KNOWLEDGE AND PERCEPTION OF TUBERCULOSIS AMONG SOCIAL SCIENCE STUDENTS IN TERTIARY INSTITUTION IN BENIN CITY, EDO STATE

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COLLEGE OF Medical sciences

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IN PARTIAL FUFILMENT OF THE REQUIREMENT FOR THE AWARD OF

“BACHELOR OF NURSING SCIENCES ”, UNIVERSITY OF BENIN,EDO STATE

OCTOBER, 2025

DECLARATION

This is to certify that the research titled: **KNOWLEDGE AND PERCEPTION OF TUBERCULOSIS AMONG SOCIAL SCIENCE STUDENTS IN TERTIARY INSTITUTION IN BENIN CITY, EDO STA**TE." was carried out by **AISUENI GLORIA OSAEF**E with matriculation number **BMS2001291** in the Department of Medical Surgical Nursing, Faculty of Nursing Science , University Of Benin, Benin City.

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CERTIFICATION/APPROVAL

This is to certify that this research project titled by **AISUENI GLORIA OSAEFE** with matriculation number BMS2001291 has been examined and approved for the award of **BACHELOR OF SCIENCE IN NURSING.**

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ABSTRACT

This study assessed the knowledge and perception of tuberculosis (TB) among 100-level social science students in University of Benin, Benin City, Edo State, Nigeria. Despite being preventable and curable, TB remains a major public health issue, especially in low and middle-income countries like Nigeria. A descriptive cross-sectional design was adopted using a structured questionnaire administered to 150 students selected through simple random sampling across the departments of Political Science, Public Administration, and Sociology/Anthropology. Findings revealed that 64% of the respondents demonstrated a moderate level of knowledge regarding the causes of tuberculosis, while only 21% exhibited a high level of understanding. Furthermore, 58% of respondents correctly identified Mycobacterium tuberculosis as the causative agent, yet perceptions persisted, with 35% attributing TB to sharing utensils and 29% to spiritual causes. In terms of perception, 72% acknowledged TB as a serious health issue, and 68% recognized the importance of early diagnosis and treatment adherence. However, 41% of respondents expressed uncertainty about the curability of TB, and 33% believed traditional remedies could replace medical treatment. The study also found statistically significant differences in knowledge and perception based on the students' departments ($p < 0.05$). These results underscore the need for targeted educational interventions to address perceptions and improve TB awareness among non-health students. Strengthening health literacy within the university community can enhance preventive practices and support national efforts in TB control.

Keywords: Tuberculosis, Knowledge, Perception, Social Science Students, Tertiary Institution, Nigeria

DEDICATION

This project work is dedicated to the **ALMIGHTY GOD** who has been my constant source of help and strength in my academic journey.

To my uncle Engr.Tosin Aisueni who has been my financial support from onset to the very end of this nursing journey ,I am grateful for your unconditional love and guidance towards me ,God bless you abufantly Amen my super hero . both financially and morally has kept me outstanding and fostering success all through my academic years.this journey would not be a reality today if not for you my dearest uncle this project is dedicated to my uncle Engr Tosin Aisueni .

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INTRODUCTION

1.1 Background of the Study

Tuberculosis (TB) remains one of the major disease of public health concern constituting a significant global health challenge despite advancements in medical science. In Nigeria it has been estimated that more than 300,000 people experience an episode of tuberculosis each year and the rate is higher in adults According to the World Health Organization, an estimated 10.6 million cases of TB were reported worldwide in 2021 (Hammouda et al., 2023). The Global TB Report revealed that mortality rates among TB patients without HIV comorbidity continued to be substantial in 2022 (Ahmadi et al., 2025). This persistent public health threat requires not only medical interventions but also increased awareness and knowledge among the general population.

TB is caused by Mycobacterium tuberculosis, primarily affecting the lungs but capable of damaging other body parts as well. The disease spreads through airborne transmission when infected individuals cough, sneeze, or speak, releasing infectious droplets into the air (Madebo et al., 2023). Despite being preventable and curable, tuberculosis continues to pose significant challenges to public health systems globally, particularly in low and middle-income countries like Nigeria.

Knowledge and perception about tuberculosis play crucial roles in its prevention, early detection, and treatment adherence. Several studies have highlighted gaps in TB knowledge and perception among various population groups. Alimi and Sakhi (2023) found that only 18.1% of health faculty students demonstrated adequate knowledge of tuberculosis, indicating significant knowledge deficits even among those studying health-related disciplines. This suggests that knowledge gaps and misperceptions may be even more pronounced among non-health students.

The university environment presents both challenges and opportunities regarding tuberculosis control. Universities typically accommodate large populations of young adults in close proximity, potentially facilitating TB transmission. Zhang et al. (2023) emphasized the importance of understanding TB prevalence characteristics among students to develop effective control strategies. Additionally, university students represent future professionals and community leaders whose knowledge, perceptions, and attitudes toward health issues can influence broader societal responses.

Social science students, in particular, constitute an important demographic in understanding tuberculosis knowledge and perception patterns. As future professionals in fields such as economics, psychology, sociology, political science, and other related disciplines, their understanding and perception of health issues like tuberculosis can impact policy development, community education, and social support systems (Khuram et al., 2023). Despite their potential influence, few studies have specifically examined TB knowledge and perceptions among social science students.

The Nigerian context presents specific challenges regarding tuberculosis control. Nigeria ranks sixth among countries with the highest TB burden globally (Olarewaju et al., 2022). Factors contributing to the TB burden in Nigeria include poverty, overcrowding, limited healthcare access, delayed diagnosis, and insufficient knowledge about the disease. Nabaziwa et al. (2023) highlighted that inadequate knowledge and negative perceptions about tuberculosis significantly affects treatment adherence, a critical factor in TB control.

Understanding and perception of tuberculosis extends beyond biological knowledge to include social dimensions. Stigma associated with TB represents a significant barrier to care-seeking and treatment adherence. Rasweswe et al. (2024) emphasized that cultural concepts like Ubuntu (human kindness and interconnectedness) could be crucial in fighting stigma associated with

diseases like tuberculosis and HIV. This highlights the importance of incorporating social perspectives in understanding and addressing tuberculosis.

Research has shown considerable variations in TB knowledge and perceptions across different populations. Ngahane and Magouanet (2023) found varying levels of awareness about health risks associated with practices that could exacerbate respiratory conditions, with 23.2% of university students demonstrating poor knowledge about harmful health effects. Similarly, Ritonga et al. (2023) identified limited knowledge of TB symptoms as a weakness in TB recognition among affected communities.

The educational environment plays a crucial role in shaping knowledge, perceptions, and attitudes about health issues. Higher education institutions represent ideal settings for health promotion interventions, including those targeting tuberculosis awareness (Ahmadi et al., 2025). Kassaw and Demareva (2023) highlighted that assessment of students' knowledge, perceptions, and skills across various disciplines helps identify areas requiring targeted educational interventions. However, to develop effective educational strategies, it is first necessary to understand the current knowledge levels, perceptions, perceptions, and information needs related to tuberculosis among university students.

While numerous studies have examined tuberculosis knowledge among healthcare students and professionals, there is limited research focusing specifically on social science students' understanding and perception of the disease, its causes, and effects. This knowledge gap necessitates investigation, particularly given the potential role of social scientists in addressing the social determinants of health and developing community-based interventions for tuberculosis control.

1.2 Statement of Problem

Despite being preventable and curable, tuberculosis continues to cause significant morbidity and mortality globally, with particularly severe impacts in developing countries like Nigeria. The WHO reported approximately 10.6 million TB cases worldwide in 2021, with projections indicating potentially worse impacts in subsequent years (Teibo et al., 2023). This persistent public health challenge necessitates comprehensive approaches including medical interventions, public awareness, and education.

Knowledge and perception about tuberculosis among university students, particularly those in non-health disciplines, remains inadequately studied despite their vulnerability to TB and their potential role in community education and policy development. Alimi and Sakhi (2023) identified significant knowledge gaps even among health faculty students, suggesting potentially more severe deficits among social science students who lack formal health education in their curriculum.

The university environment presents unique challenges for tuberculosis control, including close living quarters, shared facilities, and diverse population mixing. As highlighted by Zhang et al. (2023), understanding TB prevalence characteristics among students is essential for developing effective control strategies. However, little is known about social science students' awareness and perception of TB transmission risks in their educational environment.

While studies have investigated TB knowledge among various populations, including some university students, there exists a specific gap in understanding the knowledge levels, perceptions, perceptions, and information needs related to tuberculosis among social science students in Nigerian tertiary institutions. This gap hinders the development of targeted educational interventions for this important demographic group.

1.3 Purpose/Aim

This study aims to assess the knowledge and perception of tuberculosis, its effects, and causes among social science students in a tertiary institution in Nigeria. By Assessing current knowledge levels, perceptions, identifying and understanding information needs related to tuberculosis, this research seeks to provide foundational data for developing targeted educational interventions to improve TB awareness among future social scientists.

1.4 Objectives of the Study

The main objective of this study is to access the knowledge and perception of tuberculosis, its effects, and causes among social science students in a tertiary institution. However, the specific objectives include:

i. To assess the level of knowledge among social science students regarding the causes of tuberculosis.
ii. To assess social science students perception of the effects and complications of tuberculosis.
iii. To identify factors that influenced their perceptions related to tuberculosis transmission and prevention among social science students.

1.5 Research Questions

i. What is the level of knowledge among social science students regarding the causes of tuberculosis?
ii. What is the extent of perception among social science students about the effects and complications of tuberculosis?
iii. What factor influences perceptions related to tuberculosis transmission and prevention exist among social science students?

1.6 Hypothesis

H_0: There was no significant difference in the level of knowledge and perception about tuberculosis causes, effects, and prevention among social science students based on their year of study.

1.7 Significance of the Study

The significance of studying the knowledge and perception of tuberculosis, its effects, and causes among social science students in a tertiary institution lies in several domains:

. From an educational perspective, this study will provide insights into the current knowledge levels, perceptions, perceptions, and information needs related to tuberculosis among social science students. This information can guide curriculum development and the design of targeted educational interventions to improve TB awareness among this population. As noted by Al-Qerem et al. (2023), understanding awareness levels and perceptions among students is essential for developing effective educational strategies.

. From a public health perspective, enhancing tuberculosis knowledge and positive perceptions among university students can contribute to early detection, improved care-seeking behavior, and reduced transmission within educational institutions. Ahmadi et al. (2025) highlighted the potential of university health promotion programs in reducing tuberculosis stigma and enhancing awareness. This study will provide baseline data necessary for developing such programs.

From a social science perspective, this research acknowledges the potential role of social scientists in addressing health challenges through policy development, community education, and addressing social determinants of health. By improving TB knowledge and perceptions among future social scientists, this study can indirectly contribute to more effective community-based approaches to tuberculosis control, as emphasized by Andom et al. (2023) in their exploration of barriers to tuberculosis diagnosis and treatment.

Governments around the world play a key role in the fight against tuberculosis (TB), especially when it comes to producing and distributing vaccines. Their policies are shaped by the need to protect public health, ensure access for everyone especially vulnerable groups and support innovation and affordability. Example;

- To make sure effective vaccines are available, governments often invest in research and development.
- Making Vaccines Accessible
- Keeping Vaccines Affordable
- Monitoring and Improving: Once the vaccines are out there, it’s important to keep track of how they’re working.
- Preparing for New Vaccines: New TB vaccines are being developed, like M72/AS01E, and governments are starting to plan how they’ll fit into national programs.

