

**PATIENT SATISFACTION WITH WAITING TIME IN PUBLIC AND PRIVATE
HEALTH FACILITIES IN BENIN CITY**

BY

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DECLARATION

I hereby declare that this project work is original and will be carried out by the under-listed students under the supervision of **Prof Obehi Okojie** and **Dr. Ndubuisi Mokogwu** and has not been published elsewhere for the award of a degree or certificate.

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CERTIFICATION

This is to certify that this research work titled “Patient Satisfaction With Waiting Time In Public And Private Health Facilities In Benin City” will be carried out in the Department of Community Health, School of Medicine, College of Medical Sciences, University of Benin, Benin City, Edo State, Nigeria as part of the requirements for the award of Bachelor of Medicine, Bachelor of Surgery (MBBS) by **WEALTH INEKUROGHA POYERI** with matriculation number **MED1807494**.

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DEDICATION

This work is dedicated to God Almighty, whose grace has sustained me throughout my pursuit of this medical degree. I also dedicate this project to my parents, my constant pillars of support, whose immense contributions made this milestone possible. To my late mother, Mrs. Obubeleye Poyeri: I deeply wish you were here to witness the culmination of this journey.

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LIST OF ABBREVIATIONS

- A&E – Accident and Emergency
- CI – Confidence Interval
- EMR – Electronic Medical Records
- GOPD – General Outpatient Department
- HMIS – Health Management Information Systems
- IBM – International Business Machines
- ILO – International Labour Organization
- LGAs – Local Government Areas
- LMICs – Low- and Middle-Income Countries

- OPD – Outpatient Department
- OR – Odds Ratio
- PSQ-18 – Patient Satisfaction Questionnaire-18
- SARA – Service Availability and Readiness Assessment
- SD – Standard Deviation
- SPSS – Statistical Package for the Social Sciences
- UBTH – University of Benin Teaching Hospital
- UPTH – University of Port Harcourt Teaching Hospital
- WHO – World Health Organization

DEFINITION OF TERMS

- **Objective Waiting Time:** The actual waiting time measured using a checklist from patient registration to completion of consultation.
- **Outpatient Department (OPD):** The unit of a health facility where patients receive consultation, diagnosis, and treatment without being admitted overnight.
- **Patient Satisfaction:** The degree to which patients' expectations of healthcare services are met, assessed in this study using an adapted PSQ-18 scale focusing on satisfaction with waiting time.
- **Perceived Waiting Time:** The patient's personal assessment of how long they waited before receiving care, regardless of the actual recorded duration.
- **Private Health Facility:** A healthcare institution owned and managed by individuals or corporate bodies, operating on a fee-for-service basis and providing outpatient care.
- **Public Health Facility:** A government-owned healthcare institution funded and managed by federal or state authorities, providing outpatient services to the general population.
- **Waiting Time:** The duration between a patient's arrival at the health facility and the time they are first attended to by a healthcare provider. In this study, waiting time is measured both objectively (using time records) and subjectively (patient perception).

ABSTRACT

Background: Prolonged waiting time in hospitals is a critical component of healthcare delivery that negatively impacts patient satisfaction, which remains a persistent challenge in Nigeria. Despite ongoing efforts to improve healthcare delivery, long waiting times remain prominent, partly due to systemic inefficiencies, poor communication, and inadequate infrastructure. This study assessed and compared patient satisfaction with waiting time in public and private health facilities in Benin City, Edo State, Nigeria.

Methods: A comparative cross-sectional study was conducted among 362 adult outpatients in Benin City, selected using a multistage sampling technique. Data were collected using a pretested, structured, interviewer-administered questionnaire and an observation checklist covering sociodemographic characteristics, waiting time experience, patient satisfaction with waiting time, and factors influencing satisfaction. Patient satisfaction scores were categorised as good ($\geq 70\%$) or poor ($< 70\%$). Data were analysed using IBM SPSS version 25.0. Descriptive statistics, chi-square tests, and logistic regression were used as appropriate.

Results: The mean age of respondents was 43.2 ± 16.8 years, and the majority (27.3%) were in the 40–49 years age group. Most respondents (56.6%) had tertiary education, and 76.5% were employed. Overall, 39.2% of respondents waited for 1–2 hours, and 58.9% demonstrated overall good satisfaction with the services received. The type of health facility was significantly associated with overall patient satisfaction ($p < 0.001$), with satisfaction being higher in private facilities (69.6%) compared to public facilities (48.1%). In the multivariable analysis, having a primary level of education was significantly associated with lower odds of satisfaction compared to having a tertiary education (OR = 0.138, $p = 0.046$). Furthermore, staff adequately explaining the reason for delays (OR = 132.673, $p < 0.001$), the comfort of the waiting environment (OR =

9.273, $p = 0.007$), and the provision of clear information about procedures ($OR = 5.834$, $p = 0.014$) emerged as significant independent predictors of patient satisfaction. The perception that staff attitude made waiting easier was not a statistically significant predictor when controlling for other variables ($p = 0.407$).

Conclusion: Although the majority of the respondents demonstrated a positive overall satisfaction with the services received, a significant disparity exists, with patients in public health facilities experiencing lower satisfaction levels compared to their private counterparts. These findings suggest that while objective waiting time is a factor, institutional and interpersonal factors such as staff communication and environmental comfort remain critical drivers of patient satisfaction. Targeted infrastructural upgrades, the implementation of modern queue management systems, and routine staff training on effective communication are recommended to improve patient satisfaction in health facilities in Benin City and similar settings.

Keywords: Patient satisfaction; Waiting time; Public health facility; Private health facility; Benin City; Nigeria.

CHAPTER ONE

INTRODUCTION

1.1 Background

Waiting time is a critical component of healthcare delivery and a prominent determinant of patient satisfaction in hospitals globally, including Nigeria. In many Nigerian public hospitals, patients often experience prolonged waiting periods before receiving medical attention, particularly in outpatient departments, and this remains a persistent challenge despite ongoing reforms and investments in the health sector. The causes of these delays are multifactorial, including high patient volumes, limited healthcare personnel, inefficient appointment systems, inadequate infrastructure, and suboptimal administrative processes^{1,2}. Studies have consistently shown that waiting time is not only a practical barrier to timely care but also a key factor influencing patients' perceptions of service quality, their willingness to utilize health services, and their overall health outcomes^{3,4,5}.

For instance, research has demonstrated that patients who experience shorter waiting times are more likely to report higher satisfaction, greater trust in the health system, and increased likelihood of returning for future care². Conversely, excessive waiting times can discourage patients from seeking timely medical attention, potentially leading to delayed diagnoses, poorer health outcomes, and increased morbidity.

Despite ongoing efforts to improve healthcare delivery, long waiting times remain a persistent feature in Nigerian hospitals, especially in publicly funded facilities where they are often regarded as a normal part of the healthcare experience^{1,2,6}. In these settings, patients frequently encounter lengthy queues, overcrowded waiting areas, and significant delays before consultation or treatment. While some patients report satisfaction with care despite lengthy waits, this

acceptance is frequently attributed to cultural expectations, adaptation to systemic inefficiencies, and comparatively low baseline standards, rather than genuine contentment with the service provided^{1,2,6}. Indeed, studies have found that patients in public hospitals may express satisfaction with the quality of care received, even while acknowledging dissatisfaction with the waiting time, reflecting a complex interplay between expectations, experiences, and perceptions of value^{1,6,7}.

This phenomenon underscores the need for a nuanced understanding of patient satisfaction that accounts for both objective service metrics and subjective patient experiences. Furthermore, the impact of waiting time on healthcare utilization and outcomes extends beyond individual patient experiences. Prolonged waiting times can lead to overcrowding, increased risk of cross-infection in waiting areas, and inefficient use of healthcare resources^{1,2}. They may also contribute to staff burnout, as healthcare workers are required to manage larger patient loads under stressful conditions.

Reducing waiting times is therefore essential not only for improving patient satisfaction but also for optimizing resource utilization, enhancing the reputation and efficiency of healthcare institutions, and ultimately improving population health outcomes in Nigeria^{1,2}. Recent studies have advocated for the implementation of time-specific appointment systems, better queue management, and increased staffing as effective strategies to address these challenges and improve the overall quality of healthcare delivery^{1,2,6}.

1.2 STATEMENT OF PROBLEM

Prolonged waiting times in Nigerian hospitals have become a significant and well-documented concern, undermining the quality of healthcare delivery and negatively impacting patient satisfaction across diverse clinical settings. Research from various regions in Nigeria has documented outpatient waiting times ranging from over one to several hours, with particularly long delays observed in public hospitals compared to private ones^{1,2,6,7}. For example, studies in tertiary hospitals have reported mean waiting times exceeding 100 minutes, with some patients waiting up to six hours before seeing a healthcare provider^{1,2}.

