

**YANGON UNIVERSITY OF ECONOMICS
DEPARTMENT OF ECONOMICS
MASTER OF DEVELOPMENT STUDIES PROGRAMME**

**A STUDY ON THE PERCEPTIONS OF TB PATIENTS IN
ACCESSING TB TREATMENTS (CASE STUDY: INSEIN
TOWNSHIP, YANGON REGION)**

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MDevS – 1 (18th BATCH)**

JUNE, 2025

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A thesis submitted in partial fulfillment of the requirements for the Master of
Development Studies (MDevS) Degree

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This is to certify that the thesis entitled **“A Study on the Perceptions of TB Patients in Accessing TB Treatments (Case Study: Insein Township, Yangon Region)”** submitted as partial fulfillment towards the requirements for the degree of Master of Development Studies has been witnessed by the Board of Examiners.

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ABSTRACT

This study examines the Perceptions of TB Patients in Accessing TB Treatments (Case Study: Insein Township, Yangon Region) in Myanmar. The main objective is to access the awareness of TB patients on TB Treatments and explore perceptions of TB patients on TB Treatments in Insein Township. The study used a descriptive analysis with primary data. This study highlights key strategies to enhance tuberculosis (TB) care. The finding of the survey revealed that most were middle-aged males with moderate education, often married or unemployed, and many had low incomes. Awareness of TB frequently arose through social networks, with private clinics being the initial care source. Diagnosis was timely for most, with minimal barriers aside from some issues with distance and wait times. Patients typically lived close to treatment centers, used public transport, and demonstrated strong adherence and satisfaction with care, despite facing stigma and awareness gaps. Emotional support was the greatest unmet need, and community support was generally positive. Respondents favoured involving community leaders, NGOs, increased awareness campaigns, expanded local facilities, and emphasized financial and nutritional aid, with strong support for government-led initiatives to improve TB care access.

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LIST OF ABBREVIATIONS

ART	Anti-Retro viral Therapy
AIDS	Acquired Immunodeficiency Syndrome
BCG	<i>Bacillus Calmette- Guerin</i> vaccine
DOTS	Directly Observed Treatment Short Course
EPTB	Extra-Pulmonary Tuberculosis
EHR	Electronic Health Records
GDP	Gross Domestic Product
HIV	Human Immunodeficiency Virus
MDRTB	Multidrug-Resistant Tuberculosis
MHDS	Myanmar Demographic and Health Survey
MSF	Médecins Sans Frontières
MT	<i>Mycobacterium tuberculosis</i>
NTP	National Tuberculosis Program
PPM	Public-Private Mix
PTB	Pulmonary Tuberculosis
RIF	Rifampicin
RR TB	Rifampicin Resistant Tuberculosis
SDG	Sustainable Development Goals
TB	Tuberculosis
VOT	Video Observe Therapy
WHO	World Health Organization
XDR TB	Extensively Drug Resistant Tuberculosis

CHAPTER I

INTRODUCTION

1.1 Rationale of the Study

One of the deadliest infectious illnesses in the world is still tuberculosis (TB). The World Health Organization (WHO) estimates that TB killed almost 1.3 million people in 2022, despite decades of advancements in medicine (WHO, 2023). Low- and middle-income nations are disproportionately affected, as their healthcare systems find it difficult to guarantee universal access to diagnosis, treatment, and long-term care (Pai et al., 2016; WHO, 2023). Despite the fact that tuberculosis is preventable and curable, disparities in access to healthcare continue to contribute to global mortality, treatment resistance, and transmission (Stop TB Partnership, 2020; WHO, 2023).

Nearly 66% of all TB cases worldwide occur in the Asia-Pacific area, with Southeast Asia bearing the brunt of this load (World Health Organization [WHO], 2023). Persistent TB rates in this region are driven by factors such as urban migration, poverty, high population density, and weaknesses in health systems (Stop TB Partnership, 2020; WHO, 2023). Countries like India, Indonesia, the Philippines, and Myanmar consistently rank among the highest in global TB incidence (WHO, 2023). The WHO's End TB Strategy and its regional initiatives underscore the importance of closing healthcare accessibility gaps to meet the 2035 TB elimination targets (WHO SEARO, 2022).

Myanmar has one of the 30 highest TB rates in the world (WHO, 2023). An estimated 190,000 Myanmar residents get TB each year, although many go undiagnosed or receive poor care (Ministry of Health and Sports [MOH], 2022). Contributing factors include public stigma, financial hardship, and insufficient health infrastructure (WHO, 2023; Médecins Sans Frontières [MSF], 2021). Despite support from international agencies and national programs like the National TB Programme (NTP), systemic issues related to healthcare accessibility continue to hinder effective TB management (MOH, 2022; MSF, 2021).

These national issues are reflected locally in Insein Township, a heavily populated district in northern Yangon. Residents still encounter social, financial, and logistical obstacles to TB diagnosis and treatment, despite the existence of numerous health centers and clinics (MSF, 2021; MIMU, 2019). High levels of urban poverty, population migration, and cramped living circumstances are all risk factors for the spread of tuberculosis in Insein (WHO, 2023; Ministry of Health and Sports, 2022). Understaffing, a lack of outreach initiatives, and a lack of diagnostic equipment plague local health facilities, making Insein a crucial location for researching issues related to healthcare accessibility (MSF, 2021; MIMU, 2019).

Despite the existence of national programs and policies, significant gaps are frequently revealed by the actualities of TB control at the township level. Insein Township residents deal with non-compliance due to stigma, treatment disruptions, and delays in diagnosis (MSF, 2021; WHO, 2023). Because there is currently little information on TB patients' access to healthcare at the township level, it is challenging for legislators and medical professionals to create efficient interventions that are suited to the actual requirements of the community (MOH, 2022; Stop TB Partnership, 2020). If these issues are not resolved, Insein runs the potential of causing continued medication resistance and TB transmission, which would undermine larger public health initiatives (WHO, 2023; Stop TB Partnership, 2020).

Tuberculosis (TB) remains a major public health challenge in Myanmar, with the country identified as one of the 30 high TB burden nations globally (WHO, 2023). As Myanmar works toward meeting the World Health Organization's End TB Strategy targets, there is a growing recognition that evidence-based, locally tailored interventions are critical for achieving sustainable progress. This study underscores the importance of context-specific strategies by addressing the unique barriers to TB care within Myanmar's urban environments, where healthcare access is often constrained due to resource limitations, socioeconomic inequalities, and gaps in health system infrastructure (MOH, 2022).

One of the fundamental strengths of this research lies in its ability to bridge the divide between national TB policy and on-the-ground implementation. While national strategies often outline broad goals and interventions, their success largely depends on how well they are adapted to local realities. By providing concrete data and analysis focused on specific urban communities, this study creates a practical framework for improving TB care delivery that is both scalable and adaptable. Such frameworks are

especially crucial in densely populated urban settings, where healthcare systems are often overburdened and where patients may face multiple socio-economic barriers that hinder timely diagnosis and treatment (MSF, 2021).