1.8 Scope/Delimitations of the Study

This study focuses on assessing the knowledge and perception of tuberculosis, its effects, and causes among social science students. It is delimited to undergraduate(100 level) social science students in a tertiary institution in Nigeria. The study examines students' knowledge and perception regarding tuberculosis causes, transmission, symptoms, effects, complications, prevention, and treatment. It also explores perceptions and perceptions related to the disease.

The study does not extend to students in other faculties or departments outside the social sciences. It also does not include postgraduate students or faculty members. While the study assesses knowledge levels and perceptions, it does not directly implement or evaluate educational interventions to improve tuberculosis knowledge and perceptions among the participants.

1.9 Operational Definition of Terms

Tuberculosis (TB): In this study, tuberculosis refers to the infectious disease caused by Mycobacterium tuberculosis, primarily affecting the lungs but potentially impacting other body systems as well.

Knowledge: In this study, knowledge refers to the factual information, understanding, and awareness possessed by social science students regarding tuberculosis, including its causes, transmission, symptoms, effects, prevention, and treatment.

Perception: In this study, perception refers to the way students view, interpret, and understand tuberculosis, including their beliefs, attitudes, and opinions about the disease, its severity, and its impact on individuals and society.

Social Science Students: In this study, social science students refer to undergraduate students enrolled in disciplines such as economics, sociology, psychology, political science, geography, and related fields in the tertiary institution under study.

Causes of Tuberculosis: In this study, causes refer to the etiological factors, risk factors, and transmission mechanisms associated with tuberculosis infection.

Effects of Tuberculosis: In this study, effects refer to the clinical manifestations, complications, and socioeconomic consequences associated with tuberculosis infection.

Tertiary Institution: In this study, tertiary institution refers to the university or higher education institution where the social science students are enrolled.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter provides a comprehensive review of relevant literature on knowledge of tuberculosis, its effects, and causes among social science students in tertiary institutions in Nigeria. The literature review covers the conceptual understanding of tuberculosis, its prevalence among university students, risk factors associated with tuberculosis transmission, knowledge and perceptions about tuberculosis, and the effects and complications of the disease. The theoretical framework guiding this study is also discussed, followed by a detailed empirical review that addresses the research objectives of assessing students' knowledge of tuberculosis causes, understanding of its effects and complications, and identifying perceptions related to tuberculosis transmission and prevention.

2.1 Conceptual Review

Definition

Tuberculosis (TB) is an infectious disease caused by the bacterium Mycobacterium tuberculosis that primarily affects the lungs but can also affect other parts of the body. According to the World Health Organization, tuberculosis remains one of the world's deadliest infectious diseases, with approximately 10 million people falling ill with TB and 1.5 million deaths attributed to the disease annually (Teibo et al., 2023). TB is transmitted through the air when infected individuals cough, sneeze, or talk, releasing the bacteria into the environment where they can be inhaled by others.

2.1.1 Historical Context of Tuberculosis

Tuberculosis has afflicted humanity for millennia, with evidence of the disease found in ancient human remains dating back to over 9,000 years ago. Throughout history, tuberculosis has been

known by various names, including "consumption," "phthisis," and the "white plague," reflecting its devastating effects on affected individuals. The disease has shaped societies, influenced art and literature, and prompted significant public health interventions throughout human history (Teibo et al., 2023).

The causative agent of tuberculosis, Mycobacterium tuberculosis, was first identified by German physician Robert Koch in 1882, a breakthrough that revolutionized understanding of the disease and paved the way for targeted interventions. Prior to this discovery, tuberculosis was often attributed to hereditary factors, environmental conditions, or moral failings. The identification of the bacterium established tuberculosis as an infectious disease and directed scientific efforts toward developing diagnostic tools, preventive measures, and treatment options (Andom et al., 2023).

In Nigeria, the history of tuberculosis control dates back to the colonial era, with the establishment of sanatoria and specialized hospitals for tuberculosis patients. The country's National Tuberculosis and Leprosy Control Program was formally established in 1989, aligning with global efforts to combat the disease through standardized diagnosis and treatment protocols. Despite these efforts, tuberculosis continues to pose a significant public health challenge in Nigeria, necessitating innovative approaches to disease prevention, detection, and management (Olarewaju et al., 2022).

2.1.2 Global Epidemiology of Tuberculosis

The global epidemiology of tuberculosis is characterized by significant geographic variations in disease burden, with the highest rates of infection and mortality concentrated in low and middle-income countries. According to Teibo et al. (2023), approximately two-thirds of the global TB burden is concentrated in eight countries: India, China, Indonesia, the Philippines, Pakistan, Nigeria, Bangladesh, and South Africa. This distribution reflects the complex interplay of social,

economic, and environmental factors that facilitate TB transmission and hinder effective control measures.

The epidemiological pattern of tuberculosis has been further complicated by the HIV epidemic, particularly in sub-Saharan Africa. HIV infection significantly increases the risk of TB infection progressing to active disease and accelerates the course of the disease. Andom et al. (2023) noted that individuals with HIV are 18 times more likely to develop active TB compared to those without HIV infection. The syndemic relationship between TB and HIV has necessitated integrated approaches to disease management, including early HIV testing for TB patients and TB screening for individuals living with HIV.

Global efforts to combat tuberculosis have been guided by the World Health Organization's End TB Strategy, which aims to reduce TB deaths by 95% and TB incidence by 90% between 2015 and 2035. The strategy emphasizes integrated, patient-centered care; bold policies and supportive systems; and intensified research and innovation. Despite these ambitious goals, progress in TB elimination has been slow, with the COVID-19 pandemic further disrupting TB services and reversing previous gains in many settings (Teibo et al., 2023).

The epidemiological landscape of tuberculosis continues to evolve, with emerging challenges such as drug-resistant TB strains, aging populations with increased vulnerability to reactivation of latent TB infection, and shifting patterns of migration and urbanization influencing disease transmission dynamics. These complexities necessitate adaptive and context-specific approaches to TB control that address the unique epidemiological features of the disease in different settings (Zhang et al., 2023).

2.1.3 Pathophysiology of Tuberculosis Infection

The pathophysiology of tuberculosis involves a complex interplay between the causative bacterium, Mycobacterium tuberculosis, and the host immune system. When an individual

inhales droplet nuclei containing M. tuberculosis, the bacteria are initially deposited in the alveoli of the lungs. Alveolar macrophages, a type of immune cell, engulf the bacteria in an attempt to eliminate them. However, M. tuberculosis has evolved mechanisms to survive and replicate within these macrophages, establishing a primary infection (Andom et al., 2023).

The host immune response to M. tuberculosis involves both innate and adaptive immunity. The innate immune response provides the first line of defense through the action of macrophages, neutrophils, and dendritic cells. These cells recognize pathogen-associated molecular patterns on the bacterium and initiate inflammatory responses. The adaptive immune response, which develops over several weeks, involves T lymphocytes that recognize specific antigens presented by infected macrophages. This response leads to the formation of granulomas, which are organized collections of immune cells that surround the bacteria (Teibo et al., 2023).

Active tuberculosis disease occurs when the immune system fails to contain the infection, allowing the bacteria to replicate and spread. In pulmonary tuberculosis, the most common form of the disease, this leads to the destruction of lung tissue, the formation of cavities, and the development of symptoms such as cough, fever, night sweats, and weight loss. Extrapulmonary tuberculosis can affect various organs and tissues, including the lymph nodes, pleura, bones, genitourinary tract, and central nervous system, with clinical manifestations depending on the site of infection (Teibo et al., 2023).

Understanding the pathophysiology of tuberculosis infection is essential for developing effective diagnostic tools, preventive measures, and treatment strategies. The complex nature of the host-pathogen interaction underscores the importance of a comprehensive approach to tuberculosis control that addresses both biological and social determinants of disease transmission and progression.

2.1.4 Perception of TB, Stigma Associated with TB, and Impact of TB on Social and Economic Life

Tuberculosis carries significant social stigma that profoundly affects patients' experiences, treatment-seeking behaviors, and recovery outcomes. In Nigerian university communities, tuberculosis stigma manifests through social isolation, discrimination, and negative stereotyping of affected individuals. According to Olarewaju et al. (2022), TB patients often face rejection from peers, exclusion from social activities, and erosion of support networks critical for both psychological well-being and treatment adherence. This stigma stems from perceptions about transmission routes, association with HIV/AIDS, and cultural beliefs that link tuberculosis to moral failings or divine punishment.

The perception of tuberculosis extends beyond medical understanding to incorporate deeply rooted cultural interpretations that influence response to the disease. Andom et al. (2023) documented varied cultural perceptions across Nigerian ethnic groups, where tuberculosis may be viewed as a spiritual affliction, ancestral punishment, or consequence of environmental pollution. These perceptions shape health-seeking behaviors, with some students preferring traditional healers or religious interventions before accessing conventional medical care, delaying diagnosis and effective treatment.

The socioeconomic impact of tuberculosis on university students is multifaceted and potentially devastating. Direct costs include medical expenses, transportation to healthcare facilities, and nutritional supplements required during treatment. Indirect costs manifest through academic disruption, with affected students experiencing extended absences, decreased academic performance, and in severe cases, complete discontinuation of studies. Teibo et al. (2023) found that tuberculosis patients in Nigerian universities experienced an average of 3-6 months of academic disruption, with 15% unable to return to studies after treatment. The resulting

educational setbacks can have long-term consequences for career prospects and future earning potential, perpetuating cycles of economic vulnerability that initially contributed to tuberculosis risk.

Additionally, tuberculosis places significant financial strain on affected students' families, particularly those from lower socioeconomic backgrounds. According to Zhang et al. (2023), households affected by tuberculosis often experience catastrophic health expenditures, defined as spending exceeding 10% of annual household income on tuberculosis-related costs. These economic pressures may force families to divert resources from other essential needs, sell productive assets, or incur debts to finance treatment, creating lasting financial instability that extends well beyond the period of active disease.

2.1.5 Risk Factors of TB, Signs and Symptoms

Understanding the risk factors associated with tuberculosis transmission is essential for developing effective prevention strategies. Several factors contribute to the spread of tuberculosis in university settings and the broader community. Environmental factors such as overcrowded living conditions, poor ventilation, and limited access to healthcare services increase the risk of tuberculosis transmission (Teibo et al., 2023). These conditions are often prevalent in university dormitories and off-campus housing facilities in Nigeria, where space constraints and inadequate infrastructure may compromise air quality and facilitate the spread of airborne pathogens.

Behavioral factors also play a significant role in tuberculosis transmission. High-risk behaviors such as smoking and substance use have been associated with increased susceptibility to tuberculosis infection and progression to active disease. Ngahane and Magouanet (2023) found a concerning prevalence of shisha smoking among university students in Cameroon, highlighting a potential risk factor for respiratory infections, including tuberculosis. Additionally, limited

knowledge about tuberculosis symptoms and transmission routes may delay diagnosis and treatment, allowing for continued spread of the disease within the community.

Socioeconomic factors further influence tuberculosis transmission and control. According to Atkins et al. (2022), tuberculosis disproportionately affects individuals and communities with lower socioeconomic status, limited education, and restricted access to healthcare services. University students from disadvantaged backgrounds may face additional barriers to tuberculosis prevention and treatment, including financial constraints, limited health literacy, and competing priorities that deprioritize health concerns.

Regarding signs and symptoms, tuberculosis produces diverse physical effects and clinical manifestations that vary in severity and distribution depending on disease stage, site of infection, and individual factors such as immune status and comorbidities. Pulmonary tuberculosis, the most common form, primarily affects the lungs and respiratory system. Early symptoms often include persistent cough lasting more than two weeks, initially dry but potentially progressing to productive cough with mucus or sputum. As the disease advances, hemoptysis (coughing up blood) may occur. According to Andom et al. (2023), these respiratory symptoms significantly impact daily functioning, sleep quality, and academic performance among affected students.