These extended waiting periods contribute to patient frustration, reduced trust in the health system, and, in some cases, deter individuals from seeking timely medical care^{1,2,6}. In addition, long waits have been associated with increased patient dropout rates, missed appointments, and lower uptake of preventive health services, all of which can have serious consequences for individual and public health^{1,6}.

Although some patients continue to express satisfaction with the overall care received, evidence suggests that this may be due to a normalization of poor service standards rather than true satisfaction^{1,6,7}. Several studies have shown that patients often accept long waiting times as an unavoidable aspect of care in public hospitals, particularly when alternative options are limited or unaffordable^{1,2,6,7}. This acceptance, however, does not mitigate the negative effects of prolonged waits on patient experience, as dissatisfaction with waiting time remains a common complaint and a significant barrier to healthcare utilization^{1,2,6}.

The persistence of long waiting times, despite their recognized impact on patient experience, highlights systemic inefficiencies in patient flow management, inadequate staffing, and the absence of robust appointment scheduling systems in many Nigerian hospitals^{1,2,6}. Without

targeted interventions, these issues will continue to compromise patient satisfaction, limit access to quality care, and hinder progress towards achieving optimal healthcare outcomes in Nigeria^{1,2,6}. Moreover, the problem of long waiting times is not confined to a single region or level of care but is pervasive across primary, secondary, and tertiary healthcare facilities throughout the country^{1,6,7}. Contributing factors include inadequate funding, poor record-keeping, negative staff behavior, and lack of effective communication between patients and healthcare providers^{1,6}. These systemic challenges necessitate comprehensive and context-specific solutions that address both the supply and demand sides of healthcare delivery. Ultimately, addressing prolonged waiting times is critical for improving patient satisfaction, enhancing the efficiency of healthcare services, and achieving broader health system goals in Nigeria^{1,2,6}.

1.3 JUSTIFICATION OF STUDY

Addressing the issue of waiting time is fundamental to improving patient satisfaction and the overall quality of healthcare services in Nigeria. Patient satisfaction is a key indicator of healthcare quality and is closely linked to health service utilization, retention, and outcomes^{1,2,6}. Multiple studies have demonstrated that reducing waiting times can significantly enhance patient experiences, foster positive perceptions of care, and improve the efficiency and effectiveness of healthcare delivery^{1,2,6}.

For instance, interventions such as the introduction of time-specific appointment systems, increased staffing, and improved record-keeping have been shown to reduce waiting times and increase patient satisfaction in both public and private hospitals^{1,2,6}. Furthermore, understanding

the specific factors contributing to prolonged waiting times in different hospital settings is essential for designing effective interventions tailored to the Nigerian context^{1,6}.

By systematically evaluating the relationship between waiting time and patient satisfaction, this study will provide valuable insights for hospital administrators, policymakers, and healthcare providers. The findings can inform the development of evidence-based strategies such as improved appointment systems, better resource allocation, targeted staff training, and patient education initiatives, ultimately leading to more patient-centered and efficient healthcare services^{1,2,6}.

In a healthcare environment where patient expectations are evolving and competition between public and private providers is increasing, reducing waiting times is not only a matter of operational efficiency but also a strategic imperative for enhancing patient trust and loyalty^{1,2,6}. Moreover, the results of this study will contribute to the broader body of knowledge on healthcare quality improvement in low- and middle-income countries, offering practical lessons and policy recommendations that can be adapted to similar contexts. By highlighting the importance of timely service delivery and patient-centered care, this research supports ongoing efforts to strengthen the Nigerian health system and improve health outcomes for all citizens^{1,2,6}.

1.4 GENERAL OBJECTIVE

To assess and compare patient satisfaction with waiting time in public and private health facilities in Benin City, Nigeria.

1.5 RESEARCH QUESTIONS

- What is the average waiting time for patients in public and private health facilities in Benin City?
- Is there a significant difference in satisfaction between public and private healthcare users in Benin City?
- What factors contribute to patients' satisfaction or dissatisfaction with waiting time in Benin City?

1.6 SPECIFIC OBJECTIVES

- To determine the average waiting time experienced by patients in selected public and private health facilities in Benin City, Edo State.
- To compare patient satisfaction with waiting time between public and private health facilities in Benin City.
- To identify factors influencing patient satisfaction with waiting time in Benin City.

CHAPTER TWO

LITERATURE REVIEW

2.1 AVERAGE WAITING TIME EXPERIENCED BY PATIENTS IN PUBLIC AND PRIVATE HEALTH FACILITIES IN BENIN CITY, EDO STATE.

In Al Qassim city, Saudi Arabia, a cross-sectional study was done to determine the association between wait times and patient satisfaction⁸. Data was collected from 620 patients who visited 11 primary health centres using a structured questionnaire, and was analysed with the SPSS 16.0. It showed that 20.48% waited less than 10 minutes to see the doctor, 27.10% waited 11-20 minutes, 27.90% waited 21-30 minutes, 18.39% waited 31-40 minutes, and 6.13% waited more than 40 minutes. Waiting time was measured subjectively using patient self-report.

An institution based cross sectional study was carried out between March and June, 2020 in Jimma zone, southwest Ethiopia among 422 patients⁹. The study was done to assess the waiting time and its associated factors in patients presenting to outpatient departments. The patients were randomly selected from patients visiting the outpatient departments of 8 government hospitals, 2 private hospitals and 120 health centres. Data was collected using both independent observation and exit interviews. Results showed that the whole waiting time spent in the hospitals before getting service was a minimum of 41 and maximum of 185 minutes.

In Nairobi Kenya, a prospective cross-sectional study was carried out between April and August 2023 at the emergency room of a tertiary health care institution among 941 patients¹⁰. The study aimed to describe the impact on the perception of waiting time on patient satisfaction and care. Patients were selected using a convenience sampling strategy, and data was collected with self-administered surveys. 51.1% of patients reported waiting for 30-60 minutes, while 25.4% reported waiting for more than 60 minutes.

In 2017, a cross-sectional study was done at the University of Nairobi health services, Kenya to determine the waiting time and associated factors among outpatients attending the staff clinic¹¹. Data was collected from 384 ambulatory patients over a period of four weeks using an interviewer administered pretested structured exit questionnaire. The patients were selected by simple random sampling, and data was analysed with the SPSS 20. The average patient waiting time was found to be 55.3 minutes.

In 2021, a cross-sectional study was done among 384 patients attending the paediatric outpatient department of Alex Ekwueme Federal University Teaching Hospital Abakaliki, Nigeria¹². The aim of the study was to assess the waiting time as a determinant of patient satisfaction. Data was collected by independent observation, and results showed that the mean total time spent in the hospital was 142.58 (23.17) minutes, while waiting time and consultation times were 113.15(18.01) and 24.43 (10.38) minutes respectively.

2.2 COMPARING PATIENT SATISFACTION WITH WAITING TIME BETWEEN PUBLIC AND PRIVATE HEALTH FACILITIES IN BENIN CITY

A comparative cross-sectional study conducted across three public and three private hospitals in Islamabad and Rawalpindi in Pakistan, was used to compare patient satisfaction levels between both sectors¹³. Approximately 250–300 adult outpatients were surveyed using a modified Patient Satisfaction Questionnaire (PSQ) covering domains such as time spent, communication, and responsiveness. Results showed consistently higher satisfaction scores related to waiting time in private hospitals compared to public facilities, although satisfaction varied in other domains such as technical quality and financial considerations. While the inclusion of multiple facilities

increases the study's comparative strength, differing sociocultural expectations and healthcare funding structures limit its direct applicability to Nigerian settings¹³.

A cross-sectional study by Owusu et al. (2024) in Kumasi, Ghana measured satisfaction across both public and private outpatient departments¹⁴. The adult outpatient sample completed standardized tools such as the SERVQUAL or PSQ-18, and results indicated higher responsiveness and shorter self-reported waiting times in private facilities. Even after adjusting for sociodemographic factors, waiting time remained a significant determinant of overall satisfaction. The study provides relevant regional insight for West Africa, but its reliance on self-reported waiting times rather than objective measurements presents potential recall bias that may distort the true duration of delays¹⁴.

A cross-sectional study conducted among several hundred adult outpatients in public hospitals in Oyo State explored determinants of patient satisfaction (2020)¹⁵. Using a standardised satisfaction instrument, the authors found a significant inverse relationship between waiting time and satisfaction, with longer waits predicting lower satisfaction scores. Although the study's discussion compared its findings with known private-sector trends—where waiting times are generally shorter—it did not include private facilities directly within its sample. This limitation reduces its ability to provide a true sectoral comparison, but its findings reinforce waiting time as a key determinant of patient experience in Nigeria¹⁵.