The insights generated from this research hold significant value for a wide range of stakeholders. Local policymakers, public health authorities, and non-governmental organizations (NGOs) can utilize these findings to inform the development of targeted TB interventions. By aligning programmatic strategies with the lived experiences and healthcare-seeking behaviours of at-risk populations, interventions can become more responsive and impactful. For example, community-based outreach, decentralized treatment models, and integration of TB services into primary healthcare facilities may offer effective solutions for improving both case detection and treatment adherence in underserved areas (Stop TB Partnership, 2020).

Insein Township, Yangon Region, represents a significant case study area for exploring these issues. As one of the densely populated urban regions in Myanmar, it experiences a high incidence of TB (Ministry of Health and Sports Myanmar, 2022). While national TB programs offer free diagnosis and treatment, evidence suggests that various socio-economic, cultural, and systemic barriers persist, influencing patients' ability to access care effectively (Thu et al., 2020). Patients' perceptions about their illness, treatment options, healthcare providers, and community support directly impact their healthcare-seeking behaviours and adherence to treatment regimens (Karumbi & Garner, 2015).

This study is grounded in the need to fill gaps in understanding the subjective experiences and perceptions of TB patients in Insein Township concerning their access to TB treatment. While quantitative data provide incidence and treatment success rates, qualitative insights into patients' attitudes, beliefs, and lived experiences offer invaluable context for improving TB control strategies (Storla, Yimer, & Bjune, 2008). For instance, stigma related to TB remains a critical social barrier, affecting patients' willingness to seek care or disclose their illness (Courtwright & Turner, 2010). By examining patient perceptions, the study aims to identify these hidden challenges and enablers to accessing treatment.

1.2 Objective of the Study

The objectives are:

To access the awareness of TB patients on TB Treatments and to explore perceptions of TB patients on TB Treatments in Insein Township.

1.3 Method of Study

This study used a descriptive method based on Primary data was conducted through personal interviews and questionnaires administered through field surveys. By using quantitative approaches, 259 respondents were selected among 1193 people with Tuberculosis according to incidence during January 2024 to December 2024. Secondary data was collected from publications, reports, the internet, and the Township Health Department and National Tuberculosis Program.

1.4 Scope and Limitations of the Study

This study was conducted on 259 People with Tuberculosis in the targeted region. The survey focused on the targeted People with Tuberculosis registered in Township Health Department during 2024 January to December 2024. The study period is from May to June 2025. The household survey was conducted using a questionnaire distributed to the selected stakeholders.

1.5 Organization of the Study

This research has five chapters. Chapter one introduces the study's premise, aims, method, scope, and limits. Chapter two reviews literature. Myanmar Health Care Situation and Accessibility Impacting TB Programs is covered in Chapter 3. Chapter four covers survey profile, design, and outcomes. Chapter five closes this study with findings and recommendations on TB patients' perceptions of receiving TB treatments in Insein Township, Yangon Region.

CHAPTER II

LITERATURE REVIEW

2.1 Overview of Tuberculosis Situation in Global

TB is one of the biggest infectious disease killers worldwide despite decades of public health efforts. About 10.6 million people got tuberculosis (TB) in 2022, while 1.3 million died from HIV-negative causes and 167,000 from HIV-positive causes (WHO, 2023). TB, not HIV/AIDS, kills the most people globally. Low- and middle-income countries have a disproportionate TB burden. According to the WHO Global TB Report 2023, 87% of new TB cases came from the 30 countries with the greatest TB burden. Bangladesh, Nigeria, China, India, Indonesia, the Philippines, Pakistan, and the Democratic Republic of the Congo had almost two-thirds of global TB cases (WHO, 2023).

Between 2020 and 2022, the COVID-19 pandemic significantly interrupted TB services. Undiagnosed and untreated TB cases increased as a result of a dramatic drop in TB case notifications brought on by lockdowns, overburdened healthcare systems, and economic difficulties (Stop TB Partnership, 2021). Compared to pandemic years, global case detection and treatment rates improved in 2022, although they were still below pre-COVID levels. Delays like this could undo years of progress in TB control. Drug-resistant TB (DR-TB) is another global issue. According to WHO (2023), 410,000 people worldwide were estimated to have developed multidrug-resistant TB (MDR-TB) or rifampicin-resistant TB (RR-TB) in 2022. Treatment success rates for DR-TB are low because of protracted, toxic, and costly treatment regimens. In addition to biomedical interventions, addressing TB necessitates addressing social determinants like poverty, malnourishment, inadequate housing, and stigma. Vulnerable groups, such as those living with HIV, migrants, prisoners, and marginalized communities, are disproportionately at risk of contracting TB and encountering care barriers (Lönnroth in 2010).

In comparison to 2015 levels, the WHO's End TB Strategy, which was introduced in 2014, aims to reduce TB mortality by 90% and TB incidence by 80% by

2030 (WHO, 2014). But things have moved more slowly than anticipated. Stronger health systems, greater accessibility to novel diagnostics and treatments, and large investments in R&D—especially for novel TB vaccines—are all necessary to meet these goals. International collaborations have been reinforced. Funding increases, integrated approaches to TB and wider healthcare delivery, and renewed political commitment were the main points of emphasis at the United Nations High-Level Meeting on TB in 2018 and 2023 (UN, 2023). Even with scientific advancements like shorter treatment plans and more precise diagnostic instruments, accessing underprivileged communities, combating medication resistance, and obtaining long-term funding continue to be difficult tasks. As a result, tuberculosis is a global health emergency that necessitates immediate and consistent international, national, and local action.

Table (2.1) Targets for Global End TB Strategy

INDICATORS	TARGETS	
	SDG 2030	END TB 2035
Reduction in number of TB deaths compared with 2015 (%)	90%	95%
Reduction in TB incidence rate compared with 2015 (%)	80% (<20/100 000)	90% (<10/100 000)
TB-affected families facing catastrophic cost due to TB (%)	Zero	Zero

Source: WHO,2015

2.2 Concepts and Model of Healthcare Accessibility

The ease with which people can acquire necessary medical services without unjustified obstacles is referred to as healthcare accessibility. Health services' appropriateness, acceptability, price, and physical accessibility are all included (Penchansky & Thomas, 1981). Accessibility encompasses more than just the existence of medical facilities; it also includes how individuals view services, the caliber of treatment they receive, and the financial, social, and personal barriers they must surmount in order to receive it.