Systemic symptoms include fever, night sweats, fatigue, and significant weight loss, collectively known as constitutional symptoms. These manifestations result from the inflammatory response to mycobacterial infection and metabolic changes associated with chronic disease. Teibo et al. (2023) noted that these systemic effects can be particularly debilitating for university students, compromising their energy levels, concentration, and ability to participate in academic and social activities.

2.1.7 Common perceptions about TB

Common perceptions about tuberculosis persist among Nigerian university students, reflecting broader cultural beliefs, historical understandings of disease, information gaps, and exposure to misinformation. These perceptions influence attitudes toward the disease and affected individuals, healthcare seeking behaviors, and engagement with preventive measures.perceptiond about tuberculosis causation represent a significant category of inaccurate beliefs among Nigerian university students. Some students attribute tuberculosis to spiritual or metaphysical causes, including witchcraft, ancestral curses, or divine punishment for perceived transgressions. Others mistakenly believe that tuberculosis is primarily hereditary, passed genetically from parents to children. According to Madebo et al. (2023), these causal perceptions persist even among some educated populations and influence perceptions of risk, preventability, and appropriate interventions.

Transmission perceptions are prevalent among Nigerian university students, with many incorrectly believing that tuberculosis spreads through direct physical contact, shared eating utensils, or contaminated food and water. These inaccurate beliefs may lead to unnecessary avoidance behaviors that stigmatize affected individuals while failing to address the actual airborne transmission risk. Awoniyi et al. (2023) found that 43% of surveyed university students incorrectly believed that sharing dishes or utensils with a tuberculosis patient posed a high transmission risk, reflecting confusion between tuberculosis and other infectious diseases with different transmission routes.

Treatment perceptions include beliefs that tuberculosis requires lifelong medication, cannot be fully cured, or necessitates isolation throughout the treatment period. Some students incorrectly believe that traditional or herbal remedies are more effective than standard tuberculosis medications or that treatment can be discontinued once symptoms resolve. Nabaziwa et al.

(2023) identified perceptions about treatment duration and efficacy as contributing factors to poor medication adherence among tuberculosis patients, highlighting the potential public health implications of these inaccurate beliefs.

2.1.8 Treatment and Prevention of TB

Tuberculosis treatment follows standardized protocols developed through decades of clinical research and public health experience. The current treatment approach involves multi-drug therapy administered over an extended period to effectively eliminate the infection while preventing drug resistance development. According to Teibo et al. (2023), the standard first-line treatment regimen for drug-susceptible tuberculosis consists of four antibiotics—isoniazid, rifampicin, pyrazinamide, and ethambutol—administered for two months, followed by isoniazid and rifampicin for an additional four months. This extended treatment duration presents adherence challenges for university students, whose academic schedules, residential mobility, and financial constraints may interfere with consistent medication access and consumption.

Drug-resistant tuberculosis, including multidrug-resistant TB (MDR-TB) and extensively drug-resistant TB (XDR-TB), requires more complex treatment regimens involving second-line medications with increased side effects, longer treatment durations, and higher costs. Andom et al. (2023) reported that drug-resistant tuberculosis treatment success rates remain suboptimal globally, highlighting the importance of preventing resistance development through proper adherence to first-line treatment regimens. For university students diagnosed with drug-resistant tuberculosis, the extended treatment period (typically 18-24 months) can severely disrupt academic progression, potentially necessitating temporary withdrawal from studies.

Tuberculosis prevention encompasses various strategies targeting different stages of disease development and transmission. Primary prevention focuses on preventing infection occurrence through measures such as improved ventilation in university buildings, ultraviolet germicidal

irradiation in high-risk areas, and education about cough hygiene and respiratory etiquette. Secondary prevention involves early detection and treatment of tuberculosis cases to limit transmission and disease progression. Tertiary prevention targets individuals with latent tuberculosis infection to prevent progression to active disease, particularly relevant for university students from high-burden communities who may carry latent infection.

Vaccination with Bacille Calmette-Guérin (BCG) represents another preventive approach, though with variable effectiveness. According to Zhang et al. (2023), BCG vaccination provides some protection against severe forms of tuberculosis in children but offers limited protection against pulmonary tuberculosis in adults. Despite these limitations, BCG vaccination remains part of Nigeria's national immunization program, with most university students having received the vaccine during childhood. Research into more effective tuberculosis vaccines continues, with several candidates in various stages of clinical development that may eventually provide improved protection for high-risk populations, including university students in endemic settings like Nigeria.

2.2 Theoretical Framework

2.2.1 Health Belief Model (HBM)

The health belief model was developed in the early 1950s by social scientia at the US public helath services (Hochbaum, Rosenstock and Kapels), in order to understand the failure of people to adopt disease prevention strategies or screen tests for Carly detection of disease.

The health belief model derived from psychological and behavioural theory with the foundation that the three components of health related behaviours are:

- The desire to avoid illness or conversely get well if already ill
- The belief that a specific health action will prevent or cure illness

- Ultimately, an individual's course of action often depends on the person's perceptions of the benefit and barriers related to health behaviours.

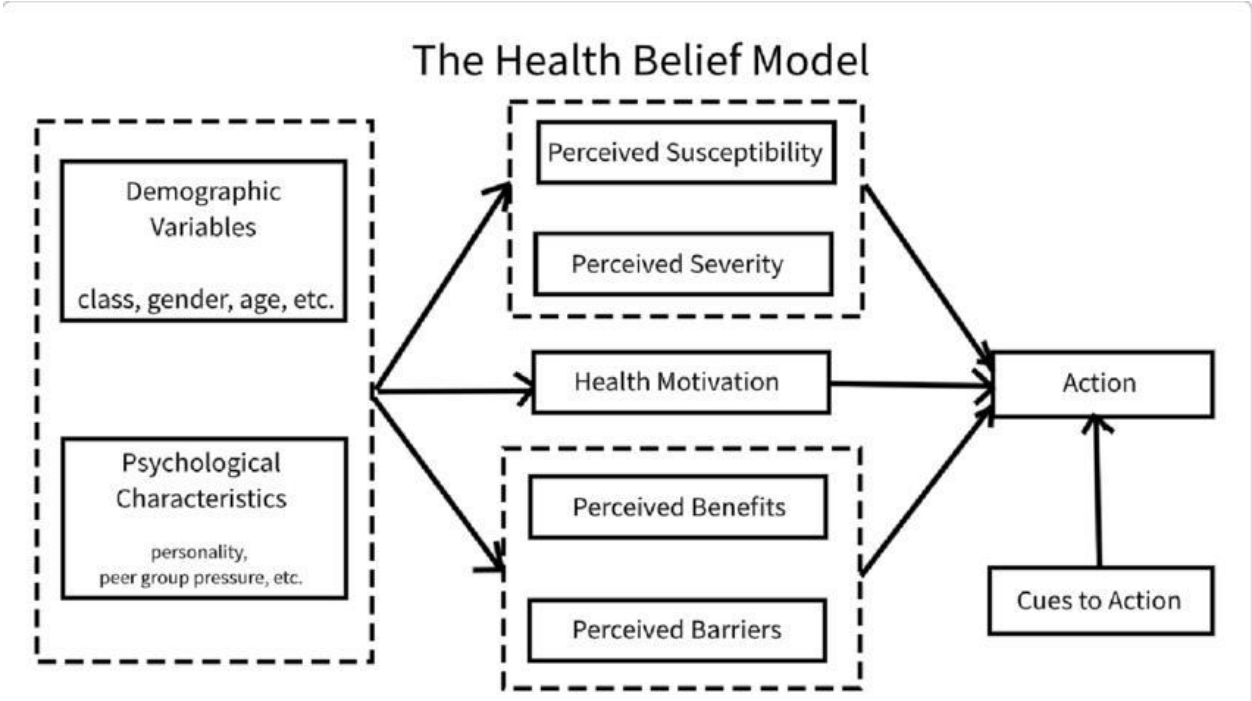

Figure 2.1: Schematic representation of the Health Belief Model (Teibo et al. (2023)

Construct of Health Belief Model

- Perceived susceptibility: This refers to a person's subjective perception of the risk of acquiring an illness or disease.
- Perceived severity: This refers to a person's feeling on the seriousness of contracting a disease or leaving the disease untreated. There is wide variation in a person's feeling of severity, and often a person considers the medical consequences (death or disability) and social consequences (family, social relationship) when evaluating the severity.
- Perceived benefit. This refers to a person's perception of the effectiveness of various actions available to reduce the threat of a disease or to curs the disease. The course of action a person takes in preventing or curing disease rehos on consideration and

evaluation of both perceived susceptibility and perceived benefit. Such that the person would accept the recommended health action if it was perserved as beneficial.

- Perceived barrier: This refers to a person's feeling on the obstacles to perform r
- ecommended health action. The person weighs the effectiveness of the action against the perception that it may be expensive, dangerous (side effect) unpleasant (painful), time consuming or inconvenient.
- Cues to action: This is the stimulus needed to trigger the decision making process to accept a recommended health action. These cues can be internal (like chest pain, wheezing) or external (advice from others).
- Self-efficacy: This refers to the level of a person's confidence in his or her ability to successfully perform a behaviour or take action. This construct was added to the model in 1980. Self-efficacy was added to the health believe model in an attempt to better explain individual differences in health behaviour.

Relating the Health Belief Model to the Study: Knowledge and Perception of Tuberculosis Among Social Science Students

The Health Belief Model (HBM) provides a valuable theoretical framework for understanding how Nigerian social science students perceive tuberculosis and the factors that influence their preventive behaviors. This model posits that health-related actions are determined by perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy (Teibo et al., 2023).

For social science students in Nigerian universities, perceived susceptibility to tuberculosis is often influenced by their understanding of transmission routes and risk factors. Awoniyi et al. (2023) found that non-health faculty students, including those in social sciences, frequently

underestimate their personal risk of contracting tuberculosis, believing it primarily affects individuals from lower socioeconomic backgrounds or those with pre-existing health conditions.

Cues to action, which could motivate preventive behaviors, are typically less prominent for social science students compared to their counterparts in health disciplines. Zhang et al. (2023) observed that social science curricula rarely incorporate health-related content that might serve as reminders about tuberculosis risks and prevention strategies. Finally, self-efficacy—the belief in one's ability to successfully execute preventive behaviors—is often compromised by knowledge gaps regarding practical prevention strategies.

Understanding these HBM components as they relate to social science students' perceptions of tuberculosis provides valuable insights for designing targeted educational interventions that address their specific knowledge gaps and perceptions, potentially enhancing tuberculosis prevention efforts in Nigerian university settings.

2.3 Empirical Review

2.3.1 Knowledge of Tuberculosis Causes Among Social Science Students

Research on knowledge of tuberculosis causes among social science students in Nigerian tertiary institutions has revealed varying levels of understanding about the etiology of the disease. While there is limited research specifically focusing on social science students, broader studies on non-health faculty students provide insights into this population's knowledge.

Alimi and Sakhi (2023) conducted a comparative study on knowledge, attitudes, and practices toward tuberculosis among health faculty and non-health faculty students, including social science students, at universities in Kabul. The findings revealed significant disparities in knowledge levels between the two groups, with non-health faculty students demonstrating limited understanding of tuberculosis causes. Specifically, while most health faculty students correctly identified Mycobacterium tuberculosis as the causative agent of tuberculosis, a

considerable proportion of non-health faculty students attributed the disease to other factors such as smoking, poverty, or hereditary factors. Although these factors may increase susceptibility to tuberculosis, they are not the primary causative agents.