2.3 FACTORS INFLUENCING PATIENT SATISFACTION WITH WAITING TIME IN BENIN CITY

A cross-sectional study published in the Nigerian Medical Journal (2026) evaluated waiting time as a critical driver of patient satisfaction within a tertiary healthcare setting¹⁶. The researchers analyzed the time spent at various service points, noting a mean total time of approximately four hours, with the longest wait being the physician consultation. Interestingly, despite the prolonged delays, patients reported being "very satisfied" with the actual consultation time itself. The study identified that the overall satisfaction with waiting time was the lowest among all quality domains, highlighting a systemic failure in non-individualized appointment scheduling. The authors concluded that patients clearly differentiate between the wait for service and the quality of the service encounter, indicating that managing patient flow is just as vital as clinical competence¹⁶.

Similarly, a 2024 study assessing outpatient clinics at the University of Port Harcourt Teaching Hospital (UPTH) investigated the specific factors contributing to prolonged waiting times and their impact on healthcare delivery¹⁷. Data analysis revealed that over 70% of patients waited nearly an hour or more to receive care. The researchers identified several modifiable institutional factors driving these delays, including workers' negative behaviors, inadequate manpower, insufficient health records filing space, and a lack of computer skills among administrative providers. The findings strongly suggest that long waiting times contribute to patient frustration and reduced trust, emphasizing that addressing structural and interpersonal inefficiencies is critical to improving overall satisfaction¹⁷.

A comparative cross-sectional study conducted across state and federal teaching hospitals in Enugu State, Nigeria (2025), further explored the drivers of patient satisfaction regarding waiting

time and service delivery¹⁸. The study found total waiting times exceeding three hours in both facilities, with the most significant delays occurring at payment and registration points. Despite the prolonged waits, most respondents reported general satisfaction; however, satisfaction levels differed significantly based on facility organization, staff attitude, and interpersonal communication. The researchers concluded that implementing standardized scripts to explain delays to patients and optimizing triage systems could significantly mitigate negative perceptions of long wait times¹⁸.

Expanding the context to West Africa, a 2024 evaluation of healthcare quality at an outpatient department in Freetown, Sierra Leone, examined the interaction between waiting time, accessibility, and communication¹⁹. Using structured surveys, the study revealed that long waiting times were negatively associated with patient satisfaction, but that this dissatisfaction could be buffered by reliability and accessibility. Specifically, the consistent delivery of service and the provision of clear health information by staff emerged as major determinants of patient satisfaction. The study highlights that proactive communication acts as a critical intervention for maintaining patient satisfaction when structural delays cannot be immediately resolved¹⁹.

An empirical investigation by Zhang et al. (2023) provided a psychological perspective by examining the different dimensions of waiting time—actual, expected, and perceived—on patient satisfaction in outpatient settings²⁰. Through linear regression analysis of patient surveys, the researchers discovered that actual objective waiting time had no direct significant effect on satisfaction. Instead, subjective measures such as the patient's expected waiting time and perceived waiting time were the true determinants. If the actual waiting time exceeded the patient's expectations, it was viewed as a loss, leading to a negative evaluation. This demonstrates that improving patient satisfaction requires not only structural changes to shorten

actual delays but also psychological strategies to manage patient expectations and enhance the waiting environment²⁰.

CHAPTER THREE

METHODOLOGY

3.1 STUDY AREA

This study was conducted in Edo State, located in the South–South geopolitical zone of Nigeria. Edo State shares boundaries with Kogi State to the north, Ondo State to the west, Delta State to the south, and Anambra State to the east. The state has a mix of urban and rural settlements and hosts a range of public and private healthcare facilities that provide primary, secondary, and tertiary levels of care. Benin City, the capital of Edo State, is the major urban centre and administrative hub of the state. It is the fourth largest city in Nigeria, covering an estimated landmass of 1,204 km², with a projected population of approximately 2,044,650 as at 2025. Administratively, Benin City comprises four Local Government Areas, namely Egor, Ikpoba-Okha, Oredo, and Ovia North-East. The city has a relatively well-developed healthcare system serving both residents and surrounding communities. There are an estimated 445 healthcare facilities within Benin City, consisting of 148 public primary healthcare centres, 223 private primary healthcare centres, 9 public secondary hospitals, 3 public tertiary hospitals, and one private tertiary (teaching) hospital, alongside several private specialist hospitals. These facilities provide a broad range of outpatient and inpatient services and experience high patient turnover, particularly in public institutions. The diversity of health facilities and the high volume of outpatient attendance in Benin City make it an appropriate setting for examining patient satisfaction with waiting time in public and private health facilities.

3.2 STUDY DESIGN

A comparative cross-sectional study design was used for this study.

3.3 STUDY DURATION

The study was carried out between March 2025 and March 2026. During this 12-month period, the first five months were used for conceptualization and initial write-up. Data collection was done in the community in the next three months. Collated data was analysed in the next three months and the final write-up was done in the twelfth month.

3.4 STUDY POPULATION

The study was carried out among adult patients (aged 18 years and above) attending outpatient departments in selected public and private health facilities in Benin City.

3.5 SELECTION CRITERIA

Inclusion criteria

- Adults aged 18 years and above attending outpatient services in selected facilities
- Patients who have waited for consultation on the day of data collection
- Individuals who are willing to participate

Exclusion Criteria

- Emergency/accident & emergency cases
- Patients too ill to participate

- Health workers or staff of the selected facilities, to avoid response bias.

3.6 SAMPLE SIZE DETERMINATION

The sample size for this study was determined using the formula for comparing two proportions, appropriate for a cross-sectional study comparing patient satisfaction with waiting time between public and private health facilities.

$$n = \frac{(Z_{\alpha/2} + Z_{\beta})^2 [p_1(1 - p_1) + p_2(1 - p_2)]}{(p_1 - p_2)^2}$$

Where n is the minimum sample size per group; $Z_{\alpha/2}$ is the standard normal deviate at 95% confidence level (1.96); Z_{β} is the standard normal deviate corresponding to 80% study power (0.84); p_1 and p_2 are the anticipated proportions of patient satisfaction with waiting time in public and private health facilities respectively.

Comparative studies evaluating healthcare responsiveness and satisfaction in developing economies indicate that baseline satisfaction with basic services averages around 54.0% in public settings compared to 72.0% in private settings^{21,22}. Consequently, the anticipated proportion of satisfaction in public facilities (p_1 was set to 0.54, and private facilities p_2 was set to 0.72, representing an empirical difference of 18.0%.

Substituting these values into the formula yielded a minimum base sample size of 109 participants per group. Because a multi-stage probability sampling technique was employed, a Design Effect of 1.5 was applied to correct for intra-cluster correlation, increasing the required sample to 163 participants per group (109 x 1.5).

Finally, to account for a potential 10% non-response or improperly filled questionnaire rate, the sample size was adjusted (163 / 0.9) to 181 participants per group. Therefore, a total of 362

respondents were recruited for the study, comprising 181 patients from public health facilities and 181 patients from private health facilities.

3.7 SAMPLING TECHNIQUE

A multi-stage probability sampling technique was employed to select participants for this study.

Stage 1: Stratification of Health Facilities

A sampling frame of tertiary health facilities providing outpatient services in Benin City was developed and stratified into public and private institutions. The public stratum consisted of University of Benin Teaching Hospital, Stella Obasanjo Hospital, Federal Neuro-Psychiatric Hospital Benin, and National Orthopaedic Hospital Benin. The private stratum consisted of Faith Mediplex Hospital, Edo Specialist Hospital, Lily Hospitals Benin, St. Philomena Catholic Hospital, and Benin Medical Care.

Stage 2: Selection of Health Facilities

From each stratum, eligible facilities were selected using simple random sampling by balloting.

Stage 3: Selection of Patients

Within each selected facility, eligible patients attending the outpatient clinic during the study period were selected using systematic random sampling. Based on the average daily outpatient attendance, a sampling interval (k) was determined by dividing the estimated clinic attendance by the allocated sample size for the facility. A random starting point was chosen, after which every k th eligible patient was recruited until the required sample size is achieved.

3.8 DATA MANAGEMENT

Method of Data Collection

A pre-tested, structured questionnaire was interviewer-administered to eligible participants immediately after consultation (exit interviews). Prior to participation, informed consent was obtained, and participants were assured of anonymity and confidentiality. Participation was entirely voluntary. Objective waiting times were measured using a checklist from registration to consultation completion.

Tools for Data Collection

Data was collected using structured interviewer-administered questionnaires and observation checklists comprising:

Section A: Socio-demographic characteristics (age, sex, education, occupation, income, distance to facility)

Section B: Waiting time experience (objective and perceived waiting time)

Section C: Patient satisfaction with waiting time (PSQ-18 adapted scale)

Section D: Factors influencing satisfaction (PSQ-18 adapted scale)

Research Assistants

Four research assistants (two per facility type) who are university undergraduates were recruited and trained for two days on study objectives, questionnaire administration, waiting time observation, confidentiality, and informed consent procedures.