One of the main tenets of universal health coverage is healthcare accessible, according to the World Health Organization (WHO, 2010). It guarantees that everyone

can obtain the services they require without experiencing financial hardship, irrespective of socioeconomic background. There are five main components of accessibility, which are multifaceted:

- **Availability** (capacity to produce and provide services);
- **Accessibility** (location and transportation);
- **Affordability** (cost in relation to financial means);
- **Acceptability** (suitability for a certain culture and society);
- **Accommodation** (services arranged in accordance with patient requirements)

Accessibility in the context of tuberculosis (TB) affects a person's ability to obtain consistent treatment, early diagnosis, and long-term support—all of which are critical for reducing transmission and enhancing patient outcomes.

Models of Healthcare Accessibility

(a) Penchansky and Thomas's Five A's Model (1981)

This classic model describes healthcare access through five dimensions:

- **Availability:** Do enough medical services exist?
- **Accessibility:** Is it feasible to travel to the health care location?
- **Accommodation:** Are hospitals prepared to receive patients?
- **Affordability:** Can individuals afford medical treatment without facing financial difficulties?
- **Acceptability:** Do patients believe that the medical procedures are appropriate in their culture and society?

This method highlights how access can be hampered and health outcomes can eventually worsen due to any barrier, like a lack of transportation, the high cost of treatment, or social stigma.

(b) Peters et al. (2008) Models for Access to Health Services in Developing Countries

By stressing the intricacy of access in low- and middle-income nations, Peters and associates built upon previous models. Their structure consists of: Macroenvironmental and policy factors: overall system capability, governance, and health funding. Elements of Health Service Delivery: Facility preparedness, provider attitudes, operating hours, and quality of care. Socioeconomic position, education,

gender norms, and community support are examples of household and community factors. Personal preferences, health knowledge, and past encounters with the healthcare system are examples of individual factors. For situations like Insein Township, where access to TB care is impacted by both systemic and community-level constraints, this concept is especially pertinent.

(c)Levesque et al.'s Conceptual Framework (2013)

A patient-centered approach to accessibility was put out by Levesque and associates who connected system elements with patient capabilities:

Approachability, Acceptability, Availability, Affordability, and Appropriateness are elements of the health system. Capabilities of the patient include perception, seeking, reaching, paying, and engaging. This paradigm places a strong emphasis on the relationship between users and services, acknowledging that patients may not have the resources, motivation, or expertise to take use of services even when they are available. The research area's TB healthcare access hurdles and facilitators can be methodically identified by using these frameworks. Is it possible to find TB clinics in easily accessible locations?

- Are patients able to pay for transportation or medical expenses?
- Are TB patients deterred from seeking care by cultural beliefs?
- Are treatments and service hours accommodating to patients?

Using these lenses to analyze accessibility enables a more thorough comprehension of the local context and identifies specific areas that require attention.

2.3 Global Challenges in TB Management

TB is still one of the most common infectious diseases in the world, despite decades of international efforts to combat it. TB control is still threatened globally by a number of significant issues. Numerous TB cases remain undiagnosed or receive a delayed diagnosis, which raises the possibility of continued transmission and serious illness consequences. According to WHO estimates, around 4.2 million TB infections were "missed" in 2022, meaning they were either recorded or not diagnosed (WHO, 2023). A serious public health emergency is the rise of extensively drug-resistant TB (XDR-TB) and multidrug-resistant TB (MDR-TB). Resistance is a result of weak health systems, inadequate treatment adherence, and inadequate management of the

medication supply (WHO, 2023). Health systems in many nations are underfunded, disjointed, and unable to provide complete TB care. Drug supplies, diagnostic equipment, and skilled workers are frequently in short supply (Lönnroth et al., 2010). Patients with tuberculosis frequently experience social stigma, which causes them to put off seeking care and adhere poorly to therapy. When TB is linked to HIV infection or poverty, stigma might be very strong (Courtwright & Turner, 2010). Although TB treatment is legally "free," there are still significant barriers, particularly for low-income groups, due to indirect costs including transportation, lost wages, and additional medical bills (Tanimura et al., 2014). Years of TB progress were undone by the COVID-19 epidemic. Globally, TB detection rates fell, resources were reallocated, and health services were interrupted (WHO, 2023).

2.4 Local Challenges in TB Management

Certain issues in the Township local setting reflect and intensify worldwide trends. Despite the existence of public TB clinics in the area, many neighbourhoods lack access to diagnostic facilities. Distance, expense, and waiting periods are major reasons for testing delays, particularly for drug-resistant strains (National Tuberculosis Programme, Myanmar, 2022). One of the key causes is still poverty. Local daily wage earners and informal workers must make the difficult decision to choose between receiving medical care and making a living. Hospital stays, diagnostic procedures, and therapy visits frequently include exorbitant indirect costs. Rapid urban population development has created crowded living situations that are perfect for the spread of tuberculosis. Access to TB services and public healthcare is frequently restricted for migrant workers and informal settlers (Ministry of Health and

Sports, Myanmar, 2020). For fear of being stigmatized or shunned by their community, patients may put off getting therapy or postpone seeking assistance. These anxieties are fuelled by false information on TB treatment and transmission. Patient follow-up is a common problem for health care, particularly with populations that are mobile and transitory. Interrupting treatment results in poor outcomes and increased medication resistance rates (Stop TB Partnership, Myanmar, 2022). Insein's public health centers usually struggle to find qualified lab technicians, community health workers, and TB specialists. This compromises the continuity and quality of TB treatment. TB is still one of the most common infectious diseases in the world, despite

decades of international efforts to combat it. TB control is still threatened globally by a number of significant issues:

(a) Healthcare System Fragmentation

Public and private sectors are not integrated in Myanmar's dual healthcare system, which consists of both public and private sectors. Private providers, who are frequently not included in the government TB care framework, are where many patients initially seek treatment. According to the U.S. Agency for International Development (2020), this results in delayed treatment beginning, fragmented care, and unreliable TB diagnosis. **Insufficient Stakeholder Coordination:** Coordination between the government, non-governmental organizations (NGOs), and commercial providers is still uneven, and the public-private mix (PPM) approach is still developing. The effective provision of TB services is hampered by this lack of coordination (WHO, 2020).

(b) Geographical Obstacles

Limited Access in Rural and Peri-Urban locations: It is challenging to detect and treat tuberculosis in Myanmar's many rural and isolated locations due to a lack of access to medical services. Long commutes to medical institutions, inadequate transportation infrastructure, and the scarcity of diagnostic equipment in smaller medical facilities all contribute to the problem (World Bank, 2021). **Urbanization and Overcrowding:** The TB situation is made more problematic in metropolitan settings like Yangon by migration and overcrowding. People who live in close quarters are more likely to contract tuberculosis, and the burden on medical facilities may make it more difficult for them to receive high-quality care (WHO, 2021).

