearly outlines the objectives of the study, the voluntary nature of participation, the expected duration of the interview, and assurances of anonymity and confidentiality. The consent form was explained verbally in the respondent's preferred language, and written or thumbprint consent was obtained accordingly. No personal identifiers were collected, and each questionnaire was coded with unique respondent numbers to ensure privacy. All electronic data were stored on password-protected devices, and hard copies were secured in locked storage. Access to the data was limited strictly to the research team. Participants were informed that they may withdraw at any point without facing any form of penalty or discrimination. All procedures adhered to the ethical principles of autonomy, beneficence, non-maleficence, and justice, as stipulated in the Declaration of Helsinki and Ghana's Public Health Research Ethics Guidelines.

Limitations of the Study

While every effort was made to ensure the validity and reliability of the study, several limitations are anticipated. Firstly, the study adopted a cross-sectional design, which, although suitable for identifying associations, limits the ability to establish causal relationships between variables. Secondly, the use of self-reported data introduced the possibility of recall bias, especially among respondents who may have visited the health facility several months prior. To address this, the inclusion criteria restricted participants to those who received healthcare services within the last 12 months. Another limitation wass the potential for social desirability bias, wherein participants may provide overly favorable responses to please the interviewer or avoid criticism of health workers or facilities. To minimize this, assurances of anonymity and confidentiality was repeatedly emphasized during the consent process. Additionally, the findings may not be generalizable to all regions in Ghana due to contextual differences in health infrastructure, staffing levels, and service delivery models. Despite these constraints, the study is expected to offer valuable insights into the predictors of client satisfaction and facility preference, particularly in primary healthcare settings. The limitations were acknowledged in the final report, and their implications considered in the interpretation of results and policy recommendations.

Results

Table 1: Demographic Characteristics of Respondents (N = 422)

Variable	Category	Frequency (N)	Percentage (%)
Age Group (Years)	Below 20	42	9.95
	20–29	105	24.88
	30–39	110	26.06
	40–49	85	20.14
	50 and Above	80	18.96

Sex	Male	190	45.02
	Female	232	54.98
Marital Status	Single	160	37.91
	Married	210	49.76
	Divorced/Separated	30	7.11
	Widowed	22	5.21
Education Level	No Formal Education	60	14.22
	Primary	90	21.33
	Junior High School	120	28.44
	Senior High School	90	21.33
	Tertiary	62	14.68
Occupation	Unemployed	70	16.59
	Trader	130	30.81
	Farmer	90	21.33
	Civil Servant	80	18.96
	Other	52	12.32
Number of Visits (Past Year)	Once	110	26.06
	2–3 Times	140	33.18
	4–5 Times	90	21.33
	More Than 5 Times	82	19.43

The demographic characteristics of the respondents presented in Table 1 provide crucial contextual insight into the population sampled for this study (N = 422). The age distribution indicates a relatively youthful demographic, with the majority (50.94%) aged between 20 and 39 years. Specifically, 24.88% fall within the 20–29 age group, while 26.06% are between 30 and 39 years. This suggests that the study predominantly captured the views of younger to middle-aged individuals, which may reflect higher levels of engagement or accessibility among these age cohorts. However, there is also considerable representation from older respondents, with 20.14% aged 40–49 and 18.96% aged 50 and above, suggesting that the findings encompass a broad generational perspective. The smallest age group was those below 20 years (9.95%), potentially due to reduced eligibility or exposure to the subject matter. Regarding sex distribution, the sample is slightly female-dominated, with women representing 54.98% and men constituting 45.02% of the respondents. This aligns with demographic trends in healthcare and community-based studies, where women often report higher participation rates. The marital status variable reveals that nearly half of the respondents (49.76%) were married, while 37.91% were single. A smaller fraction reported being divorced or separated (7.11%) and widowed (5.21%), suggesting a relatively stable marital distribution with implications for household structure, caregiving roles, and healthcare decision-making.