Pretesting

The questionnaire and checklist were pretested among 10% of the estimated sample size (42 patients) in a similar facility not included in the main study. This identified ambiguous questions and allowed modifications to improve clarity, reliability, and validity.

Scoring System

The primary variables in this study were scored and categorized based on two distinct frameworks: subjective patient satisfaction and objective waiting time.

1. Patient Satisfaction Score

Patient satisfaction with waiting time was assessed using a 5-item scale adapted from the PSQ-18 questionnaire²³. To optimize the data for analysis and reporting, the original 5-point Likert responses were collapsed into a 3-point scale: "Disagree" (combining Strongly Disagree and Disagree), "Neutral", and "Agree" (combining Strongly Agree and Agree). For the purpose of quantitative scoring, these collapsed responses were assigned numerical values: Disagree = 1, Neutral = 2, and Agree = 3.

The maximum obtainable score for the 5 items was 15, while the minimum was 5. Overall patient satisfaction scores were totalled and converted into percentages. The scores were categorized as follows:

- Good Satisfaction: A total score of $\geq 70\%$.
- Poor Satisfaction: A total score of $< 70\%$.

2. Waiting Time Category

To evaluate the efficiency of the health facilities, the objective waiting time (measured from patient registration to the start of the consultation) was evaluated against established international benchmarks. Utilizing the framework provided by the World Health Organization's Service

Availability and Readiness Assessment (SARA) manual, the recorded waiting times were dichotomized into two categories to reflect acceptable versus unacceptable delays²⁴:

- Acceptable Waiting Time: ≤ 2 hours.
- Prolonged Waiting Time: > 2 hours.

Data Analysis

Completed questionnaires and checklists were reviewed for completeness and internal consistency. Data was coded, cleaned, and entered into IBM SPSS version 25.0 for analysis.

Univariate Analysis

Univariate analysis was conducted to describe the characteristics of the study population and the distribution of key study variables. Continuous variables such as age of respondents, actual waiting time (in minutes), and perceived waiting time score were summarised using means and standard deviations (\pm SD) where normally distributed, or medians and interquartile ranges where appropriate. Categorical variables including sex, level of education, type of health facility (public or private), waiting-time category, and overall satisfaction with waiting time (satisfied/not satisfied) were presented as frequencies and percentages.

Bivariate Analysis

Bivariate analysis was used to examine associations between waiting time and patient satisfaction, as well as differences between public and private health facilities. The chi-square test of independence was used to assess the association between type of health facility and

patient satisfaction with waiting time, as well as between waiting-time categories and satisfaction status.

Multivariate Analysis

Variables found to be statistically significant at the bivariate level ($p < 0.05$), as well as variables of known clinical relevance, were entered into a binary logistic regression model to identify independent predictors of patient satisfaction with waiting time. Prior to this analysis, to satisfy the mathematical assumptions of binary logistic regression and to overcome the potential statistical instability caused by sparse data distribution across multiple ordinal categories, the 5-point Likert scale responses for institutional and interpersonal factors were dichotomized. Responses were systematically collapsed into a binary classification: "Agreed" (comprising 'Strongly Agree' and 'Agree') and "Did Not Agree" (comprising 'Neutral', 'Disagree', and 'Strongly Disagree'), with the latter serving as the reference category in the model. The dependent variable was patient satisfaction with waiting time (also dichotomised as satisfied versus not satisfied). Independent variables included actual waiting time, type of health facility, staff attitude, communication about delays, comfort of waiting area, age, sex, and educational level. Results were reported using adjusted odds ratios (AORs) with 95% confidence intervals (CI).

The level of statistical significance for all inferential analyses was set at $p < 0.05$.

Data Presentation

Findings were presented using frequency distribution tables, bar charts, cross-tabulations, and descriptive summaries.

3.9 ETHICAL CONSIDERATIONS

Ethical approval was obtained from the University of Benin Teaching Hospital Ethics and Research Committee. Permission was secured from each facility head. Informed consent (written/verbal) was obtained from all respondents who were informed of their right to withdraw without consequences. Confidentiality was maintained as no names were collected and data anonymized. No harm is anticipated as the study imposes minimal burden.

3.10 STUDY LIMITATION

Self-reported data: Satisfaction measures may be subject to social desirability bias

Cross-sectional design: Cannot establish causality between waiting time and satisfaction

Facility-specific findings: Limited generalizability beyond selected Benin City facilities

Peak period collection: May not reflect off-peak waiting patterns

CHAPTER FOUR

RESULTS

A total of three hundred and sixty-two (362) respondents participated in this study, and the results are presented in the following sections in line with the following specific objectives:

1. To determine the average waiting time experienced by patients in selected public and private health facilities in Benin City, Edo State.
2. To compare patient satisfaction with waiting time between public and private health facilities in Benin City.
3. To identify factors influencing patient satisfaction with waiting time in Benin City.

SECTION A:

SOCIODEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

Table 1a: Sociodemographic characteristics of respondents

Variables	Frequency (n=362)	Percent (%)
Age group (years)		
< 20	16	4.4
20-29	69	19.1
30-39	75	20.7
40-49	99	27.3
50-59	30	8.3
60-69	42	11.6
70-79	26	7.2
>80	5	1.4
Mean ±SD Age (years)	43.2 ± 16.8	
Sex		
Male	93	25.7
Female	269	74.3
Marital status		
Single	116	32.0
Married	214	59.1
Divorced	0	0.0
Widowed	32	8.8
Highest level of education		
No formal education	0	0.0
Primary	54	14.9
Secondary	103	28.5
Tertiary	205	56.6
Employment status		
Employed	277	76.5
Unemployed	85	23.5
Religion		
Christianity	349	96.4
Islam	13	3.6
Ethnic Group		
Benin	227	62.7
Igbo	55	15.2
Esan	50	13.8
Yoruba	17	4.7
Ijaw	11	3.0
Ibibio	1	0.3
Others	1	0.3

The majority of the respondents, 99 (27.3%), were aged 40-49 years, followed by 75 (20.7%) who were aged 30-39 years. Only 16 (4.4%) were aged less than 20 years, while 5 (1.4%) were aged 80 years and above. Regarding sex distribution, 269 (74.3%) were females, while 93 (25.7%) were males.

More than half of the respondents were married, accounting for 214 (59.1%), while 116 (32.0%) were single and 32 (8.8%) were widowed. Concerning the highest level of education, 205 (56.6%) had a tertiary education, 103 (28.5%) had secondary education, and 54 (14.9%) had primary education.

Regarding employment status, a significant majority of the respondents, 277 (76.5%), reported being currently employed. The remaining 85 respondents, accounting for 23.5% of the study population, indicated that they were unemployed. In terms of religion, the majority, 349 (96.4%), were Christians, while 13 (3.6%) were Muslims.

With respect to ethnicity, the largest proportion were Benin, 227 (62.7%), followed by Igbo, 55 (15.2%), and Esan, 50 (13.8%). Other ethnic groups included Yoruba 17 (4.7%), Ijaw 11 (3.0%), Ibibio 1 (0.3%), and others 1 (0.3%).

Table 1a: Sociodemographic characteristics of respondents...

Variables	Frequency (n=362)	Percent (%)
Skill Level ILO		
ILO Skill Level 1	179	49.4
ILO Skill Level 2	59	16.3
ILO Skill Level 3	0	0
ILO Skill Level 4	124	34.3

Regarding occupational skill level based on the International Labour Organization (ILO) classification, nearly half of the respondents, 179 (49.4%), were in Skill Level 1. This was followed by 124 (34.3%) in Skill Level 4, 59 (16.3%) in Skill Level 2 and 0 (0%) in Skill Level 3.

Table 1b: Distribution of respondents by facility type and visit purpose

Variables	Frequency (n=362)	Percent (%)
Type of health facility attended		
Public health facility	181	50.0
Private health facility	181	50.0
Reason for visit		
New consultation	126	34.8
Follow-up visit	236	65.2

The respondents were evenly split by facility type, with 181 (50.0%) attending public health facilities and 181 (50.0%) attending private health facilities. In terms of the reason for the visit, the majority, 236 (65.2%), were on a follow-up visit, while 126 (34.8%) were there for a new consultation.