(c) Financial Obstacles

Out-of-Pocket Costs: Many TB patients encounter substantial financial obstacles, such as the high price of treatment, transportation, and diagnostic testing, particularly when these services are not reimbursed by government or insurance funds. Due to these expenses, treatment may be postponed or treatment plans may not be followed (International Journal of Tuberculosis and Lung Disease, 2020). **Catastrophic Health Expenditures:** According to a research done in Myanmar, household expenses for TB treatment can account for as much as 60% of a household's yearly income (U.S. Agency for International Development, 2020).

(d) Drug-Resistant Tuberculosis (DR-TB)

Limited Access to Treatment for MDR-TB: In Myanmar, drug-resistant TB is still a major problem. Specialized care and access to second-line medications are necessary for the management of MDR-TB, although these resources might not be easily accessible in all healthcare settings. As a result, treatment failure rates are high, and resistant strains are spread (WHO, 2021).

(e) Cultural and Social Barriers

Discrimination and Stigma: In Myanmar, TB is still widely stigmatized. Fear of social discrimination may cause patients to conceal their condition, delaying diagnosis and treatment compliance. According to Tobacco Control (2019), stigma deters people from getting treatment early, which increases the spread of tuberculosis. **Gender Inequality:** Cultural traditions, a lack of financial independence, and mobility restrictions, particularly in rural regions, make it difficult for women in Myanmar to receive TB treatment. Compared to men, women experience delayed diagnosis and poorer treatment adherence as a result (BMC Infectious Diseases, 2021).

(f) Insufficient Diagnostic Instruments and Infrastructure

Limited Access to Diagnostic Services: While some regions of Myanmar have access to TB diagnostic instruments such as the Xpert MTB/RIF, there are still large gaps in this availability, especially in rural and isolated areas. Because of this, a large number of TB patients are either misdiagnosed or diagnosed too late, which has a negative impact on outcomes (WHO, 2021).

Inadequate Facilities for MDR-TB: Drug-resistant TB therapy necessitates specialist facilities with cutting-edge diagnostic and therapeutic skills. Since most MDR-TB therapy is provided in urban places like Yangon, these facilities are scarce, making it challenging for patients in rural areas to receive quality care (International Journal of Tuberculosis and Lung Disease, 2020).

2.5 Innovations in TB Care

The way tuberculosis (TB) is diagnosed, treated, and managed is changing as a result of new opportunities and advances, despite the disease's continued global impact. There is hope that improvements in public health tactics, service delivery models, and technology can hasten the effort to eradicate tuberculosis. The sensitivity and speed of conventional TB diagnostic techniques, such sputum smear microscopy, are severely limited. TB and rifampicin resistance can be detected more quickly and accurately in a

few of hours thanks to newer molecular diagnostic techniques as GeneXpert MTB/RIF and Truant (Boehme et al., 2010; WHO, 2020). In order to improve early diagnosis and lower transmission, these point-of-care diagnostics are now being introduced into primary care settings, even in places with limited resources. Antibiotic treatment for drug-sensitive TB typically lasts six months, whereas drug-resistant TB regimens may take 18 to 24 months.

This strategy targets co-morbidities that exacerbate TB outcomes, increases patient retention, and makes use of already-existing infrastructure (Ford et al., 2018). Integrated service delivery is particularly crucial in resource-constrained high-burden nations. The Bacillus Calmette–Guérin (BCG) vaccination is mainly unsuccessful at preventing adult pulmonary tuberculosis, but offering considerable protection against severe tuberculosis in children. In clinical studies, new TB vaccine candidates such as M72/AS01E have demonstrated encouraging outcomes, offering roughly 50% protection (Tait et al., 2019). A breakthrough vaccination that works would revolutionize the fight against tuberculosis worldwide. Through programs like national TB strategic plans and the United Nations High-Level Meetings, the political momentum surrounding tuberculosis has grown. The Global Fund to Fight AIDS, Tuberculosis, and Malaria is one institution that provides funding to support the development and expansion of innovative technologies. Leveraging scientific advancements requires a strong political commitment and sufficient funding. There is a genuine chance to revolutionize TB care because to improved diagnostics, fewer treatment options, digital breakthroughs, community-centered approaches, integrated services, and vaccine research. But for these technologies to be successfully implemented, they must be made available and reasonably priced in the places where they are most needed. Innovation needs to be combined with equity and health system strengthening in order to effectively eradicate tuberculosis.

Access to care has improved as a result of decentralizing TB services and giving community health professionals more authority, especially in remote locations. Peer support groups, home-based DOTS (Directly Observed Treatment, Short-course), and active case seeking are all components of community-based TB care programs. Research indicates that these models lessen the strain on the healthcare system and improve treatment success rates (Khan et al., 2019). HIV treatment, diabetes control, and maternity and pediatric health services are also becoming more integrated into TB treatments.

For drug-resistant TB, however, recent clinical trials such as the Nix-TB and ZeNix studies have shown that shorter, all-oral regimens (6–9 months) work well (Conradie et al., 2020). Under some circumstances, the four-month regimen of rifapentine and moxifloxacin is now advised for drug-sensitive TB (WHO, 2022). Shorter regimens lower treatment dropout rates and increase patient adherence. Digital adherence tools and mobile health (mHealth) technology are revolutionizing TB treatment. By supporting treatment adherence remotely, tools such as 99 DOTS, VOT (Video-Observed Therapy), and SMS reminders eliminate the need for daily clinic visits (Thomas et al., 2020). Program performance monitoring and patient follow-up are further enhanced by electronic medical records and data tracking technologies.

2.6 Opportunities for Improving TB Healthcare Accessibility

Improving TB healthcare in Myanmar requires expanding public-private partnerships, integrating digital health tools, engaging communities, decentralizing services, strengthening the workforce, addressing treatment costs, ensuring drug availability, and enhancing surveillance systems. These strategies collectively boost early detection, treatment adherence, and accessibility, especially for rural and underserved populations (WHO, USAID, 2020-2021).

2.5.1 Public-Private Partnerships (PPPs) and Collaboration

Public-Private Mix (PPM) expansion: This strategy may facilitate the inclusion of private healthcare providers in the national TB control initiative. In order to improve case identification, diagnosis, and treatment adherence, this strategy promotes cooperation between the public sector, private practitioners, and community health workers (World Health Organization, 2020). **Incentivizing Private Providers:** According to the U.S. Agency for International Development (2020), providing financial or training incentives to private healthcare providers could improve early detection and treatment accuracy by encouraging them to report TB cases and follow established protocols.