In terms of educational attainment, the data indicate that the largest proportion of respondents had completed Junior High School (28.44%), followed by those with primary (21.33%) and Senior High School education (21.33%). Those with no formal education constituted 14.22%, and tertiary-level respondents made up 14.68%. These results demonstrate moderate levels of educational attainment among the study population, with more than half (70.10%) possessing at least some formal education. This is significant for understanding health literacy, access to services, and comprehension of health-related interventions discussed in the study. The occupational profile shows that traders formed the largest employment category (30.81%), followed by farmers (21.33%) and civil servants (18.96%). Unemployed individuals accounted for 16.59%, while 12.32% reported being engaged in other forms of livelihood. The dominance of trading and farming reflects the informal and agrarian economic nature of the study area, with civil servants representing the formal employment structure. This occupational spread provides a useful lens for analyzing socioeconomic status and its potential impact on health behaviors or service utilization. The frequency of facility visits over the past year highlights patterns of healthcare utilization. The majority of respondents visited healthcare facilities two to three times (33.18%) or once (26.06%) in the past year. A smaller percentage visited four to five times (21.33%) or more than five times (19.43%). This pattern suggests that a substantial proportion of the population had moderate contact with healthcare services, which may indicate a reliance on health services primarily for episodic or symptomatic care rather than preventive or chronic care management. These findings provide an important backdrop for interpreting health-seeking behavior and access to care within the community.

Table 2: Logistic Regression Predicting Preference for Health Centre

Predictor	B	S.E.	Wald	df	p-value	Odds Ratio (OR)
Knows role of health centre	1.52	0.56	7.37	1	0.007	4.57

Believes health centre is effective	1.04	0.52	3.98	1	0.046	2.82
Lives close to a health centre	0.63	0.49	1.64	1	0.201	1.88
Constant	2.10	0.75	7.84	1	0.005	0.12

Model Summary
Model $\chi^2(4) = 25.71$, $p < 0.001$
Nagelkerke $R^2 = 0.32$
Classification Accuracy = 80.1%

The logistic regression results presented in Table 2 offer valuThe logistic regression results presented in Table 2 offer valuable insights into the predictors influencing individuals' preference for health centres. The model examines three key variables: knowledge of the health centre's role, belief in its effectiveness, and proximity to a health centre. The regression model is statistically significant, as indicated by the chi-square statistic, $\chi^2(3) = 22.57$, with a p-value less than 0.001. This suggests that the combination of predictors reliably distinguishes between those who prefer using health centres and those who do not. The Nagelkerke R^2 value of 0.30 indicates that approximately 30% of the variance in preference for health centres is explained by the model, suggesting a moderate level of predictive power. The classification accuracy of 78.3% further reflects the model's ability to correctly classify respondents based on the included predictors. Among the predictors, knowledge of the role of the health centre emerged as the strongest and most significant factor. The coefficient (B = 1.52) is positive and statistically significant (p = 0.007), with a Wald statistic of 7.37. The odds ratio of 4.57 indicates that individuals who understand the role of the health centre are over four times more likely to prefer using it than those who do not, all other factors being equal. This underscores the critical role of awareness and community education in shaping health service preferences.

Belief in the effectiveness of the health center is also a statistically significant predictor (B = 1.04, p = 0.046), with an odds ratio of 2.82. This implies that individuals who believe in the effectiveness of the services offered are nearly three times more likely to prefer the health centre compared to those who hold contrary beliefs. The practical implication is that perceptions of service quality and trust in the healthcare system are essential determinants of healthcare-seeking behavior and should be addressed in policy and health promotion efforts. In contrast, proximity to a health center, although positively associated with preference (B = 0.63), did not reach statistical significance (p = 0.201). The odds ratio of 1.88 suggests a trend whereby those living closer may be nearly twice as likely to prefer using a health centre, but the lack of significance means this finding should be interpreted with caution. It may indicate that proximity alone is insufficient without accompanying awareness and perceived quality. The constant term in the model (B = 2.10, p = 0.005) signifies the log odds of preferring a health centre when all predictors are zero, but more importantly, it reflects the baseline level of preference in the absence of the specified influences. Overall, the model highlights that knowledge and perception of effectiveness are more critical determinants than geographic accessibility in shaping preference for health centres. These findings suggest that public health strategies should prioritize community education and service quality improvements to enhance utilization of health centres.
ents to enhance utilization of health centres.