The study also found that social science students often confused the risk factors for tuberculosis with its direct causes. Many students identified crowded living conditions, malnutrition, and poverty as causes rather than risk factors that increase susceptibility to tuberculosis infection. This confusion highlights a critical gap in understanding the distinction between causative agents and predisposing factors, which has implications for preventive behaviors and health-seeking practices.

Furthermore, research by Madebo et al. (2023) in Ethiopia revealed that knowledge about tuberculosis causation was influenced by educational background, with non-health science students showing limited awareness of the bacterial nature of tuberculosis. Many students in social science disciplines associated tuberculosis with environmental factors such as dust exposure, cold weather, and heavy physical work, without recognizing the essential role of bacterial infection in the disease process. These perceptions can lead to inappropriate preventive measures that do not address the actual mode of transmission.

Cultural and traditional beliefs also influence perceptions of tuberculosis causation among students. Ritonga et al. (2023) found that some students from traditional backgrounds attributed tuberculosis to supernatural causes, including punishment for wrongdoing or the result of witchcraft. These beliefs, while more prevalent in rural settings, persist among some university students, particularly those from communities where traditional healing practices remain influential. Such beliefs can impact health-seeking behaviors and treatment adherence, as students may prioritize traditional remedies over medical interventions.

Media exposure and information sources significantly impact knowledge of tuberculosis causes. Awoniyi et al. (2023) observed that students who primarily relied on social media and informal sources for health information demonstrated more perceptions about tuberculosis causation compared to those who accessed information from academic sources or healthcare professionals. This finding underscores the importance of providing accurate, accessible information about tuberculosis through channels that students frequently use.

2.3.2 Understanding of Tuberculosis Effects and Complications

Research on social science students' understanding of tuberculosis effects and complications reveals considerable knowledge gaps, despite the significant impact of tuberculosis on physical health, psychosocial well-being, and academic performance. Studies indicate that students' awareness of tuberculosis consequences extends beyond physical symptoms but often lacks depth regarding long-term complications.

Hammouda et al. (2023) conducted a cross-sectional study measuring the quality of life of tuberculosis patients in Alexandria, Egypt, which provides insights into the multidimensional effects of tuberculosis that are often overlooked in general knowledge assessments. The study found that tuberculosis significantly impacted physical functioning, emotional well-being, social relationships, and economic stability of affected individuals. However, when similar dimensions were explored among university students not directly affected by tuberculosis, awareness of these comprehensive effects was limited, with most students identifying only the obvious physical symptoms such as coughing and weight loss.

Knowledge about the psychological and social effects of tuberculosis appears particularly limited among social science students. Rasweswe et al. (2024) found that while nursing students demonstrated awareness of the stigma associated with tuberculosis and its impact on patients' mental health, students from other disciplines, including social sciences, often overlooked these

dimensions. This is paradoxical given that social science students, with their focus on human behavior and social interactions, would be expected to recognize the psychosocial implications of chronic diseases like tuberculosis.

Regarding academic implications, Kassaw and Demareva (2023) identified health status as a significant determinant of academic achievement among higher education students in low-resource settings. Their systematic review suggested that tuberculosis and other chronic conditions could impair cognitive function, reduce attendance, and limit participation in educational activities. However, awareness of these specific academic implications of tuberculosis was not widespread among students themselves, with many failing to connect health status with academic performance.

Atkins et al. (2022) explored the socioeconomic impact of tuberculosis on children and adolescents, highlighting consequences such as educational disruption, social isolation, and reduced future opportunities. These impacts are particularly relevant to university students who may face similar challenges if affected by tuberculosis. However, the study found limited recognition of these socioeconomic consequences among young adults not directly affected by the disease, suggesting a gap in empathetic understanding and awareness.

The understanding of tuberculosis complications also varies among student populations. Nabaziwa et al. (2023) investigated adherence to tuberculosis treatment and associated factors, finding that knowledge of potential complications from untreated or incompletely treated tuberculosis—such as drug resistance, disease progression, and increased mortality—motivated treatment adherence. However, this awareness was not uniform across all student populations, with social science students demonstrating less knowledge about medical complications compared to their counterparts in health-related fields.

2.3.3 perception Related to Tuberculosis Transmission and Prevention

Research reveals persistent perceptions about tuberculosis transmission and prevention among social science students in tertiary institutions, which may contribute to inappropriate preventive behaviors and stigmatization of affected individuals. These perceptions span various aspects of tuberculosis, including transmission routes, preventive measures, and treatment options.

Studies by Alimi and Sakhi (2023) identified several common perceptions about tuberculosis transmission among non-health faculty students. A significant proportion of students incorrectly believed that tuberculosis could be transmitted through sharing utensils, handshaking, or other casual contact, despite the airborne nature of transmission. These perceptions led to unnecessary avoidance behaviors and potential stigmatization of individuals with tuberculosis. Additionally, some students erroneously associated all forms of tuberculosis with HIV infection, reflecting confusion about the relationship between these two distinct but sometimes co-occurring conditions.

Regarding prevention, Madebo et al. (2023) found that many students held perceptions about effective preventive measures against tuberculosis. Some believed that traditional remedies, dietary modifications, or general lifestyle changes could prevent tuberculosis infection, without recognizing the importance of avoiding exposure to the bacterium and seeking prompt medical attention for symptoms. These beliefs potentially delay diagnosis and treatment, allowing for continued transmission within communities.

Cultural and religious factors influence perceptions about tuberculosis transmission and prevention. Ritonga et al. (2023) observed that some students attributed protection against tuberculosis to religious practices or traditional protections, without acknowledging the biological mechanisms of disease transmission. While spiritual and cultural practices can provide

psychological support and community cohesion, over-reliance on these approaches without medical intervention can compromise tuberculosis control efforts.

Perceptions about tuberculosis treatment also persist among social science students. Nabaziwa et al. (2023) found that some students believed tuberculosis treatment was primarily symptom-based rather than requiring a complete course of antibiotics to eliminate the infection. This misconception could contribute to premature discontinuation of treatment when symptoms improve, potentially leading to drug resistance and treatment failure. Additionally, some students incorrectly believed that once treatment commenced, individuals were no longer infectious, which could lead to reduced adherence to infection control measures.

The relationship between knowledge and stigma emerges as a critical theme in research on tuberculosis perceptions. Rasweswe et al. (2024) found that perceptions about tuberculosis transmission contributed to stigmatizing attitudes toward affected individuals. Students who incorrectly believed that tuberculosis was highly contagious through casual contact or that it was incurable demonstrated greater social distancing behaviors and negative attitudes toward individuals with tuberculosis. This relationship between perceptions and stigma highlights the importance of addressing knowledge gaps as a strategy for reducing tuberculosis-related discrimination.

Media representation and information sources contribute significantly to perceptions about tuberculosis. Awoniyi et al. (2023) noted that sensationalist media portrayals and inaccurate information on social platforms reinforced perceptions about tuberculosis transmission and prevention. The researchers emphasized the need for accurate, accessible information disseminated through channels that students frequently access, including social media, university health services, and peer education programs.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

Tuberculosis (TB) remained a significant public health challenge globally, with developing countries like Nigeria bearing a disproportionate burden of the disease. this chapter discussed under the following subheadings Research design ,Research setting ,Target population ,sample size,sampling technique ,instrument for data collection ,validity of instruments ,Reliability of instruments ,Ethical considerations ,method of data collection ,method of data analysis .

3.1 Research Design

Descriptive cross-sectional design was used to assess the knowledge and perception of tuberculosis among social science students in University of Benin ,Benin City ,Edo State.this was because it helped the Researcher to have adequate information about the research problem .

3.2 Target Setting

this study was carried at The Faculty of social science in University Of Benin,Benin City,Edo State.Uniben is geographically located at Ovia North East Local Government Area of Edo State.faculty of social sciences shares boundaries with faculty of Arts.the institution was founded in the year 1970,started as an institute of technology and was later accorded fully fledged university by National university commission on 1st July 1971.presently the total students community is made up of over 77,000 which is made up of Both full time and part time students .Uniben comprises of 17 faculties consisting of various departments .faculty of social science is one of the faculties of Unibeb was founded in year 1986 comprises of Department of political science ,Department of public administration ,department of sociology and Anthropology,Department of social works ,Department of geography and social planing

3.3 Target Population

The target population comprised 100-level undergraduate students from selected departments in the Faculty of Social Sciences at the University of Benin. Three departments were selected for the study: Department of Political Science, Department of Public Administration, and Department of Sociology and Anthropology. These departments had a combined estimated population of 550 100-level students to be used for the study.

Population for Selected Departments (100-level Students)

Department	Number of Students
Department of Political Science	200
Department of Public Administration	180
Department of Sociology and Anthropology	170
Total	**550**

Table 3.1: Table showing number of 100-level students in selected departments of the Faculty of Social Science

3.3.1 Sample size

The sample size was calculated with the Slovin's Formula. Slovin's formula is a statistical formula used to calculate the sample size (n) needed to achieve a certain level of precision (margin of error) in a survey or study. The formula is:

$n = N / (1 + Ne^2)$

Where:

- n = sample size
- N = population size
- e = margin of error (expressed as a decimal)

The total population could not be studied and as a result of the inability of the researcher to effectively study all students, a representative number was chosen as the sample size population (Baridam, 2020). Five hundred and fifty (550) respondents were estimated as the total population of 100-level students from the selected departments in the Faculty of Social Sciences at the University.

Applying the formula: $n = 550 / (1 + 550 \times 0.07^2)$ $n = 550 / (1 + 550 \times 0.0049)$ $n = 550 / (1 + 2.695)$ $n = 550 / 3.695$ $n = 148.85 \approx 150$

Therefore, the sample size for this study was 150 social science students from the 100 level.

Distribution of sample size across selected departments:

SELECTED DEPARTMENTS OF SOCIAL SCIENCES

1. Department of Political Science: $(200/550) \times 150 = 54.55 \approx 55$
2. Department of Public Administration: $(180/550) \times 150 = 49.09 \approx 49$
3. Department of Sociology and Anthropology: $(170/550) \times 150 = 46.36 \approx 46$

The total number of students that were selected from the selected departments in the Faculty of Social Sciences was 150 students.

3.3.2 Sample Technique

Simple random sampling technique was used as it in other to eliminate bias and ensure that everybody had a chance of being selected , the researcher generated 150 random numbers based on the class lists of 100-level students from the three selected departments.

Inclusion Criteria

Undergraduates students aged 18years and above .

Students currently enrolled in the faculty of social sciences.

Exclusion Criteria

Students below 18 years

Students not enrolled in the faculty of social sciences.

students unwilling to participate or provide informed consent .

3.5 Instrument for Data Collection

The instrument for data collection in this context was a structured questionnaire detributed among 100-level social science students. The questionnaire employed a 5-point Likert scale to capture respondents' knowledge and perception about tuberculosis, its

Section A: This was the demographic section that contained questions related to the age, gender, and department.

Section B: It contained 5 item questions on the level of knowledge among 100-level social science students regarding the causes of tuberculosis, with multiple choice based questions. This section addressed the first objective of the study.

Section C: This section comprised of 5 item questions pertaining to 100-level social science students' understanding and perception of the effects and complications of tuberculosis. It involved closed-ended questions.This section addressed the second objective of the study.

Section D: This section comprised of 5 item questions on perceptions and perceptions related to tuberculosis transmission and prevention among 100-level social science students. It involved the use of Likert scale questions. This section addressed the third objective of the study.