2.5.2 Digital Health Solutions and Technological Integration

Telemedicine and Remote Consultations: There is a good chance to use telemedicine to provide TB treatment to rural and remote places. It can lower obstacles to care by enabling medical professionals to consult, diagnose, and monitor patients without physically visiting medical facilities (International Journal of Tuberculosis and

Lung Disease, 2020). Platforms for mobile health (mHealth): Enhancing treatment adherence can be greatly aided by mobile health apps. Apps can track treatment progress, remind patients about their drugs, and offer educational resources to raise awareness of tuberculosis. Research indicates that mHealth tactics have enhanced adherence to TB treatment in other nations and may be implemented in Myanmar (WHO, 2021). Digital Diagnostics: The quick detection of tuberculosis and drug-resistant tuberculosis (DR-TB) can be facilitated by the widespread use of contemporary diagnostic techniques such as GeneXpert MTB/RIF. Particularly in places with limited resources, these technologies reduce diagnostic delays by producing faster results (WHO, 2021).

2.5.3 Community-Based Engagement and Interventions

CHWs, or community health workers: Enhancing TB access, especially in rural regions, has been demonstrated to be possible through the training and empowerment of community health workers to carry out active case detection, offer treatment support, and provide health education. By increasing awareness and encouraging care-seeking behavior, CHWs can serve as a link between communities and health systems (U.S. Agency for International Development, 2020). Support groups for peers: Peer support networks for TB patients could enhance treatment adherence and lessen stigma. Peer groups make patients feel less alone and more driven to finish their treatment by offering emotional support, exchanging stories, and creating a feeling of community (BMC Public Health, 2020). Community Awareness Campaigns: By de-stigmatizing tuberculosis, mass education and awareness initiatives may motivate people to seek treatment and diagnosis as soon as possible. Media platforms that are widely available in Myanmar, like radio, television, and social media, could be used in these efforts (Tobacco Control, 2019).

2.5.4 TB Services Decentralization

Decentralized Care Models: By eliminating the need for patients to travel great distances, decentralizing TB services to township-level health centers can increase accessibility. This strategy can lessen the burden on central hospitals while increasing the accessibility and effectiveness of TB treatment (WHO, 2021).

Combining TB Services with Other Health Services: TB treatment can be incorporated into already-existing medical services, including HIV/AIDS programs, maternity and child health services, and general healthcare services. In addition to enhancing the

provision of TB services, this will facilitate patients' access to all-encompassing medical treatment (Tobacco Control, 2019).

2.5.5 Enhancing the Healthcare Workforce

Increasing Healthcare Workers' Capacity: It is essential to increase healthcare workers' training and ongoing education in TB diagnosis and treatment. The probability of precise diagnosis and prompt treatment increases with more experienced personnel. Furthermore, patient compliance with therapy can be improved by educating healthcare professionals in patient-centered care (BMC Infectious Diseases, 2021). **Rewarding Medical Professionals in Rural Communities:** The lack of qualified healthcare professionals in neglected rural areas may be lessened by providing incentives including higher compensation, chances for professional growth, and accommodation for health workers (WHO, 2021).

2.5.6 Resolving Cost Issues with TB Treatment

Financial Assistance for Patients: By lowering the cost of TB treatment, financial assistance programs, such as those for diagnostic testing, transportation, and nutrition assistance, would make healthcare more accessible to patients from low-income backgrounds (World Bank, 2021). **TB Care Insurance Models:** Out-of-pocket expenses for patients and their families can be greatly decreased by introducing or extending health insurance coverage to cover TB-related costs. This is particularly crucial for handling the sometimes expensive treatment of MDR-TB (U.S. Agency for International Development, 2020).

2.5.7 Better Drug Access and Management of Drug-Resistant TB

Second-Line Drug Availability: It is crucial to guarantee that second-line medications for MDR-TB are accessible in all medical settings. To stop patients from skipping treatment because of financial concerns, government initiatives to give patients free or heavily discounted medications should be increased (WHO, 2020). **MDR-TB Treatment Plans That Are Shorter:** Around the world, the implementation of shorter, all-oral regimens for MDR-TB has revolutionized treatment. By lowering the length of therapy and the negative consequences linked to longer regimens, increasing access to these regimens in Myanmar may enhance patient outcomes (WHO, 2021).

2.5.8 Better Systems for Gathering and Tracking Data

Electronic Health Records (EHR): Using EHR systems to monitor patient information, treatment plans, and results will enhance TB patient monitoring and enable more individualized therapy. Better surveillance and real-time decision-making to stop

TB epidemics would also be made possible by it (WHO, 2020). Improved Systems for TB Surveillance: In order to pinpoint gaps in healthcare accessibility and concentrate interventions where they are most needed, it is imperative that TB monitoring be strengthened to guarantee accurate reporting and tracking of TB cases (WHO, 2021).

2.7 Reviews on Previous Studies

Mishal S. Khan¹, Coll Hutchison, and Richard J. Coker (2017) examined risk variables for medication resistance in Yangon, Myanmar, TB patients. The study suggests investigating TB patients' healthcare seeking, treatment adherence, and comorbidities as medication resistance factors. The first approach to reducing MDR-TB in high-prevalence nations like Myanmar is preventing medication resistance, which is best for patients and health systems. The present study suggests introducing processes at public health facilities to ensure consistency in assigning treatment supporters to all TB patients and engaging with private healthcare providers to avoid inappropriate treatment of potential TB patients to reduce MDR-TB risk. In resource-limited areas, further research is needed on the efficacy and cost of medication resistance prevention interventions for primary TB patients.

San Latt Phyu's (2019) thesis, *An Analysis on Knowledge, Attitude, and Practice for Tuberculosis among Migrant Workers: A Case Study in Hlaing Tharyar Township, Yangon*, explored migrant workers' awareness and behavior regarding TB. The study found that most respondents correctly identified the cause, symptoms, and transmission of TB, though a notable "don't know" group remains, highlighting the need for continued education under the End TB strategy. Migrants showed an understanding of when and where to seek diagnosis, recognized TB as curable and preventable, and knew treatment is free, though they faced barriers such as unfamiliarity with local health services and fear of drug side effects. While nearly 90% believed everyone shares responsibility for TB control, 50% thought it was solely the Ministry of Health's duty. Most respondents agreed on preventive practices like covering coughs, yet only half followed them in practice, and many delayed seeking care due to financial and logistical constraints. Handwashing and crowd avoidance were under-practiced.

Thuyain Tun Tun (2019) *TB Knowledge, Attitude, and Practice Study. (Thingangyun Township, Yangon Region Case Study)*. Nearly 400 respondents (87% and 67%, respectively) knew that TB diagnosis requires a sputum AFB and chest X-

Ray. Total 89% (78%, 352 non-TB and 11%, 53 TB patients) knew TB diagnosis and treatment are free. 11% of respondents did not know TB Diagnosis and Treatment is free, while 5% of non-TB and 0.6% of TB patients replied reasonable, 3% somewhat costly, and 2% very expensive. TB treatment accessibility: 89% knew about National TB Programme (NTP), 88% about Government Hospital, 86% about Township Health Centers, 62% about Private Hospitals, and 11% about Pharmacy Shops. Health education awareness initiatives should progressively affect individual behavior. On attitude and practice, 42% of participants were calm and ready for further requirement, 26% were surprised, 17% fearful, 12% shameful, and fewer than 5% embarrassed, sad, or hopeless. 369 respondents (81%) said they would talk to a doctor or medical worker if they had TB illness, and the second highest answer was to talk to a spouse or parent, which is excellent since it helps guide the sickness to treatment rather than being a burden.