Table 3: Logistic Regression Predicting Client Satisfaction

Predictor	B	S.E.	Wald	df	p-value	Odds Ratio (OR)
Health worker competent	1.36	0.60	5.14	1	0.023	3.91
Reasonable waiting time	0.82	0.53	2.39	1	0.122	2.27
Drugs available and accessible	1.10	0.50	4.84	1	0.028	3.00
Facility clean and comfortable	1.48	0.62	5.72	1	0.017	4.40
Constant	1.80	0.77	5.44	1	0.020	0.17

Model Summary
Model $\chi^2(4) = 25.71$, $p < 0.001$
Nagelkerke $R^2 = 0.32$
Classification Accuracy = 80.1%

The logistic regression results presented in Table 3 offer a predictive model for understanding the determinants of client satisfaction with health services. The overall model is statistically significant, as indicated by the chi-square statistic $\chi^2(4) = 25.71$ with a p-value less than 0.001, meaning the model reliably distinguishes between satisfied and unsatisfied clients based on the included predictors. The Nagelkerke R^2 value of 0.32 implies that approximately 32% of the variance in client satisfaction is explained by the model. A classification accuracy of 80.1% further highlights the model's effectiveness in correctly predicting satisfaction outcomes, suggesting practical relevance for healthcare quality assessment. Among the significant predictors, perception of health worker competence showed a strong and statistically significant effect (B = 1.36, p = 0.023), with an odds ratio of 3.91. This implies that clients who perceive healthcare

workers as competent are almost four times more likely to report satisfaction compared to those who do not share this view. This highlights the central role of professional conduct, knowledge, and skill in shaping positive client experiences. The cleanliness and comfort of the facility also emerged as a significant predictor (B = 1.48, p = 0.017), with an odds ratio of 4.40. Clients who perceive the facility as clean and comfortable are more than four times more likely to be satisfied, suggesting that environmental conditions directly influence client perceptions and the overall quality of care. This finding reinforces the importance of investing in physical infrastructure and hygiene standards in health facilities.

Availability and accessibility of drugs was another significant factor (B = 1.10, p = 0.028), with an odds ratio of 3.00. This result implies that clients who are able to access required medications during visits are three times more likely to be satisfied with the services provided. This affirms that service delivery completeness, particularly in terms of medication provision, is a key component of satisfaction. However, reasonable waiting time, though positively associated with satisfaction (B = 0.82), was not statistically significant (p = 0.122). While the odds ratio of 2.27 suggests that shorter waiting periods may increase the likelihood of client satisfaction, the lack of significance means this predictor did not have a strong enough effect in the current model to warrant conclusive interpretation. This could imply that while waiting time matters, clients may be more tolerant of delays if other service quality elements such as drug availability or provider competence are present. The constant term (B = 1.80, p = 0.020) provides a baseline log odds of client satisfaction when all other variables are set to zero. Overall, the model indicates that structural and service-quality-related factors such as provider competence, cleanliness, and drug availability have a stronger influence on client satisfaction than logistical aspects like waiting time. These findings suggest that public health managers should prioritize improving clinical care, service environment, and pharmaceutical access to significantly enhance patient satisfaction levels.

Discussion

This presents a critical interpretation of the study's findings in relation to the research objectives and existing literature. The discussion highlights the significant predictors of health facility preference and client satisfaction as identified through logistic regression analysis. By examining how variables such as health worker competence, facility environment, drug availability, and awareness of health centre functions influence client behavior, the discussion situates the study's outcomes within broader theoretical and empirical contexts. The goal is to understand not only what the results show but also what they mean for policy, service delivery, and future research in primary healthcare settings. Each section is organized under thematic subheadings to ensure clarity and coherence.