SECTION B: WAITING TIME EXPERIENCE

Table 2a: Waiting time experience of respondents

Variables	Frequency (n=362)	Percent (%)
Time of arrival at the clinic		
6:00 - 8:00 AM	100	27.6
8:01 - 10:00 AM	141	39.0
10:01 - 12:00 PM	72	19.9
12:01 - 2:00 PM	49	13.5
Time first attended to by a healthcare provider		
6:00 - 9:00 AM	67	18.5
9:01 - 11:00 AM	141	39.0
11:01 - 1:00 PM	96	26.5
1:01 - 3:00 PM	58	16
Approximate waiting time		
Less than 30 minutes	55	15.2
30–59 minutes	95	26.2
1–2 hours	142	39.2
More than 2 hours	70	19.3
Patient rating of waiting time		
Very short	38	10.5
Short	54	14.9
Fair	106	29.3
Long	67	18.5
Very long	97	26.8
Expectation vs. Reality		
Much shorter than expected	57	15.7
Shorter than expected	85	23.5
About what I expected	94	26.0
Longer than expected	93	25.7
Much longer than expected	33	9.1

Regarding the time of arrival at the health facility, the largest proportion of respondents, 141 (39.0%), arrived between 8:01 and 10:00 AM, followed by 100 (27.6%) who arrived between 6:00 and 8:00 AM. A smaller proportion, 72 (19.9%), arrived between 10:01 and 12:00 PM, while only 49 (13.5%) arrived between 12:01 and 2:00 PM. In terms of the time they were first attended to by a healthcare provider, the majority, 141 (39.0%), were seen between 9:01 and 11:00 AM, while 96 (26.5%) were attended to between 11:01 and 1:00 PM. Smaller proportions were seen between 6:00 and 9:00 AM (67, 18.5%) and between 1:01 and 3:00 PM (58, 16.0%).

The largest proportion of respondents, 142 (39.2%), waited for approximately 1-2 hours before seeing a doctor or nurse. This was followed by 95 (26.2%) who waited for 30-59 minutes, and 70 (19.3%) who waited for more than 2 hours. Only 55 (15.2%) were attended to in less than 30 minutes.

When asked to rate the waiting time, 106 (29.3%) rated it as fair, 97 (26.8%) rated it as very long, and 67 (18.5%) rated it as long. Conversely, 54 (14.9%) and 38 (10.5%) rated the waiting time as short and very short, respectively.

Compared with their expectations, 94 (26.0%) stated the waiting time was about what they expected, while 93 (25.7%) felt it was longer than expected, and 85 (23.5%) felt it was shorter than expected. The extremes showed that 57 (15.7%) found it much shorter than expected, whereas 33 (9.1%) experienced a wait much longer than expected.

SECTION C: PATIENT SATISFACTION WITH WAITING TIME

Table 3a: Frequency distribution of patients' specific perceptions of waiting time

Statement	Agree	Neutral	Disagree
	n (%)	n (%)	n (%)
Satisfaction with Waiting Time			
Satisfied with the amount of time waited (n=361)	180 (49.8)	39 (10.8)	142 (39.3)
Waiting time did not negatively affect experience (n=360)	184 (50.8)	42 (11.6)	134 (37.1)
Believe the waiting time in the facility is reasonable (n=362)	190 (52.5)	64 (17.7)	108 (29.9)
Behavioral Intentions			
Willing to return despite waiting time (n=362)	229 (63.2)	61 (16.9)	72 (19.9)
Recommend facility to others based on waiting time (n=362)	219 (60.5)	42 (11.6)	101 (27.9)

Regarding satisfaction with the specific amount of time waited, nearly half of the respondents, 180 (49.8%), agreed that they were satisfied, while 142 (39.3%) disagreed, and 39 (10.8%) remained neutral. Concerning whether the waiting time negatively affected their overall experience at the facility, slightly more than half of the patients, 184 (50.8%), agreed that it did not, whereas 134 (37.1%) disagreed with this statement.

When asked if they believed the waiting time in the facility was reasonable, the majority, 190 (52.5%), agreed, compared to 108 (29.9%) who disagreed and 64 (17.7%) who were neutral.

Furthermore, regarding patients' behavioral intentions, a significant majority indicated a willingness to return to the facility despite the waiting time, with 229 (63.2%) agreeing, while 72 (19.9%) disagreed. Similarly, when asked about recommending the facility to others based on their waiting time experience, 219 (60.5%) agreed they would do so, compared to 101 (27.9%) who disagreed and 42 (11.6%) who maintained a neutral stance.

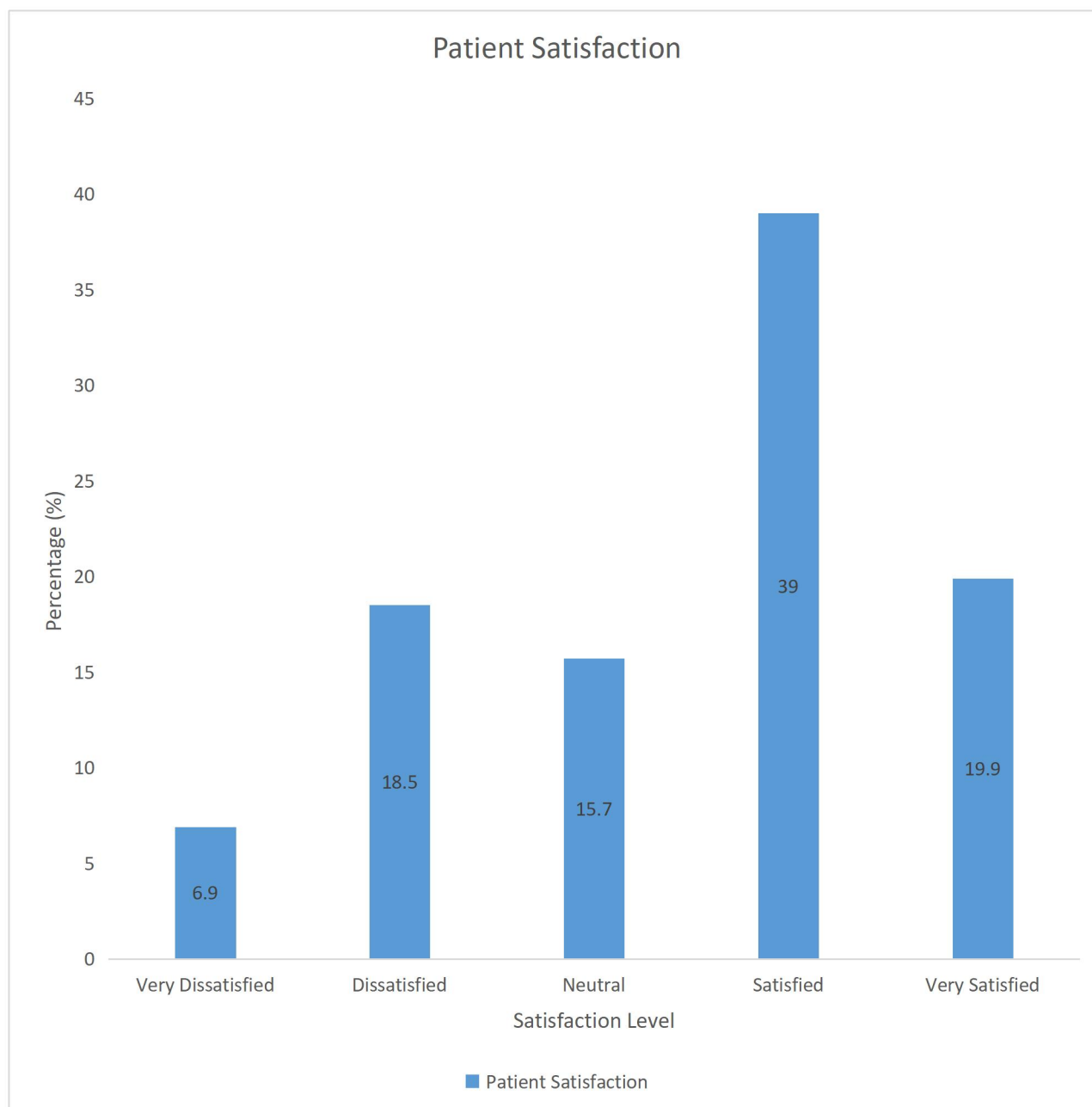


Fig. 1.0: Overall satisfaction with waiting time among respondents

Regarding the overall satisfaction with the services received, the largest proportion of respondents, 141 (39.0%), reported being satisfied. This was followed by 72 (19.9%) who were very satisfied, bringing the combined total of respondents with a positive overall experience to 213 (58.9%). Conversely, 67 (18.5%) respondents were dissatisfied, and 25 (6.9%) were very dissatisfied with the services. A remaining 57 (15.7%) respondents maintained a neutral stance regarding their overall satisfaction.