Pyae Sone Win (2022) examined tuberculosis knowledge, attitude, and practice in Tarmwe Township, Yangon. A medical doctor providing diagnosis and treatment for tuberculosis under the National Tuberculosis Program was interviewed face-to-face with structured questionnaires to learn about the challenges health staff from Tarmwe Township face in providing these services. Tarmwe Township, Yangon residents' knowledge, attitude, and behavior about TB and obstacles to public health services were examined in this study. This research also examined the obstacles faced by Tarmwe Township doctors treating TB under the National TB Program. Nearly half of the research participants had barriers to TB treatment. Service time overlaps with working hours, and the center is too congested to wait. Others include financial issues, not knowing where to go, and not knowing where to receive free help. Health-care staff (medical doctors) in Tarmwe Township face many challenges in treating tuberculosis, including patients who don't follow up and take drugs intermittently, which leads to drug-resistant TB. There is also a lack of infrastructure and staff to serve patients in health centers.

In 2024, Aung Phyo Khaing examined the economic impact of tuberculosis in South Dagon Township, Yangon. This showed that TB mostly affects people in their prime working years, which might damage households' economies. 43% of respondents had graduate-level education, and 29% were self-employed or dependent, which may indicate their vulnerability to TB and financial stress.

The study also shows that patients' initial hospitals delayed diagnosis. Importantly, 84% of respondents first sought treatment at private clinics, which may delay diagnosis due to restricted availability to TB-specific diagnostic tests. Patients who visited public TB facilities, hospitals, or NGO/INGO clinics were diagnosed faster, with 69% diagnosed within 1-3 weeks. However, 27% of patients had diagnostic delays of 4-6 weeks or longer. This development highlights the need to promote public sector TB services to eliminate diagnosis delays and ensure early treatment.

CHAPTER III

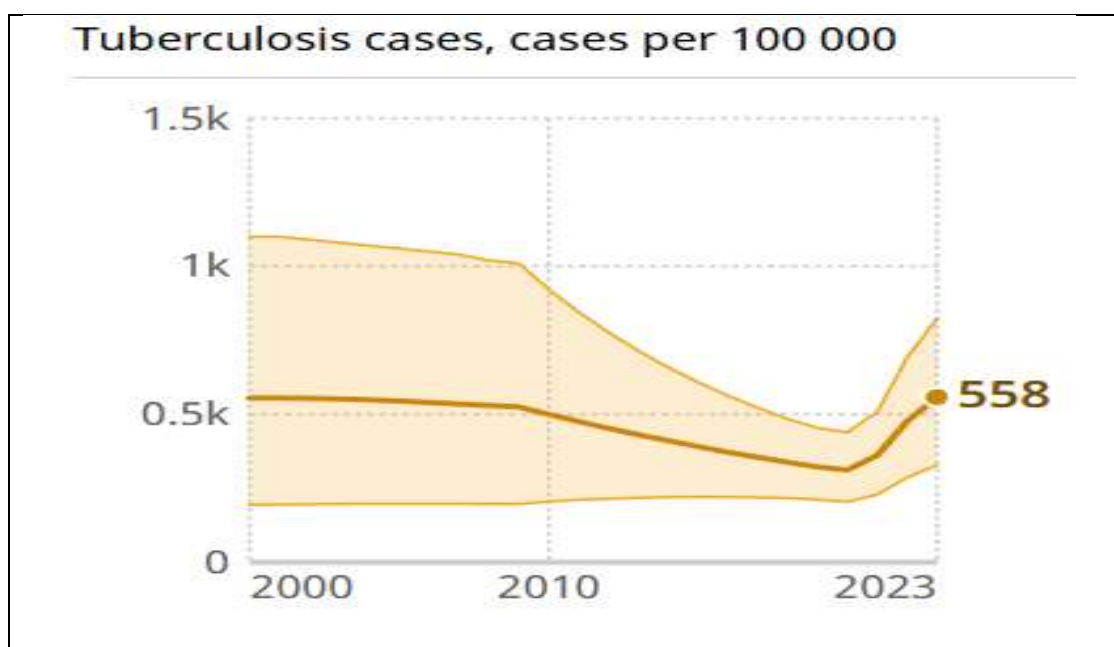
BACKGROUND INFORMATION OF TUBERCULOSIS SITUATION IN MYANMAR

3.1 TB Situation in Myanmar

The WHO lists Myanmar as one of 30 countries with high rates of TB, TB/HIV coinfection, and DR-TB (Médecins Sans Frontières, 2024)□. According to the WHO Global Tuberculosis Report 2024, Myanmar’s estimated TB incidence for 2023 was approximately 558 cases per 100,000 population, with a broad uncertainty interval (328–824 per 100,000), reflecting variable surveillance and modelling uncertainty (WHO, 2024)□. In absolute terms, this represents a sharp increase from estimated incidence in 2015 (~267 per 100,000), indicating a worsening trajectory inconsistent with global reductions (Health Sector MIMU as cited in WHO, 2024)□. Similarly, TB-related mortality in Myanmar in 2023 is estimated at ~50,000 deaths, translating into a mortality rate of around 80 per 100,000 population, which is substantially higher than the global average of ~13 per 100,000 in 2023 (WHO, 2024; World Bank, 2024)□.