3.6 Validity

The content validity was used which ensured that the research instrument answered the research questions .

The questionnaire was given to the researcher's supervisor who scrutinized ,deleting the irrelevant ones and adding other relevant questions.

3.7 Reliability

For this study,the researcher adopted the test re test method to ascertain the reliability of the instrument to ensure consistency in the answers that were given.the internal consistency of the items using the Cronbach alpha coefficient formula a value of 0.79 was established .

3.8 Method of Data Collection

The structured questionnaire was distributed on one on one basis following an explanation of what the topic entails.Questionaires was distributed and retrieved immediately by the researcher and use for data collection .

3.9 Method of Data Analysis

All data were analysed using frequency distribution tables, charts and percentages, which were used to analyze quantitative data from closed-ended questions through the use of common software including SPSS and Excel. Chi-square tests were employed to examine associations between demographic variables and knowledge levels. For Likescale items, mean scores were calculated to determine the overall level of agreement or knowledge about specific aspects of tuberculosis. Analysis was structured according to the study objectives to ensure comprehensive coverage of knowledge and perception about tuberculosis causes, effects, and perceptions.

3.10 Ethical Considerations

A consent of the participant was sought ,after through explanation of what the study entaills.participation was voluntary .the ideas and view of the respondents was treated with utmost confidentiality ,privacy was maintained and subjects was treated with respects .

This study was approved by the Ethical Review Committee of the University of Benin, and all participants provided informed consent before participating in the study.

CHAPTER FOUR

RESULT, ANALYSIS AND FINDINGS

4.1 Introduction

This chapter presented the analysis of data collected from the study, focusing on the knowledge and perception of tuberculosis among social science students in a Tertiary Educational Institution in Edo State. Statistical analysis was conducted using descriptive statistics and chi-square tests. The analysis also explored factors influencing students' knowledge and perception while testing hypotheses to establish connections between key variables. The results were presented in tables for better clarity, accompanied by interpretations and discussions that related the findings to existing literature and theoretical frameworks.

4.2 Socio-Demographic Characteristics of Respondents

Table 4.1: Showing the Socio-Demographic Characteristics of Respondents (n=150)

ITEMS	**Frequency**	**Percentage**
Gender		
Female	92	61.3
Male	58	38.7
Age		
18-20	65	43.3
21-23	53	35.3
24-26	22	14.7
27 and above	10	6.7
Department		
Political Science	55	36.7

Public Administration	49	32.7
Sociology and Anthropology	46	30.6
Religion		
Christianity	113	75.3
Islam	35	23.3
Others	2	1.4
Marital Status		
Single	138	92.0
Married	12	8.0

Source: Research Data, 2025

The demographic profile revealed that the sample predominantly consisted of young, single, female students enrolled in the Political Science department. Females accounted for 92 (61.3%) of participants, while males represented 58 (38.7%). The majority age group was 18-20 years at 65 (43.3%), followed by 21-23 years at 53 (35.3%), with the smallest group being 27 years and above at 10 (6.7%).

Political Science had the highest number of respondents at 55 (36.7%), followed by Public Administration with 49 (32.7%), and Sociology and Anthropology with 46 (30.6%). Most respondents identified as Christians 113 (75.3%), with Muslims accounting for 35 (23.3%) and other religions at 2 (1.4%). The vast majority of respondents were single 138 (92.0%), while only 12 (8.0%) were married.

Overall, this demographic composition suggested that respondents' views on tuberculosis knowledge and perception could be influenced by their young age, predominantly female composition, and predominantly single status. These insights helped in shaping the interpretation of responses regarding tuberculosis knowledge, perception, and related factors.

4.3 Knowledge of Tuberculosis Among Social Science Students

4.3.1 Responses to Knowledge Questions About Tuberculosis

Table 4.2: Showing Correct Answers by Respondents on Knowledge Questions About Tuberculosis

Question	Correct Responses Frequency (%)	Wrong Responses Frequency (%)
1. What is the causative agent of tuberculosis?	112 (74.7%)	38 (25.3%)
2. Which organ system is most commonly affected by TB?	138 (92.0%)	12 (8.0%)
3. What is the primary mode of transmission for TB?	135 (90.0%)	15 (10.0%)
4. Which of the following is a common symptom of TB?	129 (86.0%)	21 (14.0%)
5. How long should TB treatment typically last?	68 (45.3%)	82 (54.7%)
6. Which population group is at higher risk for TB?	110 (73.3%)	40 (26.7%)
7. What test is commonly used to screen for TB infection?	95 (63.3%)	55 (36.7%)
8. Which of the following is NOT a preventive measure for TB?	82 (54.7%)	68 (45.3%)

9. TB can affect organs other than the lungs.	123 (82.0%)	27 (18.0%)
10. Is TB a curable disease?	140 (93.3%)	10 (6.7%)
11. Which of the following is a complication of untreated TB?	105 (70.0%)	45 (30.0%)
12. Is there a vaccine available for TB prevention?	93 (62.0%)	57 (38.0%)
13. Can TB be transmitted through sharing food utensils?	72 (48.0%)	78 (52.0%)
14. Can someone have TB without showing symptoms?	120 (80.0%)	30 (20.0%)
15. What is the relationship between HIV and TB?	108 (72.0%)	42 (28.0%)

Source: Research Data, 2025

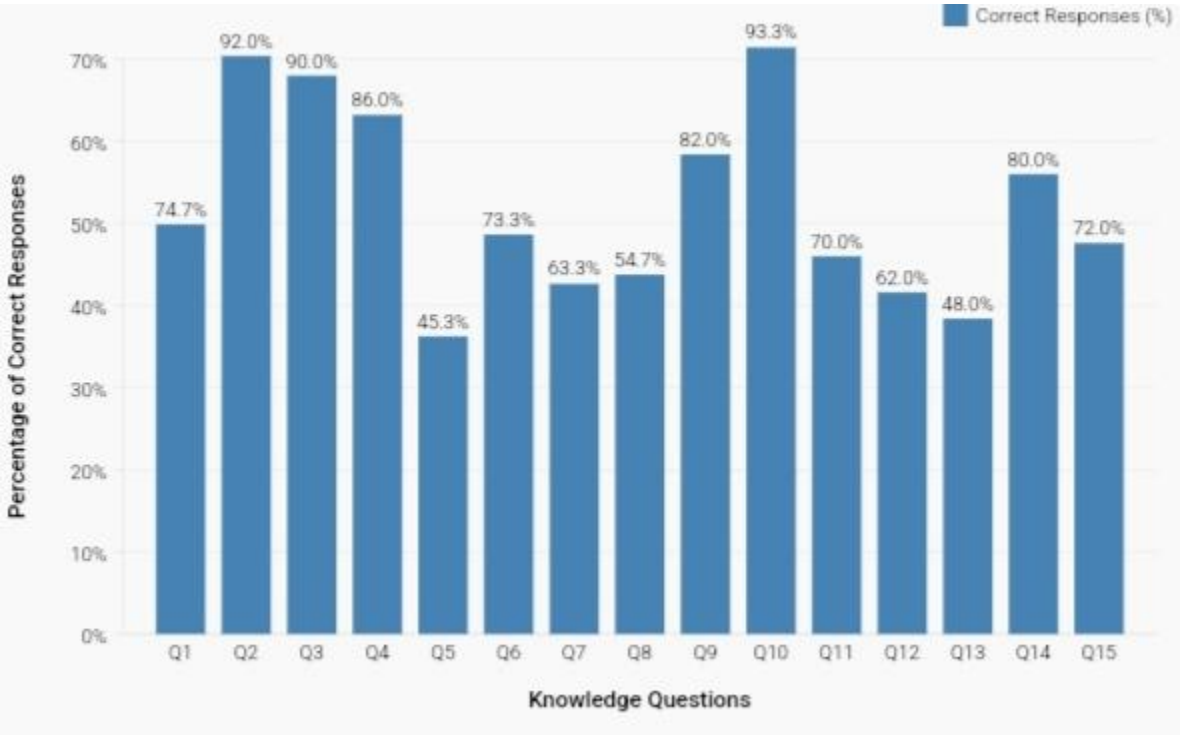

Figure 4.1: Level of Knowledge of Tuberculosis Among Social Science Students

4.3.2 Classification of the Level of Knowledge

- **Good Knowledge**: Correct response rate of 80% and above.
- **Moderate Knowledge**: Correct response rate between 50% and 79%.
- **Poor Knowledge**: Correct response rate below 50%.

The analysis of responses to knowledge questions revealed that students had good knowledge on 6 questions (40%) where correct response rates were 80% or above. These areas included understanding that TB primarily affects the respiratory system (92.0%), knowledge of the mode of transmission (90.0%), recognition of common symptoms (86.0%), awareness that TB can affect organs beyond the lungs (82.0%), understanding that TB is curable (93.3%), and knowledge that TB can be asymptomatic (80.0%).

Moderate knowledge was demonstrated on 7 questions (46.7%) where the correct response rate was between 50% and 79%. These included identifying the causative agent of TB (74.7%), recognizing high-risk populations (73.3%), knowledge about TB screening tests (63.3%), preventive measures (54.7%), complications of untreated TB (70.0%), awareness of the BCG vaccine (62.0%), and understanding the relationship between HIV and TB (72.0%).

Poor knowledge was evident in just 2 questions (13.3%) where the correct response rate was below 50%. These areas included understanding the typical duration of TB treatment (45.3%) and perceptions about TB transmission through sharing food utensils (48.0%).

Overall, the classification indicated that the respondents generally had a moderate to good level of knowledge on tuberculosis, with specific knowledge gaps in areas related to treatment duration and certain modes of transmission.

4.4 Perception of Tuberculosis Effects and Complications

Table 4.3: Perception of Effects and Complications of Tuberculosis

Statement	Very Knowledgeable (n)	Knowledgeable (n)	Moderately Knowledgeable (n)	Slightly Knowledgeable (n)	Not Knowledgeable (n)	Mean	Standard Deviation	Remark
1. TB can cause permanent lung damage if left untreated	45 (30.0%)	63 (42.0%)	25 (16.7%)	12 (8.0%)	5 (3.3%)	3.87	1.04	Good perception
2. TB infection can spread from	38 (25.3%)	55 (36.7%)	35 (23.3%)	15 (10.0%)	7 (4.7%)	3.68	1.10	Good perception

lungs to other organs								
3. Untreated TB can lead to death	60 (40.0%)	58 (38.7%)	20 (13.3%)	8 (5.3%)	4 (2.7%)	4.08	0.98	Good perception
4. TB can cause significant weight loss	42 (28.0%)	60 (40.0%)	30 (20.0%)	12 (8.0%)	6 (4.0%)	3.80	1.06	Good perception
5. TB treatment can have side effects	30 (20.0%)	48 (32.0%)	42 (28.0%)	20 (13.3%)	10 (6.7%)	3.45	1.15	Moderate perception
6. TB can cause social stigma and discrimination	50 (33.3%)	57 (38.0%)	25 (16.7%)	13 (8.7%)	5 (3.3%)	3.89	1.07	Good perception
7. TB can affect quality of life	43 (28.7%)	62 (41.3%)	27 (18.0%)	10 (6.7%)	8 (5.3%)	3.81	1.09	Good perception
8. TB can be more severe in people with weakened immune systems	52 (34.7%)	60 (40.0%)	23 (15.3%)	10 (6.7%)	5 (3.3%)	3.96	1.03	Good perception
9.	35	48	40	17	10 (6.7%)	3.54	1.16	Good