Table 3b: Sociodemographic characteristics and overall satisfaction among Respondents

Variables	Satisfied n (%)	Dissatisfied n (%)	Test Statistic	p-value
Age group (years)			$\chi^2=4.614$	0.707
< 20	9 (56.3)	7 (43.8)		
20 - 29	44 (63.8)	25 (36.2)		
30 - 39	43 (57.3)	32 (42.7)		
40 - 49	56 (56.6)	43 (43.4)		
50 - 59	22 (73.3)	8 (26.7)		
60 - 69	22 (52.4)	20 (47.6)		
70 - 79	14 (53.8)	12 (46.2)		
≥80	3 (60.0)	2 (40.0)		
Sex			$\chi^2=0.177$	0.674
Male	53 (57.0)	40 (43.0)		
Female	160 (59.5)	109 (40.5)		
Highest level of education			$\chi^2=0.755$	0.686
Primary	30 (55.6)	24 (44.4)		
Secondary	64 (62.1)	39 (37.9)		
Tertiary	119 (58.0)	86 (42.0)		
Employment status			$\chi^2=2.057$	0.725
Employed	72 (62.1)	44 (37.9)		
Self-employed	90 (55.9)	71 (44.1)		
Unemployed	7 (63.6)	4 (36.4)		
Student	31 (63.3)	18 (36.7)		
Retired	13 (52.0)	12 (48.0)		
Skill Level (ILO)			$\chi^2=4.787$	0.091
ILO Skill Level 1	108 (60.3)	71 (39.7)		
ILO Skill Level 2	27 (45.8)	32 (54.2)		
ILO Skill Level 3	0 (0)	0 (0)		
ILO Skill Level 4	78 (62.9)	46 (37.1)		
Religion			$\chi^2=0.601$	0.438
Christian	204 (58.5)	145 (41.5)		
Muslim	9 (69.2)	4 (30.8)		
Type of health facility			$\chi^2=17.349$	< 0.001*
Public health facility	87 (48.1)	94 (51.9)		
Private health facility	126 (69.6)	55 (30.4)		
Reason for visit			$\chi^2=0.065$	0.799
New consultation	73 (57.9)	53 (42.1)		
Follow-up visit	140 (59.3)	96 (40.7)		
Waiting time category			$\chi^2=3.778$	0.052
≤2 hours	179 (61.3)	113 (38.7)		
> 2 hours	34 (48.6)	36 (51.4)		

Chi-square tests of independence were conducted to examine the association between respondents' sociodemographic and institutional characteristics and their overall satisfaction with the services received. There was a highly significant association between the type of health facility attended and overall patient satisfaction ($\chi^2 = 17.349$, $p < 0.001$). A significantly higher proportion of respondents who attended private health facilities reported being satisfied (126, 69.6%) compared to those who received care at public health facilities (87, 48.1%). Regarding the actual time spent waiting, there was no statistically significant association found between the categorized waiting time and overall patient satisfaction at the 0.05 alpha level ($\chi^2 = 3.778$, $p = 0.052$). However, a descriptive trend was observed wherein a higher proportion of patients who waited for 2 hours or less reported being satisfied (179, 61.3%) compared to those whose waiting time exceeded 2 hours (34, 48.6%). Furthermore, none of the sociodemographic variables demonstrated a statistically significant relationship with patient satisfaction. Satisfaction levels did not differ significantly by age group ($\chi^2 = 4.614$, $p = 0.707$), sex ($\chi^2 = 0.177$, $p = 0.674$), highest level of education attained ($\chi^2 = 0.755$, $p = 0.686$), or occupational skill level ($\chi^2 = 4.787$, $p = 0.091$). Similarly, employment status ($\chi^2 = 2.057$, $p = 0.725$), religion ($\chi^2 = 0.601$, $p = 0.438$), and reason for the clinical visit ($\chi^2 = 0.065$, $p = 0.799$) had no significant bearing on the likelihood of a patient reporting overall satisfaction.

SECTION D: FACTORS INFLUENCING SATISFACTION WITH WAITING TIME

Variables	Frequency (n=362)	Percent (%)
Primary contributor to waiting time*		
High number of patients	185	51.1
Shortage of staff	89	24.6
Slow registration process	83	22.9
Laboratory/pharmacy delays	75	20.7
Staff explained reason for delays adequately		
Strongly disagree	31	8.6
Disagree	60	16.6
Neutral	61	16.9
Agree	111	30.7
Strongly agree	99	27.3
Attitude of staff made waiting easier to tolerate		
Strongly disagree	48	13.3
Disagree	49	13.5
Neutral	69	19.1
Agree	109	30.1
Strongly agree	87	24.0
Waiting environment was comfortable		
Strongly disagree	23	6.4
Disagree	37	10.2
Neutral	41	11.3
Agree	151	41.7
Strongly agree	110	30.4
Order of attendance was fair		
Strongly disagree	34	9.4
Disagree	44	12.2
Neutral	74	20.4
Agree	134	37.0
Strongly agree	76	21.0
Clear information about procedures was provided		
Strongly disagree	48	13.3
Disagree	35	9.7
Neutral	78	21.5
Agree	119	32.9
Strongly agree	82	22.7

Table 4a: Factors perceived to contribute to waiting time

*Multiple response question. Percentages represent the proportion of the total sample who selected each option.

The most commonly identified factor perceived to contribute to waiting time was a high number of patients, reported by 185 (51.1%) respondents. This was followed by a shortage of staff, 89 (24.6%); a slow registration process, 83 (22.9%); laboratory/pharmacy delays, 75 (20.7%); and poor appointment scheduling, 69 (19.1%).

Concerning institutional factors, 111 (30.7%) agreed and 99 (27.3%) strongly agreed that staff adequately explained the reason for delays, while 60 (16.6%) disagreed and 31 (8.6%) strongly disagreed. The attitude of staff made the waiting time easier to tolerate for 109 (30.1%) who agreed and 87 (24.0%) who strongly agreed, whereas 49 (13.5%) disagreed and 48 (13.3%) strongly disagreed.

A large majority found the waiting environment (seating, ventilation, cleanliness) comfortable, with 151 (41.7%) agreeing and 110 (30.4%) strongly agreeing, compared to 37 (10.2%) who disagreed and 23 (6.4%) who strongly disagreed. In terms of fairness, 134 (37.0%) agreed and 76 (21.0%) strongly agreed that the order in which patients were attended to was fair, while 74 (20.4%) were neutral. Finally, regarding whether clear information about procedures and patient flow was provided, 119 (32.9%) agreed and 82 (22.7%) strongly agreed, while 48 (13.3%) strongly disagreed with the statement.

Table 4b: Predictors of patient satisfaction among respondents

Factors	B (Regression Coefficient)	Odds Ratio	Lower 95% CI	Upper 95% CI	p-value
Age (years)	0.053	1.054	0.995	1.117	0.071
Sex					
Female*		1			
Male	-0.584	0.558	0.163	1.906	0.354
Highest level of education					
Tertiary*		1			
Primary	-1.977	0.138	0.020	0.963	0.046
Secondary	1.134	3.109	0.672	14.394	0.147
Type of Health Facility					
Private*		1			
Public	0.697	2.008	0.287	14.045	0.480
Waiting time category					
≤ 2 hours*		1			
> 2 hours	0.207	1.229	0.178	8.487	0.832
Staff explained reason for delays					
Did Not Agree*		1			
Agreed	4.888	132.673	20.612	853.957	< 0.001
Waiting environment was comfortable					
Did Not Agree*		1			
Agreed	2.227	9.273	1.838	46.772	0.007
Attitude of staff made waiting easier					
Did Not Agree*		1			
Agreed	0.687	1.988	0.387	10.224	0.407
Clear information about procedures					
Did Not Agree*		1			
Agreed	1.764	5.834	1.428	23.829	0.014
Order of attendance was fair					
Did Not Agree*		1			
Agreed	-0.061	0.941	0.183	4.839	0.941

(Note: OR = Odds Ratio; CI = Confidence Interval; Reference category = * Nagelkerke R² = 63.1-85.1%).

Regarding sociodemographic characteristics, the highest level of education attained demonstrated a statistically significant association with patient satisfaction. Specifically,

respondents with a primary education were significantly less likely to report overall satisfaction when compared to those with a tertiary education (OR = 0.138; $p = 0.046$). Conversely, possessing a secondary education did not emerge as a statistically significant predictor ($p = 0.147$). Other demographic variables such as age (OR = 1.054; $p = 0.071$) and sex were not significantly associated with satisfaction, as males did not differ significantly from females (OR = 0.558; $p = 0.354$).

With respect to service delivery metrics, neither the type of health facility attended ($p = 0.480$) nor the specific waiting time category ($p = 0.832$) were significantly associated with overall satisfaction in the regression model. Similarly, the perceived fairness of the order of attendance was not a statistically significant predictor of patient satisfaction ($p = 0.941$).

Conversely, institutional and interpersonal communication factors were identified as highly significant independent predictors of patient satisfaction. Communication played a critical role; compared to respondents who did not agree, those who agreed that staff adequately explained the reasons for delays had massively higher odds of being satisfied (OR = 132.673; $p < 0.001$). Likewise, respondents who agreed that the waiting environment was comfortable were significantly more likely to report satisfaction compared to those who did not agree (OR = 9.273; $p = 0.007$).

Furthermore, transparency in procedures was a major driver of the patient experience. Respondents who agreed that clear information about procedures was provided demonstrated significantly higher odds of being satisfied compared to their counterparts who did not agree (OR = 5.834; $p = 0.014$). The perception that the attitude of the staff made waiting easier to tolerate was not a statistically significant independent predictor of satisfaction (OR = 1.988; $p = 0.407$).