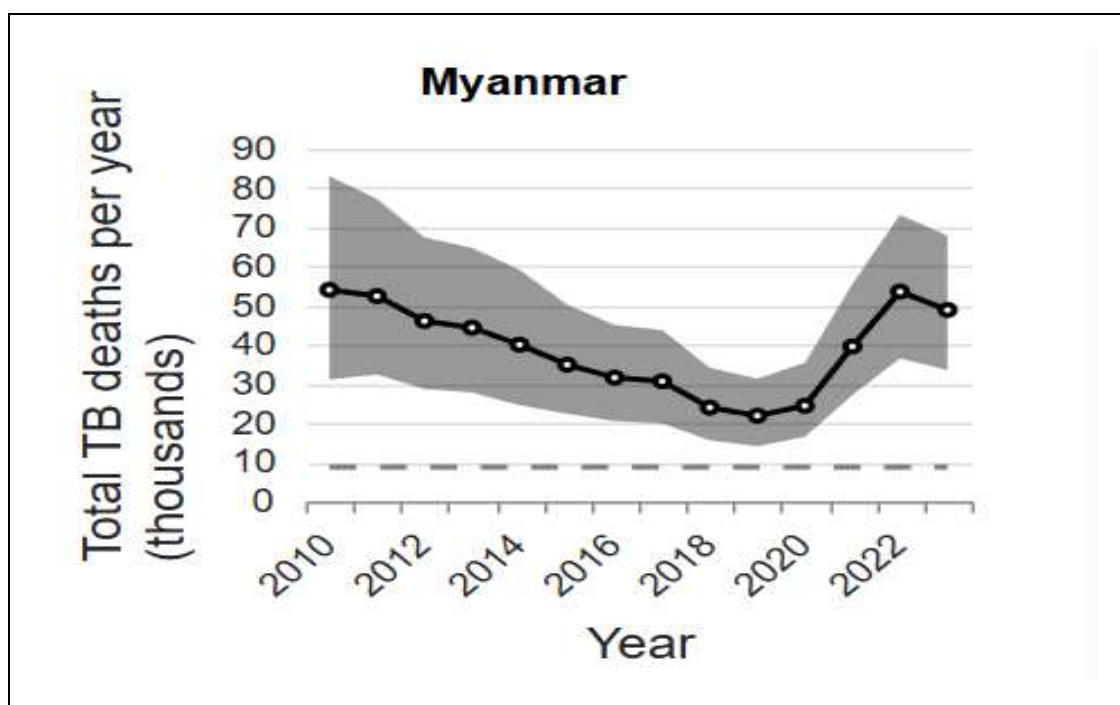
These figures confirm that, unlike many countries making steady progress, Myanmar’s TB burden remains both high and rising. Between 2015 and 2023, most countries achieved a meaningful decline in TB incidence; the WHO’s targets for 2025 included a 50% reduction from the 2015 baseline. However, Myanmar is an outlier in the South-East Asia region: rather than declining, its incidence rose markedly. In fact, Myanmar’s only national accomplishment by 2020 was achieving a 20% reduction—meeting the SDG interim milestone on incidence (Stop TB Partnership, 2025)□—but the subsequent years reversed that trend (Stop TB Partnership, 2025)□. By contrast, the regional average decline was just ~6.7% regionally by 2023 (WHO, 2024)□—far short of targets. This stagnation underscores the urgent need for intensified, targeted interventions, especially in conflict-affected and displaced populations. In Myanmar, the tuberculosis incidence (per 100 000 population) has worsened by per 100 000 from 555 [194 - 1,100] in 2000 to 558 [328 - 824] in 2023.

Figure (3.1) Tuberculosis Cases per 100000 Population in Myanmar



Source: WHO, 2024

Figure (3.2) Total TB Death per year (thousands) in Myanmar



Source: WHO, 2024

Table (3.1) Total TB Death per year in Myanmar

Year	2010	2012	2014	2016	2018	2020	2022
TB Death	54,000	46,000	40,000	32,000	24,000	24,000	54,000

Source: WHO, 2024

Measuring tuberculosis (TB) prevalence in Myanmar involves several key steps to assess the burden of the disease within the population. Initially, a national TB prevalence survey is conducted, employing standardized methodologies recommended by the World Health Organization (WHO). These surveys typically utilize screening and diagnostic methods such as chest X-rays, sputum smear microscopy, and molecular tests to identify individuals with active TB, including both bacteriologically confirmed and clinically diagnosed cases. The surveys aim to capture data on TB prevalence across various regions, including urban and rural areas, to provide a comprehensive understanding of the disease's distribution. In Myanmar, the most recent national TB prevalence survey was conducted in 2018, providing valuable insights into the TB burden at that time. The findings from this survey indicated a prevalence of 468 per 100,000 population for bacteriologically confirmed adult pulmonary TB. Following the survey, the data undergoes rigorous data analysis and quality assurance processes to ensure accuracy and reliability. The results are then compiled into a national TB prevalence report, which is submitted to the WHO and other stakeholders. This report serves as a critical resource for informing national TB control strategies, guiding resource allocation, and evaluating the effectiveness of existing interventions. By systematically following these steps, Myanmar can effectively monitor and address the TB epidemic, aligning with global efforts to reduce TB incidence and mortality. The Myanmar government has implemented several key tuberculosis (TB) intervention projects to combat the high burden of TB in the country. The National Tuberculosis Programme (NTP), under the Ministry of Health and Sports, leads these efforts through various strategic initiatives.

One significant project is the Community-Based MDR-TB Care (CBMDR-TBC) initiative, launched in 2015 in collaboration with The Union. This project aimed to improve treatment initiation and adherence among multidrug-resistant TB (MDR-TB) patients in 33 townships across upper Myanmar. It provided support packages, including financial assistance and community-based care, resulting in increased treatment initiation rates and reduced time to treatment initiation.

Another notable intervention is the Private Provider Interface Agency for Integrated Service Delivery (PPIA-ISD) project, funded by the Stop TB Partnership's TB REACH Wave 10 initiative. Implemented by PATH since 2022, this project engages private healthcare providers to integrate TB services, increase case

notifications, and improve treatment outcomes, particularly in urban areas where private sector engagement is crucial .([Path](#))

Additionally, the Global Fund Programme has supported Myanmar's TB control efforts. In 2023, the program achieved 93% of its annual target by notifying and enrolling 125,954 TB patients in treatment, with a treatment success rate of 87%. ([pr-myanmar.org](#))

These projects are aligned with Myanmar's National Strategic Plan for Tuberculosis 2021–2025, which focuses on enhancing TB care and prevention, improving diagnostic services, and integrating TB services into the broader health system. Through these comprehensive interventions, the Myanmar government aims to reduce TB incidence and mortality, improve treatment outcomes, and achieve the targets set by the World Health Organization's End TB Strategy.

3.2 Current TB Management Healthcare Systems

Myanmar's National Tuberculosis Programme (NTP), operating under the Department of Public Health within the Ministry of Health, forms the backbone of TB management through implementation of the WHO-endorsed DOTS strategy since 1997 and the End TB Strategy from 2016 onward (Health Sector MIMU, 2024). The NTP oversees TB policy, surveillance, diagnostics, and treatment services at township and district levels, with smear-microscopy at township TB centres, GeneXpert-equipped labs at district and regional facilities, and a National Reference Laboratory for drug-susceptibility testing (NTP, 2025). Since 2019, Myanmar has rolled out DHIS-2, a web-based system to support real-time data capture, validation, and analysis of aggregate TB program data (WHO, 2019).