Determinants of Preference for Health Centres

The findings from the logistic regression analysis demonstrate that knowledge of the role of health centres and belief in their effectiveness are the most significant predictors of client preference for primary healthcare facilities. Specifically, individuals who understood the functions of the health centre were more than four times as likely to prefer using such facilities compared to those who lacked this knowledge. This aligns with earlier research by Aninanya et al. (2023), who noted that increased awareness of available services within community health centres enhances public trust and utilization. When clients have a clear understanding of what a health facility offers, they are better positioned to align their expectations with service realities, resulting in a stronger inclination toward the facility. The second significant factor influencing preference was the belief in the effectiveness of the services provided. Clients who held positive perceptions about the performance of the health centre were nearly three times more likely to express a preference for these services. This is consistent with the findings of Afulani et al. (2021), who identified perceived effectiveness as a core component of trust-building in healthcare systems. Belief in the ability of a facility to meet health needs does not emerge from mere proximity but from repeated interactions and visible service outcomes. When individuals perceive that health centres provide timely diagnoses, competent care, and reliable treatment, they are more likely to commit to those centres in both immediate and future care-seeking decisions. Interestingly, the study found that living close to a health centre did not significantly predict preference, even though the odds ratio indicated a positive trend. This result supports prior studies by Agyepong et al. (2020) and Garrib et al. (2020), who found that clients often bypass nearby health centres in search of better-quality services elsewhere. These findings suggest that while proximity may reduce travel burdens, it is not enough to drive preference unless accompanied by quality assurance, service reliability, and positive health outcomes. In essence, clients appear to prioritize competence and confidence over convenience. This observation challenges traditional planning models that emphasize physical access without considering the behavioral and perceptual dimensions of care [16].

Determinants of Client Satisfaction

In relation to client satisfaction, the regression results revealed that health worker competence, drug availability, and facility cleanliness and comfort were statistically significant predictors. The strongest influence was the perception that health workers were competent, with clients who held this view being almost four times more likely to report satisfaction. This observation affirms earlier findings by Mohammed et al. (2019), who emphasized that the technical skills, empathy, and professionalism of healthcare providers are fundamental to shaping the patient experience. Clients often interpret provider behavior as a reflection of institutional standards, meaning that respectful treatment, clear communication, and diagnostic accuracy contribute to a lasting sense of satisfaction. Cleanliness and physical comfort within the facility also emerged as a significant predictor. Clients who perceived the environment as clean and welcoming were over four times more likely to express satisfaction. This finding corroborates research by Khamis and Njau (2021), who showed that environmental hygiene is strongly linked to client confidence in the quality and safety of services provided. A clean facility reassures clients that infections are minimized, operations are well managed, and staff are attentive to detail. These impressions play an essential role in health behavior, particularly in communities where hygiene conditions may otherwise be challenging.

Drug availability and accessibility were also found to signifi-

cantly influence satisfaction, with respondents who received all prescribed medications being three times more likely to report satisfaction. This aligns with the findings of Alhassan et al. (2021), who reported that stock-outs often lead to client frustration, increased out-of-pocket expenses, and a sense of incompleteness in service delivery. Access to essential medications ensures that the healthcare encounter results in a tangible benefit, which in turn reinforces satisfaction and future facility use. The availability of drugs, especially for chronic illnesses, may also convey a facility's level of preparedness and resource adequacy, further strengthening the trust clients place in the system. Contrary to expectations, reasonable waiting time did not significantly predict satisfaction, although it showed a positive trend. This supports the assertion by Boller et al. (2022) that clients may tolerate delays if other service quality indicators, such as competence and drug availability, are met. Waiting time may still influence client experience, but its importance appears to be relative rather than absolute. When the perceived value of care is high, time may be interpreted as a worthwhile investment rather than a burden.

Integrating the Results into Broader Literature

Taken together, these findings reinforce the growing consensus in public health literature that quality perceptions particularly regarding personnel and environment carry more weight in shaping health-seeking behavior than geographic or logistical factors alone. Studies by Okonofua et al. (2020) and Sarker et al. (2022) similarly identified the human and structural dimensions of service delivery as central to both satisfaction and preference. This suggests that efforts to improve healthcare utilization and outcomes must go beyond physical expansion to include staff training, facility maintenance, and community health education. Moreover, the interaction between awareness, trust, and behavior becomes apparent in the context of these findings. Clients who know more about the health system are more likely to develop realistic expectations, identify with institutional values, and recognize competent care when they receive it. Awareness thus serves not just as a source of knowledge but as a gateway to satisfaction and loyalty. These insights validate recommendations by Katumba et al. (2019) for continuous community engagement and transparency in service promotion. The use of logistic regression in this study allows for quantification of these relationships, providing policymakers with evidence-based metrics for targeting interventions. The identification of statistically significant odds ratios for variables such as provider competence and facility environment supports the prioritization of these areas in strategic planning and resource allocation.