CHAPTER 5

DISCUSSION

The study found that average waiting times in Benin City health facilities predominantly ranged between one to two hours, with slightly above half of the respondents expressing overall satisfaction with the services received. While a majority were satisfied, patient satisfaction was not uniform; it was significantly associated with the type of health facility attended, as respondents utilizing private health facilities demonstrated significantly higher satisfaction levels compared to those in public facilities. Institutional factors, particularly staff communication, comfort of the environment, and staff attitude, were identified as critical predictors of patient satisfaction.

This study showed that the majority of respondents were within the age groups of 40–49 years and 30–39 years, with a mean age of 43.2 ± 16.8 years. Most respondents were females, married, and predominantly of the Christian faith. In terms of education, over half had tertiary education, while a significant proportion had secondary education. The majority were currently employed. The predominance of respondents within the middle-age brackets may be because this age group frequently utilizes healthcare services for the management of emerging chronic conditions and routine preventive care, which aligns with the finding that nearly two-thirds of the visits were for follow-up consultations. The high proportion of female respondents is expected, as women generally exhibit better health-seeking behaviours compared to men.²⁵ The high level of tertiary education and employment observed may be due to the urban nature of Benin City, which hosts several educational and administrative institutions. This finding is similar to the study conducted by Olayinka et al. in a Nigerian tertiary hospital, where the adult outpatients predominantly had formal education²⁶. It is also consistent with the study by Iloh et al. in Southeast Nigeria, where

urban outpatients formed the bulk of the respondents⁶. Sociodemographic characteristics play a role in shaping patient expectations. Understanding these characteristics is essential for designing targeted healthcare delivery models that meet the specific needs of the urban population.

This study revealed that the largest proportion of respondents waited for approximately one to two hours before seeing a healthcare provider, while about one-fifth waited for more than two hours. The high number of patients, shortage of staff, and slow registration processes were cited as the primary contributors to these delays. The moderately long waiting times observed may be attributed to the high patient volume typical of urban health facilities in Benin City, coupled with systemic inefficiencies such as inadequate health personnel and suboptimal administrative procedures. This finding is similar to recent studies conducted by Abah, where extended waiting times were heavily influenced by administrative bottlenecks and high patient loads lacking time-specific appointment systems.³ Prolonged waiting times remain a significant barrier to efficient healthcare delivery. This underscores the need for health facilities to adopt modern queue management systems and time-specific appointment scheduling to optimize patient flow.

The majority of respondents, about three-fifths, demonstrated overall satisfaction with the waiting time and services received. However, satisfaction was significantly dependent on the type of health facility. Majority of patients at private facilities were satisfied, compared to less than half at public facilities. The higher satisfaction in private facilities may be due to the fee-for-service model, which often guarantees better staff-to-patient ratios, more comfortable waiting environments, and streamlined administrative processes. Conversely, public hospitals, despite offering more affordable care, are often overwhelmed by patient numbers, leading to longer waits and stretched resources. This finding is consistent with recent comparative analyses by Owusu et al., which showed consistently higher responsiveness and satisfaction scores in private

hospitals compared to public facilities due to shorter objective waiting periods.¹⁴ Addressing the disparities between public and private sectors is critical for achieving universal health coverage. Public health facilities must emulate the customer-centric approaches of private institutions by improving service efficiency.

The study identified that specific institutional and interpersonal communication factors, rather than exact waiting time categories alone, were the most significant predictors of patient satisfaction. Respondents' perceptions of whether staff adequately explained the reasons for delays and provided clear information about procedures were significantly associated with higher overall satisfaction. Additionally, patients who found the waiting environment comfortable had significantly higher odds of reporting satisfaction. Interestingly, while communication and transparency were major drivers of the patient experience, the perception that the attitude of the staff made waiting easier to tolerate was not a statistically significant independent predictor of satisfaction when controlling for other robust variables. Education level also influenced satisfaction, with respondents having only primary education being significantly less likely to report overall satisfaction compared to those with tertiary education, a disparity that likely stems from health literacy barriers and poorer provider-patient communication, which can make navigating complex hospital systems and unexplained delays disproportionately frustrating for this demographic. The strong influence of clear communication and environmental comfort underscores that patients are more willing to tolerate delays if they feel properly informed and are accommodated in a conducive setting. This finding is consistent with the study by Lawal et al., which demonstrated that high communication quality and transparency significantly improved patient satisfaction in public hospitals.²⁷ It is also in agreement with findings by Ogaji and Mezie-Okoye, where institutional responsiveness and information sharing were strong

predictors of satisfaction¹. Understanding these modifiable factors is crucial for healthcare administrators. Addressing waiting times purely through logistical changes without improving proactive staff-patient communication and upgrading the physical infrastructure of waiting areas will yield suboptimal results. Interventions should focus on training healthcare workers in effective communication and upgrading the physical infrastructure of waiting areas to enhance overall patient experience.

CONCLUSION

This study revealed that over half of the respondents experienced moderate to long waiting times, predominantly ranging between one to two hours, while a significant proportion still experienced delays exceeding two hours, particularly due to staff shortages, high patient volumes, and slow registration processes.

The study demonstrated that the majority of respondents had a positive overall satisfaction with the services received, recognizing the quality of care provided and expressing confidence in the medical competence of the staff. However, notable disparities persist, particularly the significantly lower satisfaction levels observed among patients attending public health facilities compared to those utilizing private institutions.

In terms of service delivery, the study revealed a high level of reliance on staff attitude and communication in determining patient satisfaction, with respondents indicating readiness to tolerate delays if staff provided clear information.

Additionally, the study identified that interpersonal factors play a significant role in shaping attitudes towards the healthcare system, with respondents who experienced better staff communication and a comfortable waiting environment being more likely to exhibit positive overall satisfaction. Educational level was also a significant determinant of satisfaction, highlighting the influence of socioeconomic factors on patient expectations of service quality.

RECOMMENDATIONS

TO THE FEDERAL GOVERNMENT THROUGH THE FEDERAL MINISTRY OF HEALTH AND RELEVANT AGENCIES

The Federal Government, through the Federal Ministry of Health and relevant agencies, should:

1. Integrate modern Electronic Medical Records (EMR) and Health Management Information Systems (HMIS) fully into public hospitals to streamline slow registration processes, which act as a major barrier to efficient care.
2. Develop and implement nationwide healthcare quality campaigns focusing on:
 - Patient rights regarding acceptable waiting times
 - Optimizing triage and patient flow
 - Addressing systemic inefficiencies such as laboratory and pharmacy delays
3. Strengthen the national healthcare workforce by addressing staff shortages and improving the health worker-to-patient ratio in line with WHO recommendations.
4. Train healthcare administrators nationwide on modern queue management strategies so they can effectively minimize delays during routine hospital operations.

TO THE EDO STATE GOVERNMENT

The Edo State Ministry of Health should:

1. Scale up state-wide hospital infrastructure upgrades, particularly in public secondary and tertiary facilities in Benin City, where high patient volumes overwhelm existing waiting areas.
2. Use community-based health promotion strategies to decongest tertiary hospitals, including:
 - Market outreaches
 - Sensitization at religious centres
 - Engagement of community leaders to encourage the use of primary care for non-emergencies
3. Ensure adequate deployment of healthcare personnel across all public health facilities to prevent prolonged waiting times caused by staff shortages.
4. Leverage local media platforms (radio stations and local TV) to disseminate appropriate information on appointment scheduling and peak clinic hours to the public.
5. Partner with the private sector and non-governmental organizations to fund and support health system strengthening and digital health initiatives.

TO LOCAL GOVERNMENT AUTHORITIES IN BENIN CITY

The Local Government Health Departments (Egor, Oredo, Ikpoba-Okha, and Ovia North-East) should:

1. Organize regular community sensitization programs at the ward level, focusing on educating patients on the appropriate health facilities to visit for specific ailments to prevent overcrowding at tertiary centres.

2. Utilize primary healthcare centres (PHCs) as efficient first-contact hubs by ensuring they are adequately staffed and equipped, thereby reducing the patient load on general and teaching hospitals.
3. Engage community influencers, including religious leaders, women leaders, and market association heads, to help build trust in the services provided at local PHCs.
4. Conduct door-to-door health education campaigns, especially targeting populations with lower education and income levels who frequently bypass primary care levels.
5. Integrate proper referral education into existing maternal and child health services, such as antenatal clinics and immunization days.