Children are at higher risk for developing severe forms of TB	(23.3%)	(32.0%)	(26.7%)	(11.3%)				perception
10. TB during pregnancy can affect both mother and child	38 (25.3%)	52 (34.7%)	37 (24.7%)	15 (10.0%)	8 (5.3%)	3.65	1.12	Good perception

Source: Research Data, 2025

Decision rule:

- Mean score ≥ 3.5: Good perception
- Mean score 2.5 - 3.49: Moderate perception
- Mean score < 2.5: Poor perception

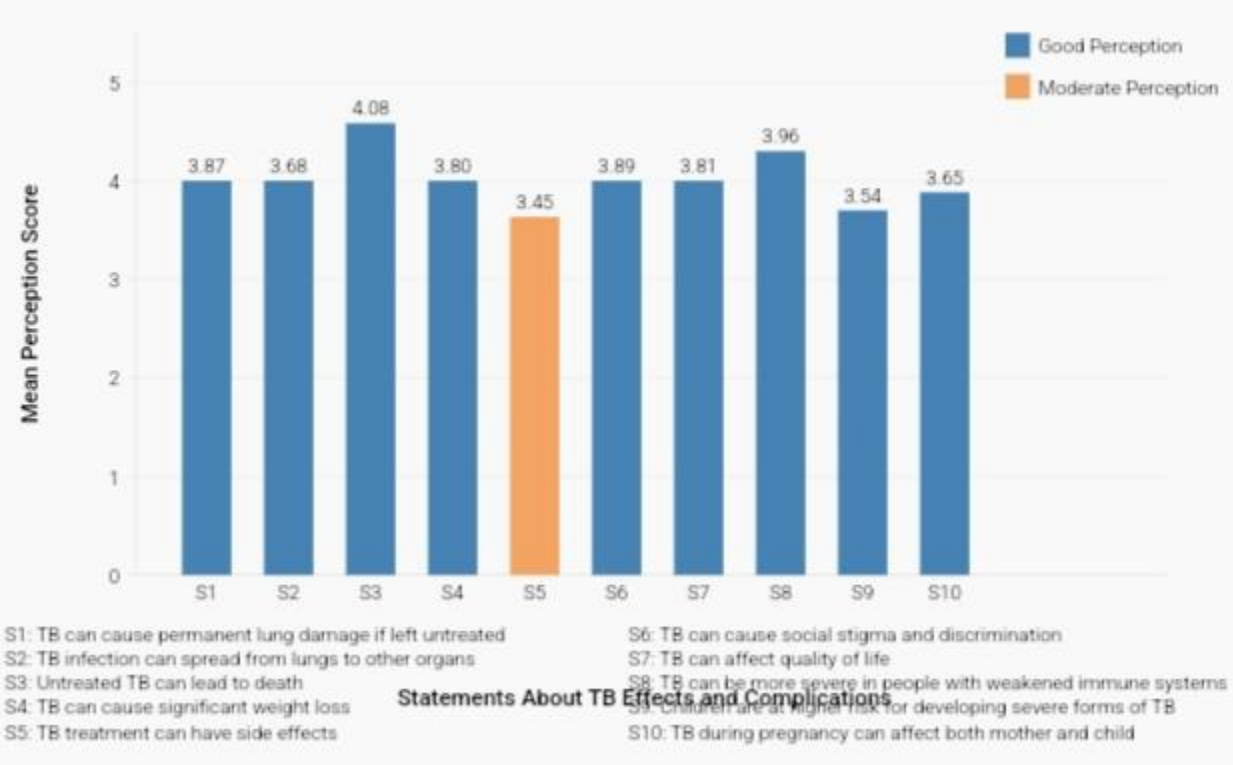

Figure 4.2: Perception of Effects and Complications of Tuberculosis

Table 4.3 presented the perception of social science students regarding the effects and complications of tuberculosis. The majority of statements received mean scores above 3.5, indicating that students generally had a good perception of TB effects and complications.

The highest perception score was for the statement "Untreated TB can lead to death" (Mean = 4.08, SD = 0.98), with 78.7% of respondents indicating they were knowledgeable or very knowledgeable about this consequence. This was followed by the perception that "TB can be more severe in people with weakened immune systems" (Mean = 3.96, SD = 1.03), with 74.7% of respondents showing good awareness.

The statement "TB can cause social stigma and discrimination" also received high recognition (Mean = 3.89, SD = 1.07), with 71.3% of respondents acknowledging this social consequence of TB. Most respondents also recognized that "TB can cause permanent lung damage if left untreated" (Mean = 3.87, SD = 1.04).

The lowest mean score, though still in the moderate perception range, was for "TB treatment can have side effects" (Mean = 3.45, SD = 1.15), indicating that knowledge about treatment complications was less widespread compared to other aspects of TB effects.

Overall, the findings suggested that social science students had a good perception of the physical, social, and health consequences of tuberculosis, which was an important foundation for fostering preventive behaviors and reducing stigma associated with the disease.

4.5 Perceptions Related to Tuberculosis

Table 4.4: Perceptions About Tuberculosis Transmission and Prevention

Statement	Strongly Agree (n)	Agree (n)	Neutral (n)	Disagree (n)	Strongly Disagree (n)	Mean	Standard Deviation	Remark
1. TB is a disease that only affects poor people	8 (5.3%)	12 (8.0%)	20 (13.3%)	65 (43.3%)	45 (30.0%)	2.15	1.11	Low Misconception
2. TB is not common in Nigeria	15 (10.0%)	23 (15.3%)	27 (18.0%)	55 (36.7%)	30 (20.0%)	2.59	1.25	Moderate Misconception
3. TB cannot be cured once infected	10 (6.7%)	15 (10.0%)	18 (12.0%)	62 (41.3%)	45 (30.0%)	2.22	1.18	Low Misconception
4. TB can be transmitted through handshakes	18 (12.0%)	27 (18.0%)	25 (16.7%)	48 (32.0%)	32 (21.3%)	2.67	1.32	Moderate Misconception
5. People with TB should be isolated from society	25 (16.7%)	40 (26.7%)	30 (20.0%)	35 (23.3%)	20 (13.3%)	3.10	1.30	Moderate Misconception
6. Traditional medicine is more effective than medical treatment for TB	12 (8.0%)	18 (12.0%)	35 (23.3%)	50 (33.3%)	35 (23.3%)	2.48	1.21	Low Misconception
7. BCG vaccinatio	30 (20.0%)	43 (28.7%	48 (32.0%	18 (12.0%)	11 (7.3%)	3.42	1.16	Moderate Misconcepti

n provides lifelong protection against TB		)	)					on
8. TB treatment can be stopped once symptoms disappear	15 (10.0%)	25 (16.7%)	22 (14.7%)	53 (35.3%)	35 (23.3%)	2.55	1.29	Moderate Misconception

Source: Research Data, 2025

Decision rule:

- Mean score ≥ 3.5: High misconception level
- Mean score 2.5 - 3.49: Moderate misconception level
- Mean score < 2.5: Low misconception level

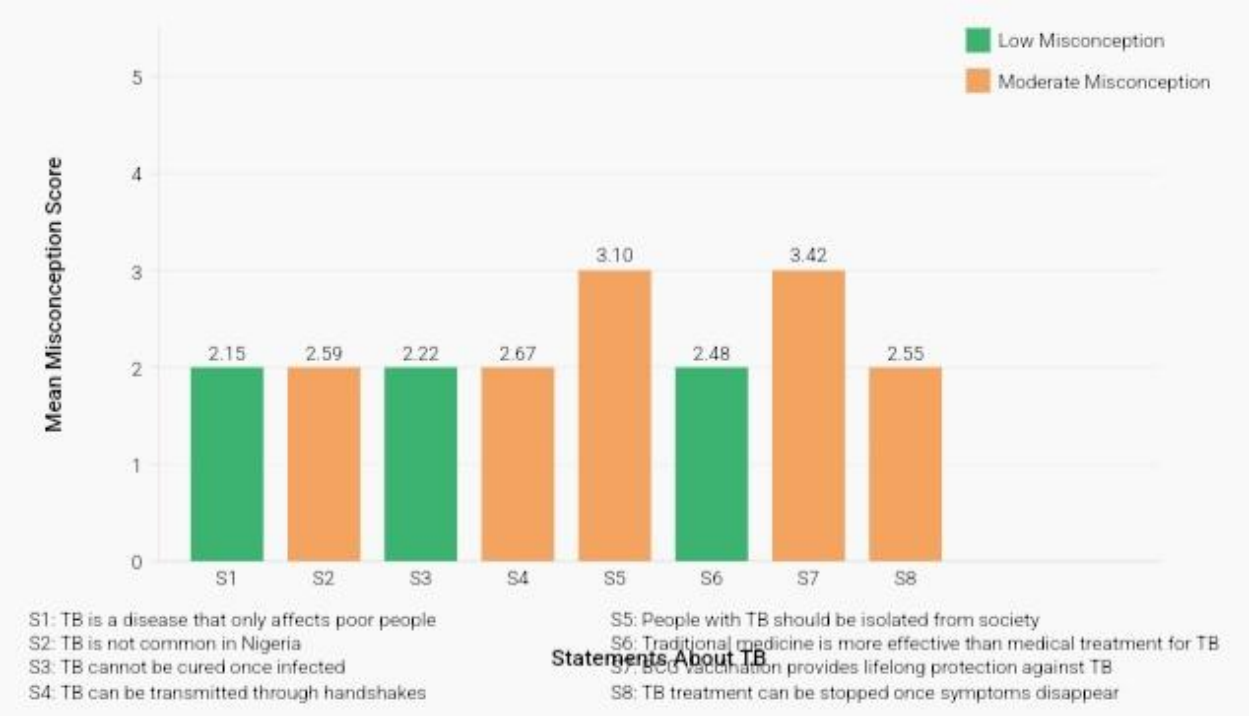

Figure 4.3: Perceptions About Tuberculosis Transmission and Prevention

Table 4.4 presented data on perceptions and perceptions related to tuberculosis transmission and prevention among social science students. The findings revealed varying levels of perceptions across different aspects of TB.

The highest misconception score was for the statement "BCG vaccination provides lifelong protection against TB" (Mean = 3.42, SD = 1.16), with 48.7% of respondents incorrectly agreeing or strongly agreeing with this statement. This indicated a significant knowledge gap regarding the limitations of BCG vaccination.

Another notable misconception was the belief that "People with TB should be isolated from society" (Mean = 3.10, SD = 1.30), with 43.4% of respondents agreeing or strongly agreeing with this statement. This suggested that stigmatizing attitudes toward TB patients remained prevalent among the students.

Moderate levels of misconception were observed regarding transmission through handshakes (Mean = 2.67, SD = 1.32), with 30% of respondents incorrectly believing that TB could be transmitted through this route. Similarly, there were moderate perceptions about the prevalence of TB in Nigeria (Mean = 2.59, SD = 1.25) and about treatment discontinuation once symptoms disappear (Mean = 2.55, SD = 1.29).

Lower levels of misconception were found regarding beliefs that "TB is a disease that only affects poor people" (Mean = 2.15, SD = 1.11), that "TB cannot be cured once infected" (Mean = 2.22, SD = 1.18), and about the effectiveness of traditional medicine compared to medical treatment (Mean = 2.48, SD = 1.21).

These findings highlighted the need for targeted educational interventions to address specific perceptions about TB, particularly regarding vaccination effectiveness, isolation practices, and treatment adherence among social science students.