Implications for Policy and Practice

The findings from this study carry important implications for primary healthcare management in Ghana and similar contexts. First, training and professional development for healthcare workers should emphasize not only clinical knowledge but also communication, empathy, and client engagement skills. Second, consistent availability of essential medications must be treated as a performance metric for primary health facilities. Drug supply chains should be strengthened to prevent disruptions and restore public trust. Third, facility maintenance, including hygiene, ventilation, and client comfort, should be institutionalized as part of routine health service evaluations. Policymakers must recognize that these seemingly minor factors significantly influence public perception and utilization [17].

Conclusion

This study set out to investigate the key determinants influencing client satisfaction and preference for health facilities in primary healthcare settings. Through a structured quantitative approach, the study employed logistic regression analysis to identify the most significant factors shaping client behavior and attitudes toward health service utilization. The results revealed that client satisfaction and preference are not merely functions of physical proximity or frequency of visits but are strongly associated with perceived service quality and awareness of the health centre's role. Specifically, the competence of health workers, the availability and accessibility of essential drugs, and the cleanliness and comfort of healthcare environments emerged as strong predictors of client satisfaction. Similarly, knowledge of the health centre's function and belief in its effectiveness were powerful determinants of client preference. The findings highlight the importance of aligning service delivery models with client expectations and perceptions. The emphasis clients placed on healthcare provider competence and facility hygiene underscores the need for health systems to prioritize continuous staff development and strict adherence to environmental standards. In the same vein, ensuring a steady supply of medications and fostering trust through effective communication about available services can significantly enhance public confidence in the health system. This is particularly vital in contexts where healthcare access is expanding but client satisfaction remains uneven across facilities. By situating these findings within the broader framework of healthcare quality and utilization, the study contributes to a growing body of evidence that supports client-centered approaches in primary healthcare. The evidence suggests that improving the subjective experience of care is as critical as expanding physical access. Interventions aimed at increasing health facility use should therefore integrate quality assurance measures alongside infrastructure and coverage improvements.

Recommendations

Based on the study's findings, it is recommended that primary healthcare authorities invest in continuous professional training for health workers to enhance their competence and interpersonal skills, as this directly influences client satisfaction. Efforts should also be made to ensure consistent availability of essential drugs at health centres to build client trust and encourage repeat visits. Health facilities must maintain high standards of cleanliness and physical comfort to create an environment that supports client confidence in the healthcare system. Public health campaigns should intensify education on the roles and benefits of primary health centres to improve community awareness and preference. Stakeholders should prioritize feedback mechanisms to better understand client experiences and address service gaps in a timely manner. Strengthening supply chain systems and logistical support is necessary to ensure uninterrupted service delivery. Finally, integrating client-centered care strategies into health policy frameworks will help align service provision with user expectations and improve overall utilization.

Contribution to Knowledge

This study provides a significant scholarly contribution to the field of public health by offering an empirical analysis of the determinants that influence health facility preference and client

satisfaction within the context of primary healthcare settings in Ghana. While earlier studies have often focused on structural and geographic factors such as facility proximity and infrastructural availability, this research advances knowledge by emphasizing the critical importance of service quality indicators. The study demonstrates that variables such as health worker competence, the availability and accessibility of essential drugs, and the cleanliness and comfort of the healthcare environment are powerful predictors of client satisfaction. These findings underscore the need to shift policy and managerial focus from solely expanding infrastructure to improving the actual quality and experience of care received by clients. In addition, the study makes a novel contribution by drawing attention to the role of client awareness and belief in the effectiveness of health centres as significant determinants of facility preference. The findings reveal that clients who are informed about the roles and services offered by health centres are more likely to prefer them and return for future healthcare needs. This insight adds depth to existing literature by identifying awareness as a cognitive determinant of healthcare behavior, which is often underrepresented in empirical models of healthcare utilization. Furthermore, by employing logistic regression analysis, the study provides a robust statistical foundation for interpreting the influence of these predictors, offering clarity on the strength and direction of relationships between client characteristics, service perceptions, and healthcare choices. The methodological rigor enhances the reliability of the findings and contributes to evidence-based decision-making for healthcare managers and policymakers.

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