TO HEALTHCARE INSTITUTIONS

Healthcare facilities and professionals should:

1. Provide routine updates and clear explanations during clinic visits, especially in units prone to delays, such as:
 - General Outpatient Clinics
 - Pharmacy units
 - Laboratory and diagnostic centres
2. Actively implement and strictly adhere to time-specific appointment scheduling systems, as structured appointments are a strong determinant of reduced waiting times.
3. Address institutional shortcomings directly, particularly:
 - Poor staff attitude
 - Lack of clear information regarding procedures and patient flow

- Uncomfortable or poorly ventilated waiting environments
4. Train healthcare workers on effective communication skills, ensuring they can deliver clear, empathetic, and respectful explanations when delays are inevitable.
 5. Maintain electronic records and functional triage systems to ensure the order of attendance is fair and medical emergencies are prioritized appropriately.

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APPENDIX I
QUESTIONNAIRE

PATIENT SATISFACTION WITH WAITING TIME IN PUBLIC AND PRIVATE
HEALTH FACILITIES IN BENIN CITY

I am a 600 level student of the University of Benin, Benin City and this study aims at assessing Patient Satisfaction With Waiting Time in Public and Private Health Facilities in Benin City. All information given will be treated as confidential. Please mark and fill any areas as appropriate.

Thank you.

SECTION A: SOCIO-DEMOGRAPHIC CHARACTERISTICS

(Please tick or fill in as appropriate)

1. Age (years):

2. Sex:

Male Female

3. Marital status:

Single Married Divorced Widowed

4. Highest level of education attained:

No formal education

Primary

Secondary

Tertiary

5. Employment status:

Employed

Self-employed

Unemployed

Student

Retired

Occupation:.....

Religion:

Ethnic group:.....

6. Type of health facility attended today:

Public health facility

Private health facility

7. Reason for visit:

New consultation

Follow-up visit

Other (specify): _____

SECTION B: WAITING TIME EXPERIENCE

8. What time did you arrive at the health facility today?

_____ (time)

9. What time were you first attended to by a healthcare provider?

_____ (time)

10. Approximately how long did you wait before seeing a doctor or nurse?

Less than 30 minutes

30–59 minutes

1–2 hours

More than 2 hours

11. How would you rate the waiting time you experienced today?

Very short

Short

Fair

Long

Very long

12. Compared with your expectation, the waiting time today was:

Much shorter than expected

Shorter than expected

About what I expected

Longer than expected

Much longer than expected

SECTION C: PATIENT SATISFACTION WITH WAITING TIME

Please indicate your level of agreement with the following statements:

Key:

1 = Strongly disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly agree

13. I am satisfied with the amount of time I waited before receiving care.

1 2 3 4 5

14. The waiting time did not negatively affect my overall experience at the facility.

1 2 3 4 5

15. I believe the waiting time in this facility is reasonable.

1 2 3 4 5

16. I would be willing to return to this facility despite the waiting time.

1 2 3 4 5

17. I would recommend this facility to others based on my waiting time experience.

1 2 3 4 5

SECTION D: FACTORS INFLUENCING SATISFACTION WITH WAITING TIME

18. Which of the following do you think contributed most to the waiting time today? (multiple choice response)

High number of patients

Shortage of staff

Poor appointment scheduling

Slow registration process

Laboratory/pharmacy delays

Other (specify): _____

Please indicate your level of agreement with the following statements:

19. Staff explained the reason for delays adequately.

1 2 3 4 5

20. The attitude of staff made the waiting time easier to tolerate.

1 2 3 4 5

21. The waiting environment (seating, ventilation, cleanliness) was comfortable.

1 2 3 4 5

22. The order in which patients were attended to was fair.

1 2 3 4 5

23. Clear information about procedures and patient flow was provided.

1 2 3 4 5

SECTION E: OVERALL ASSESSMENT

24. Overall, how satisfied are you with the services received today?

Very dissatisfied

Dissatisfied

Neutral

Satisfied

Very satisfied

25. In your opinion, what can be done to improve waiting time in this facility?

APPENDIX II

INFORMED CONSENT FORM

**TITLE OF RESEARCH: PATIENT SATISFACTION WITH WAITING TIME IN
PUBLIC AND PRIVATE HEALTH FACILITIES IN BENIN CITY**

NAMES AND AFFILIATIONS OF INVESTIGATORS:

Wealth Inekurogha Poyeri

Department of Public Health and Community Medicine,

University of Benin Teaching Hospital,

PMB 111,

Benin City,

Edo State.

Email: wealth.poyeri@med.uniben.edu

PURPOSE OF RESEARCH: To assess patient satisfaction with waiting time in public and private health facilities in Benin city, Nigeria with a view of improving patient satisfaction with waiting times in these facilities.

PROCEDURES INVOLVED IN THE STUDY: In this study, questions were asked regarding patient satisfaction with waiting time in public and private health facilities in Benin city.

CONFIDENTIALITY: All data collected was treated with utmost confidentiality. Patients who volunteer to participate in this study were given a unique study number, and data was collected. Participants' information was stored safely secured by codes in computers using only the study identification number. All those handling data will not at any time reveal participants' identity.

FINANCIAL COMPENSATION: There shall be no monetary compensation for participation in this study.

VOLUNTARY PARTICIPATION: Your participation in this study is entirely voluntary. If you desire to withdraw from this study at any time, no punitive measures will be meted against you for your withdrawal. Your refusal to participate or withdraw from the study will not involve any negative consequences or loss of benefits to which you are otherwise entitled.

RISK: It is not expected that any harm will come to you because of your participation in this study. The study does not entail any activity that would harm you.

BENEFIT: The study will help to assess patient satisfaction with waiting time in public and private health facilities in Benin city.

FINANCIAL SPONSORSHIP: This study will be sponsored by the principal investigator.

The investigator may be contacted in case you have any clarifications to make.

The under-listed may be contacted in case you have any clarifications to make.

Wealth Inekurogha Poyeri

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OR

Ethics and Research Committee,

University of Benin Teaching Hospital

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APPENDIX III



HEALTH RESEARCH ETHICS COMMITTEE (HREC)

UNIVERSITY OF BENIN TEACHING HOSPITAL
P.M.B. 1111 BENIN CITY NIGERIA Telephone: 052-600418 Website: ubth.org

CHIEF MEDICAL DIRECTOR Prof. (Mrs) I.N Ize-Iyamu
DIRECTOR OF ADMINISTRATION Jim Uwadie, Esq
CHAIRMAN Prof. (Mrs.) Antoinette N. Ofili

HREC OFFICE:
Committee email: ubthresearchethics@gmail.com
Registration Number: NHREC-UBTH-HREC/24/12/2022B

PROTOCOL NUMBER: ADM/E 22/A/VOL. VII/1486549127276

PROPOSAL TITLE: "PATIENT SATISFACTION WITH WAITING TIME IN PUBLIC AND PRIVATE HEALTH FACILITIES IN BENIN CITY"

PRINCIPAL INVESTIGATOR(S): WEALTH INEKUROGHA POYERI

DEPARTMENT/INSTITUTION: DEPARTMENT OF PUBLIC HEALTH AND COMMUNITY MEDICINE, SCHOOL OF MEDICINE, UNIVERSITY OF BENIN, BENIN CITY, EDO STATE, NIGERIA

DATE CONSIDERED: FEBRUARY 23RD, 2026

DECISION OF THE COMMITTEE: APPROVED

THIS APPROVAL DATES 23/02/2026 TO 22/01/2027. IF THERE IS DELAY IN STARTING THE RESEARCH, PLEASE INFORM THE HREC SO THAT THE DATES OF APPROVAL CAN BE ADJUSTED ACCORDINGLY

REMARK:

CHAIRMAN: PROF. (MRS) A.N. OFILI SIGNATURE & DATE:  23/2/2026

SUPERVISOR (S): PROF OBEHI OKOJIE, DR. NDUBUISI MOKOGWU

DECLARATION BY INVESTIGATOR(S):
PROTOCOL NUMBER (please quote in all enquiries)
Note that no participant accrual or activity related to this research may be conducted outside of these dates and you are to furnish the committee with the research activities at the completion of the study. All informed consent forms used in this study must carry the HREC assigned number and duration of HREC approval of the study. In multiyear research, endeavor to submit your annual report to the HREC early in order to obtain renewal of your approval and avoid disruption of your research. No changes are permitted in the research without prior approval by the HREC except in circumstances outlined in the Code. The HREC reserves the right to conduct compliance visit your research site without previous notification.

Signature & Date:  23-02-2026

 ubthresearchethics@gmail.com Registration Number: NHREC/24/01/2020

APPENDIX

IV



INTELLECTUAL PROPERTY & TECHNOLOGY TRANSFER OFFICE (IPTTO)

Vice Chancellor's Office
University of Benin
PMB1154, Benin City, Nigeria

CLEARANCE FORM

DATE: 11/05/2026

NAME: WASHIH NKEKI DOGHA POSTER

MATRIC NO: M 691 807494

DEPARTMENT: MEDICINE

FACULTY: MEDICINE

SESSION OF GRADUATION: 2024/2025

RECTOR

(Signature)
IPTTO
BENIN CITY

Head of Unit (IPTTO)