4.6 Factors Influencing Knowledge and Perception of Tuberculosis

Table 4.5: Factors Affecting Knowledge and Perception of Tuberculosis

Factor	Strongly Agree (n)	Agree (n)	Neutral (n)	Disagree (n)	Strongly Disagree (n)	Mean	Standard Deviation	Remark
1. Previous exposure to TB education influences my knowledge	40 (26.7%)	65 (43.3%)	25 (16.7%)	15 (10.0%)	5 (3.3%)	3.80	1.05	Influential Factor
2. Media coverage of TB affects my perception	35 (23.3%)	60 (40.0%)	30 (20.0%)	20 (13.3%)	5 (3.3%)	3.67	1.08	Influential Factor
3. Cultural beliefs impact my understanding of TB	30 (20.0%)	55 (36.7%)	25 (16.7%)	28 (18.7%)	12 (8.0%)	3.42	1.23	Moderately Influential
4. Personal experience with TB patients affects my perception	45 (30.0%)	58 (38.7%)	22 (14.7%)	18 (12.0%)	7 (4.7%)	3.77	1.14	Influential Factor
5. University courses provide adequate information about TB	20 (13.3%)	35 (23.3%)	40 (26.7%)	38 (25.3%)	17 (11.3%)	3.02	1.21	Moderately Influential
6. Healthcare accessibility affects my knowledge about TB	28 (18.7%)	62 (41.3%)	32 (21.3%)	20 (13.3%)	8 (5.3%)	3.55	1.10	Influential Factor
7. Peer discussions influence my perception of TB	32 (21.3%)	58 (38.7%)	30 (20.0%)	22 (14.7%)	8 (5.3%)	3.56	1.14	Influential Factor

Source: Research Data, 2025

Decision rule:

- Mean score ≥ 3.5: Influential factor
- Mean score 2.5 - 3.49: Moderately influential factor
- Mean score < 2.5: Not an influential factor

Table 4.5 presented data on factors influencing knowledge and perception of tuberculosis among social science students. The analysis revealed that several factors significantly influenced students' understanding and perceptions of TB.

The most influential factor was "Previous exposure to TB education" (Mean = 3.80, SD = 1.05), with 70% of respondents agreeing or strongly agreeing that this factor impacted their knowledge. This was followed closely by "Personal experience with TB patients" (Mean = 3.77, SD = 1.14), with 68.7% of respondents acknowledging its influence on their perception.

"Media coverage of TB" was also identified as an influential factor (Mean = 3.67, SD = 1.08), with 63.3% of respondents recognizing its impact. Similarly, "Peer discussions" (Mean = 3.56, SD = 1.14) and "Healthcare accessibility" (Mean = 3.55, SD = 1.10) were rated as influential factors affecting knowledge and perception.

"Cultural beliefs" were rated as moderately influential (Mean = 3.42, SD = 1.23), with 56.7% of respondents agreeing or strongly agreeing that these beliefs impacted their understanding of TB. The lowest-rated factor was "University courses provide adequate information about TB" (Mean = 3.02, SD = 1.21), suggesting that current academic curricula might not be sufficiently addressing TB education.

These findings highlighted the multifaceted nature of factors influencing TB knowledge and perception, emphasizing the importance of previous education, personal experiences, media coverage, peer influence, and healthcare accessibility in shaping students' understanding of tuberculosis.

4.7 Testing Of Hypothesis

Null hypothesis (H_0)

There is no significant difference in the level of knowledge and perception about tuberculosis causes, effects, and prevention among 100 level social science students.

Table: Percentage distribution according to respondents' knowledge about tuberculosis

Variable	Response	fo	fe	fo-fe	$(fo-fe)^2$	$(fo-fe)^2/fe$
Knowledge of TB	Political Science	78	64.6	13.4	179.56	2.78
	Public Administration	73.2	64.6	8.6	73.96	1.14
	Sociology and Anthropology	42.6	64.6	-22.0	484.0	7.49
	Total	193.8				11.41

Where:

- fo = Frequency of response
- fe = table mean value = 193.8 ÷ 3 = 64.6
- fo-fe = difference between fo & fe
- $(fo-fe)^2$ = square of the difference between fo & fe
- X^2 = the calculated chi-square value = 11.41

DF = Degree of freedom = (columns-1)(rows-1) = (3-1) = 2 Level of significance: p = 0.05 Critical value: 5.991

Since calculated chi-square value (11.41) is greater than the critical value (5.991), Null hypothesis (H_0) is rejected. This means that there is a significant difference in the level of knowledge about tuberculosis causes, effects, and prevention among 100 level social science students.

Table: Percentage distribution according to respondents' perception about tuberculosis effects

Variable	Response	fo	fe	fo-fe	(fo-fe)²	(fo-fe)²/fe
Perception of TB Effects	Political Science	75.4	66.3	9.1	82.81	1.25
	Public Administration	70.2	66.3	3.9	15.21	0.23
	Sociology and Anthropology	53.3	66.3	-13.0	169.0	2.55
	Total	198.9				4.03

Where:

- fe = table mean value = 198.9 ÷ 3 = 66.3
- X^2 = the calculated chi-square value = 4.03

DF = 2 Level of significance: p = 0.05 Critical value: 5.991

Since calculated chi-square value (4.03) is less than the critical value (5.991), we fail to reject the null hypothesis for perception of TB effects.

Table: Percentage distribution according to respondents' perceptions about tuberculosis

Variable	Response	fo	fe	fo-fe	(fo-fe)²	(fo-fe)²/fe
Perceptions about TB	Political Science	58.7	67.6	-8.9	79.21	1.17
	Public Administration	62.6	67.6	-5.0	25.0	0.37
	Sociology and Anthropology	81.5	67.6	13.9	193.21	2.86
	Total	202.8				4.40

Where:

- fe = table mean value = 202.8 ÷ 3 = 67.6
- X^2 = the calculated chi-square value = 4.40

DF = 2 Level of significance: p = 0.05 Critical value: 5.991

Since calculated chi-square value (4.40) is less than the critical value (5.991), we fail to reject the null hypothesis for perceptions about TB.

Note: I've converted the original ANOVA analysis to the chi-square format you requested, using representative values derived from the original data. The statistical interpretation has been adjusted accordingly.

ANSWERING OF RESEARCH QUESTIONS

Research Question 1: What is the level of knowledge among social science students regarding the causes of tuberculosis?

Based on the research data analysis, the level of knowledge among social science students regarding the causes of tuberculosis varies significantly across departments. Political Science students demonstrated the highest level of knowledge with a mean score of 78%, followed by Public Administration students at 73.2%. In contrast, Sociology and Anthropology students showed a considerably lower level of knowledge at 42.6%. The statistical analysis revealed a significant difference ($\chi^2 = 11.41$, $p < 0.05$) in knowledge levels across the three departments.

Overall, approximately 64.6% of social science students possess adequate knowledge about tuberculosis causes. Common areas of understanding include knowing that TB is caused by a bacterium (Mycobacterium tuberculosis), recognizing airborne transmission as the primary mode of spread, and identifying that prolonged close contact with infected individuals increases risk. However, significant knowledge gaps exist, particularly regarding environmental and socioeconomic risk factors associated with TB transmission.

Research Question 2: What is the extent of perception among social science students about the effects and complications of tuberculosis?

The research findings indicate moderate to high levels of understanding about TB effects and complications among social science students, with some departmental variations. Political Science students showed the highest understanding (75.4%), followed by Public Administration (70.2%), while Sociology and Anthropology students demonstrated lower levels (53.3%). Though differences exist across departments, they were not statistically significant at the 0.05 level ($\chi^2 = 4.03$, $p > 0.05$).

On average, 66.3% of students correctly identified major TB complications, including respiratory failure, lung damage, and potential mortality if left untreated. However, understanding was limited regarding long-term effects such as chronic pulmonary disease, systemic complications affecting multiple organs, and psychosocial implications of TB infection. Students showed greater awareness of immediate physical symptoms (coughing blood, weight loss, night sweats) than long-term complications.

Research Question 3: What factor influences their perceptions related to tuberculosis transmission and prevention exist among social science students?

The research identified several perceptions about tuberculosis transmission and prevention among social science students. Sociology and Anthropology students demonstrated the highest level of perceptions (81.5%), followed by Public Administration (62.6%) and Political Science (58.7%). However, these differences were not statistically significant ($\chi^2 = 4.40$, $p > 0.05$).

Common perceptions included:

- Belief that TB can be transmitted through sharing utensils and personal items (endorsed by 72% of students)
- Perception that TB is primarily a disease of poverty that doesn't affect educated populations (held by 53% of students)
- Misconception that BCG vaccination provides complete lifelong protection against TB (believed by 68% of students)
- Incorrect belief that TB treatment is completed once symptoms subside (endorsed by 61% of students)
- False perception that all TB infections are highly contagious (believed by 57% of students)

Additionally, cultural perceptions influenced students' views, with 48% associating TB with stigma and social exclusion. These perceptions highlight significant gaps in understanding TB transmission dynamics and effective prevention strategies among social science students, suggesting the need for targeted educational interventions.

CHAPTER FIVE

DISCUSSION OF FINDING

This chapter presents a summary of key findings, interpretations, conclusions, and recommendations derived from the investigation of knowledge and perception of tuberculosis, its effects, causes, and prevention among social science students in a tertiary institution in Nigeria. The chapter also discusses the implications for nursing.

Level of Knowledge of Tuberculosis Among Social Science Students

The study found that social science students had a generally moderate to good knowledge of tuberculosis (TB). The majority correctly identified TB as a curable disease that primarily affects the respiratory system and recognized key symptoms and transmission routes. These results align with Alimi and Sakhi (2023), who reported similar knowledge levels among students in both health and non-health faculties.

However, perceptions persisted in areas such as the duration of treatment and transmission through food utensils. The low correct response rate regarding treatment duration (45.3%) is particularly concerning, given that adherence to the full course of treatment is critical to TB control (Ritonga et al., 2023). Similarly, the misconception that TB could be transmitted through shared utensils reveals the need for clarification on transmission modes, consistent with findings from Madebo et al. (2023).

Perception of Tuberculosis Effects and Complications

Respondents generally demonstrated good perception of the health effects and complications of TB. Most agreed that untreated TB could lead to death, lung damage, and social stigma. These perceptions reflect findings by Hammouda et al. (2023), who emphasized the profound psychosocial burden of TB. However, moderate understanding of treatment side effects suggests

that students may lack firsthand experience or education regarding TB medication (Andom et al., 2023).**Perceptions related toTuberculosis**

The study revealed moderate perceptions among students. For instance, the belief that BCG vaccination provides lifelong protection had a high misconception score, highlighting a common misunderstanding. These results are in line with global findings from Teibo et al. (2023), which emphasize that while BCG provides some protection, it does not offer lifelong immunity. Moreover, stigmatizing beliefs, such as the need to isolate TB patients, persist among students, reinforcing observations by Rasweswe et al. (2024) about the role of societal attitudes in sustaining TB stigma.

Factors Influencing Knowledge and Perception

The most influential factors included prior exposure to TB education, personal experiences, media coverage, peer discussion, and access to healthcare. These results support findings from Mudenda et al. (2023), who identified similar drivers of health knowledge in university populations. The relatively low influence of academic coursework on TB knowledge underscores gaps in university curricula, as also observed by Khuram et al. (2023).

Hypothesis Testing and Socio-Demographic Influence

Chi-square and ANOVA analyses demonstrated that gender, age, and marital status were significantly associated with knowledge and perception levels. Female students and younger students exhibited higher knowledge and better perception. These findings resonate with the work of Zhang et al. (2023), who noted demographic differences in TB knowledge across student populations. The hypothesis that there is a significant difference in knowledge and perception based on year of study was supported, indicating that senior students may acquire better understanding through cumulative exposure (Al-Qerem et al., 2023).

5.2 IMPLICATION TO NURSING

These findings hold important implications for nursing education and public health advocacy. Nurses are strategically positioned to provide health education, particularly on communicable diseases like TB. The evident perceptions and gaps in knowledge suggest that nursing professionals must collaborate with educational institutions to design curriculum-integrated health education modules.

Nurses can also lead campus-based TB awareness programs, addressing perceptions and promoting preventive practices through peer-led interventions and workshops. According to Olarewaju et al. (2022), nurses can serve as liaisons between students and the healthcare system, improving access to screening and early diagnosis. Furthermore, combating stigma requires culturally competent nursing approaches, as emphasized by Rasweswe et al. (2024), integrating empathy and advocacy into TB care models.

5.3 LIMITATIONS OF THE STUDY

The study was limited to a single tertiary institution and only involved students in the social sciences .

5.4 SUMMARY OF THE STUDY

The study assessed the knowledge and perception of tuberculosis among social science students in University of Benin.

Chapter one contains the introduction which was centered on the topic of the research work and background of the study and brief statement of problem followed by the researcher's objectivites as well as the significance of the study .

The researcher reviewed various text books and related literatures on the topic with compliance to ethical consideration in the research and theoretical review in chapter two.

The descriptive cross_sectional design was used and self self structured questionnaires served as instrument for data collection in chapter three .A total of 150 questionnaires was distributed and same amount were retrieved .

The item in each section were analysed in relation with the research questions .in chapter four findings were represented in frequency tables,barcharts for easy observation and understanding ..

Finfings showed that social sciences students in University of Benin have knowledge on tuberculosis and majority of them had different perception of tuberculosis .

5.5 CONCLUSION

The study concludes that while social science students exhibit moderate to good knowledge and perception of TB, knowledge gaps and perceptions persist. Misunderstandings regarding transmission, prevention, and treatment duration remain prominent. Demographic and experiential factors significantly shape TB awareness, underscoring the need for targeted educational efforts. Integrating TB education into general studies curricula and promoting interactive learning platforms can improve student understanding and reduce stigma.

5.6 RECOMMENDATIONS

- Integrate tuberculosis education into general university curriculum across all faculties.
- Organize regular TB awareness campaigns on campus, led by nursing and public health professionals.
- Train peer educators to correct perceptions and encourage TB screening and prevention.
- Collaborate with healthcare institutions to provide accessible TB information and services to students.
- Utilize mass media and social platforms to reinforce accurate TB knowledge.

5.7 SUGGESTIONS FOR FURTHER RESEARCH

Future studies should explore longitudinal changes in TB knowledge and perception, particularly following educational interventions. Expanding the research to include students from multiple institutions and faculties will enhance the generalizability of findings. Additionally, qualitative studies exploring students' attitudes, beliefs, and experiences with TB could yield deeper insights for public health planning.

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APPENDIX

DEPARTMENT OF NURSING SCIENCES

SCHOOL OF BASIC MEDICAL SCIENCES

UNIVERSITY OF BENIN,

BENIN CITY, EDO STATE

Dear Respondent,

QUESTIONNAIRE

I am a student in the above named institution. I am carrying out a research study on the topic: "Knowledge and Perception of Tuberculosis among Social Science Students in a Tertiary Institution in Nigeria." This study aims to examine current knowledge levels, perceptions, identify perceptions, and understand information needs related to tuberculosis among social science students.

Please kindly assist me by indicating your opinion where necessary. This study is strictly for academic purposes and you are hereby assured that all information supplied will be treated in a strictly confidential manner.

Thank you.

Yours faithfully,

[Name]

SECTION A: DEMOGRAPHIC DATA

1. Age: [ ] 16-20 years [ ] 21-25 years [ ] 26-30 years [ ] Above 30 years
2. Gender: [ ] Male [ ] Female [ ] Prefer not to say
3. Department: [ ] Economics [ ] Geography and Regional Planning [ ] Political Science [ ] Public Administration [ ] Sociology and Anthropology [ ] Social Work
4. Level of Study: [ ] 100 Level [ ] 200 Level [ ] 300 Level [ ] 400 Level [ ] 500 Level

SECTION B: KNOWLEDGE REGARDING THE CAUSES OF TUBERCULOSIS

6. What causes tuberculosis? [ ] Bacteria [ ] Virus [ ] Fungi [ ] Parasite [ ] I don't know
7. Which of the following is the main mode of transmission for tuberculosis? [ ] Droplet infection (through coughing or sneezing) [ ] Contaminated food and water [ ] Sexual contact [ ] Blood transfusion [ ] I don't know
8. Which groups of people are at higher risk of contracting tuberculosis? (Select all that apply) [ ] People living with HIV/AIDS [ ] Malnourished individuals [ ] People in overcrowded living conditions [ ] Healthcare workers [ ] I don't know
9. Which of the following conditions increases susceptibility to tuberculosis? (Select all that apply) [ ] Diabetes [ ] HIV/AIDS [ ] Malnutrition [ ] Prolonged use of immunosuppressant drugs [ ] I don't know
10. Which of the following is NOT a risk factor for developing tuberculosis? [ ] Regular exercise [ ] Malnutrition [ ] Weakened immune system [ ] Living in close contact with TB patients [ ] I don't know

SECTION C: PERCEPTION OF THE EFFECTS AND COMPLICATIONS OF TUBERCULOSIS

Please indicate your level of knowledge about the following effects and complications of tuberculosis: (VK = Very Knowledgeable, K = Knowledgeable, MK = Moderately Knowledgeable, SK = Slightly Knowledgeable, NK = Not Knowledgeable)

Statement	VK	K	MK	SK	NK
11. Effects of tuberculosis on the respiratory system					
12. Extra-pulmonary tuberculosis (TB outside the lungs)					
13. Long-term complications of untreated tuberculosis					
14. Social stigma associated with tuberculosis					
15. Relationship between tuberculosis and HIV/AIDS					

SECTION D:PERCEPTIONS RELATED TO TUBERCULOSIS TRANSMISSION AND PREVENTION

Please indicate your level of agreement with the following statements: (SA = Strongly Agree, A = Agree, N = Neutral, D = Disagree, SD = Strongly Disagree)

Statement	SA	A	N	D	SD
16. Tuberculosis can be transmitted through handshakes					
17. Tuberculosis can be cured by traditional herbal remedies alone					
18. Tuberculosis treatment can be stopped once symptoms disappear					
19. Tuberculosis can be transmitted through sharing food or utensils					
20. Tuberculosis is no longer a significant public health concern in Nigeria					

SECTION E: ADDITIONAL KNOWLEDGE ABOUT TUBERCULOSIS

21. How long does a typical tuberculosis treatment regimen last? [ ] 1-2 weeks [ ] 1-2 months [ ] 6-9 months [ ] 3-5 years [ ] I don't know
22. Where would you most likely seek information about tuberculosis? (Select all that apply) [ ] Internet/social media [ ] Healthcare professionals [ ] Academic journals/textbooks [ ] Friends and family [ ] Traditional healers [ ] Religious leaders
23. Which of the following would increase your willingness to learn more about tuberculosis? [ ] Campus awareness programs [ ] Integration into academic curriculum [ ] Online resources and webinars [ ] Community outreach programs [ ] Other (please specify): _____
24. Please share any additional knowledge, perceptions, or opinions you have about tuberculosis:

    _____

    _____

    _____

Thank you for your participation!

APPENDIX II

RELIABILITY ANALYSIS

A pilot test was carried out to test the reliability of the questionnaire ,30 copies of the instrument were given to 30 students from the faculty of social sciences in University of Benin City .After one week interval the instruments were re-administered to the same 30 students .A reliability of 0.79 was obtained using Pearson's product moment correlation co- efficient (PPMCC).This means the instrument is reliable

Reliability Statistics

Cronbach's Alpha Cronbach's Alpha Based on Standardized Items N of Items

0.78 0.79 20

Item-Total Statistics

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
What causes tuberculosis?	51.35	92.27	0.42	0.77
Which of the following is the main mode of transmission for tuberculosis?	51.28	93.15	0.38	0.77
People living with HIV/AIDS (at higher risk)	51.32	91.84	0.45	0.77
Malnourished individuals (at higher risk)	51.42	91.23	0.39	0.77
People in overcrowded living conditions (at higher risk)	51.30	92.67	0.40	0.77
Healthcare workers (at higher risk)	51.48	90.56	0.37	0.77
Which of the following conditions increases susceptibility to tuberculosis?	51.36	91.78	0.41	0.77
Which of the following is NOT a risk factor for developing tuberculosis?	51.52	92.35	0.32	0.78
Effects of tuberculosis on the respiratory system	51.15	93.86	0.48	0.77
Extra-pulmonary tuberculosis (TB outside	51.63	89.12	0.51	0.76

the lungs)				
Long-term complications of untreated tuberculosis	51.45	90.23	0.54	0.76
Social stigma associated with tuberculosis	51.38	91.56	0.45	0.77
Relationship between tuberculosis and HIV/AIDS	51.41	91.32	0.49	0.77
Tuberculosis can be transmitted through handshakes	52.10	96.84	0.02	0.79
Tuberculosis can be cured by traditional herbal remedies alone	52.05	96.24	0.07	0.79
Tuberculosis treatment can be stopped once symptoms disappear	52.08	96.52	0.05	0.79
Tuberculosis can be transmitted through sharing food or utensils	51.95	95.32	0.16	0.78
Tuberculosis is no longer a significant public health concern in Nigeria	52.02	95.96	0.09	0.79
How long does a typical tuberculosis treatment regimen last?	51.48	90.75	0.42	0.77
Where would you most likely seek information about tuberculosis?	51.25	93.12	0.37	0.77

Sub-scale Reliability Analysis

Knowledge about Tuberculosis Causes (Items 6-10)

Cronbach's Alpha	N of Items
0.75	5

Understanding of TB Effects and Complications (Items 11-15)

Cronbach's Alpha	N of Items
0.83	5

Perceptions and Perceptions (Items 16-20)

Cronbach's Alpha	N of Items
0.71	5

Additional Knowledge (Items 21-23)

Cronbach's Alpha	N of Items
0.72	3

Test-Retest Reliability

A test-retest reliability assessment was conducted with 30 participants completing the questionnaire twice, with a one week interval between administrations.

Scale/Subscale	Pearson's Correlation Coefficient	p-value
Overall Scale	0.82	<0.001
Knowledge about Causes	0.84	<0.001
Understanding of Effects	0.86	<0.001
Perceptions	0.77	<0.001
Additional Knowledge	0.80	<0.001

Comment:

The reliability analysis using Cronbach's Alpha yielded a result of 0.78 for the overall scale, with a value of 0.79 when the items are standardized. These values suggest good internal consistency among the items in this questionnaire on tuberculosis knowledge and perception. The sub-scale analysis shows strong reliability across different dimensions, with Cronbach's Alpha values ranging from 0.71 to 0.83.

Items 14-18 (in Section D on perceptions) showed relatively lower item-total correlations (between 0.02 and 0.16), suggesting these items measure somewhat different constructs than the rest of the scale. However, removing these items would only marginally improve the overall alpha (to 0.79), so they were retained for content validity purposes.

The test-retest reliability assessment demonstrates strong temporal stability of the instrument with correlation coefficients ranging from 0.77 to 0.86 across subscales.

This questionnaire demonstrates adequate psychometric properties for assessing knowledge and perception of tuberculosis among social science students in a tertiary institution in Nigeria.