The NTP has also scaled up TB infection control (TB-IC) protocols across all township facilities, including measures for TB/HIV and MDR-TB collaborative care (Challenge TB Project, 2014), guided by the national TB Infection Control Manual (NTP, 2017). Recognizing the importance of private-sector engagement, Myanmar's public-private mix (PPM) initiative—led by the Myanmar Medical Association (MMA) and supported by partners including PATH and PSI—integrates private general practitioners (GPs), pharmacies, and charity clinics into case detection and treatment. Evaluation of the MMA-PPM clinics demonstrated up to 60 % referral and 40 % direct treatment coverage of notified TB patients, yielding treatment success rates approaching 92 % and substantially increasing case detection (Kyaw et al., 2013;

PATH, 2024). The PPIA-ISD project further strengthens this system by mapping providers in high-burden townships, training promotor to facilitate referrals through MHAA field agents, offering free chest X-rays, and linking to NTP services (PATH, 2024).

For drug-resistant TB, the NTP oversees Programmatic Management of Drug-resistant TB (PMDT), enforces active drug safety monitoring (aDSM), and monitors adverse events with standardized pharmacovigilance tools introduced under End TB and a DSM protocols (WHO, 2016). The support from The Union and other technical partners has strengthened monitoring and evaluation, fiscal risk management, and implementation skills across regional and township teams (The Union, 2020). While Myanmar's system demonstrates robust diagnostic coverage, public-private coordination, and improved outcomes, key challenges remain including inequitable access in conflict-affected and displaced communities, financial barriers to patients (with catastrophic costs still reported even in private clinics), and uneven distribution of diagnostic tools (WHO, 2025; Huong et al., 2024). Continued investment, expansion of PPM and mobile outreach, scale-up of preventive therapy, and integration of TB/HIV care remain critical to achieving equitable TB control.

Myanmar's tuberculosis (TB) management system is structured around the National Tuberculosis Programme (NTP), operating under the Ministry of Health. The NTP employs the World Health Organization's (WHO) End TB Strategy, focusing on early diagnosis, effective treatment, and comprehensive patient care. The NTP utilizes a network of public and private health facilities for TB case detection. Diagnostic methods include sputum smear microscopy, GeneXpert, chest X-rays, and culture tests. A significant initiative is the deployment of portable digital X-ray units equipped with Computer-Aided Detection (CAD) tools, particularly in remote areas, to enhance early detection. The NTP provides free TB treatment through a Directly Observed Treatment Short Course (DOTS) strategy. For drug-resistant TB (DR-TB), the NTP has updated its management guidelines, emphasizing patient-centered care and the integration of services for co-morbid conditions such as diabetes and HIV. The NTP is transitioning from paper-based to electronic case-based data management using the District Health Information Software 2 (DHIS2), supported by the Global Fund. This system enhances data accuracy and facilitates real-time monitoring of TB cases. Community-based TB care is integral to the NTP's strategy. Active Case Finding (ACF) activities involve community health volunteers and organizations to identify and refer suspected TB

cases. Additionally, the NTP collaborates with non-governmental organizations to provide social support, including financial and nutritional assistance, to TB patients. The NTP has established guidelines for the programmatic management of TB/HIV co-infection, ensuring integrated care for patients affected by both diseases. Recognizing the significant role of the private sector in healthcare delivery, the NTP has initiated projects like the Private Provider Interface Agency for Integrated Service Delivery (PPIA-ISD). This project aims to integrate TB services into private healthcare settings, improving access and treatment outcomes.

3.2.1 Handling Drug-Resistant TB

Myanmar has focused its TB control efforts on managing MDR-TB. Initiated in 2013, the Programmatic Management of Drug-Resistant Tuberculosis (PMDT) was dispersed to every township by 2016. The early identification of drug-resistant patients has improved with the advent of molecular diagnostic technologies like Xpert MTB/RIF. (who.int). For MDR-TB treatment, Myanmar started switching to shorter all-oral regimens in 2022, like BPaLM and BPaL, which have demonstrated better success rates and shorter treatment durations than earlier regimens. (who.int)

3.2.2 Obstacles in the Provision of Healthcare

Despite these initiatives, managing tuberculosis still faces a number of difficulties. 60% of TB-affected households experienced catastrophic costs, with an average spending of USD 759, according to a study. This was mostly because of missed income and food expenses. Furthermore, the continuous armed conflict and political unrest have interfered with healthcare services, increasing the number of deaths from tuberculosis and delaying diagnoses. (mam.org.mm, pmc.ncbi.nlm.nih.gov).

3.3 Government Initiatives, International Aid and NGO Contributions in Myanmar

Myanmar's TB response combines government programs like DOTS, PPM, and MDR-TB management with foreign aid from the Global Fund and CHAI. NGOs such as MSF, The Union, PGK, and PSI provide community outreach, private-sector engagement, diagnostics, treatment support, and awareness campaigns, significantly improving detection, adherence, and access nationwide.

3.3.1 Government Programs

(a) The NTP (National Tuberculosis Programme)

The Directly Observed Treatment Short-course (DOTS) approach has been used by the NTP, which is part of the Ministry of Health and Sports, since 1997. By 2003, it had been extended to all townships. In order to battle tuberculosis (TB) nationwide, this initiative focuses on case detection, uniform treatment regimens, drug supply, and a recording and reporting system.

(b) Public-Private Mix (PPM) strategy

Myanmar has implemented a Public-Private Mix (PPM) strategy to tuberculosis care in recognition of the important role the private sector plays in healthcare delivery. In order to improve TB case detection and treatment adherence, this strategy entails cooperation between public health authorities and private healthcare providers, such as pharmacies and general practitioners.

(c). Drug-Resistant TB Management

Myanmar's TB control initiatives have focused on managing multidrug-resistant TB (MDR-TB). Initiated in 2013, the Programmatic Management of Drug-Resistant Tuberculosis (PMDT) was dispersed to every township by 2016. The early identification of drug-resistant patients has improved with the advent of molecular diagnostic technologies like Xpert MTB/RIF.

(d) Foreign Assistance

The World Fund An important ally in Myanmar's battle against tuberculosis has been the Global Fund. It gave out a \$7 million grant to fight tuberculosis in 2004. Amid continuous challenges in the nation, the Global Fund more recently contributed \$5 million in emergency help in 2025 to fund TB detection and treatment. Clinton Health Access Initiative (CHAI) o Since 2013, CHAI has collaborated with the government of Myanmar to increase access to TB diagnosis and care. Among its initiatives are the development of an inventory management system for the National AIDS Program and the improvement of the National Tuberculosis Program's ability to monitor and treat TB, especially multi-drug resistant TB.

3.3.2 Contributions from NGOs

(a) Médecins Sans Frontières (MSF)

MSF has been actively providing TB care in Myanmar, especially in places that are difficult to access. In the Sagaing Region, their Community-Based Tuberculosis

Care Program has established a network of more than 1,000 volunteers who help with patient support, medication adherence, and TB case identification.

(b). The Union

Through its Community-Based Integrated Tuberculosis Care Project, the Union has built a network of over 1,000 volunteers in eight Sagaing Region townships that are difficult to access. Volunteers have screened about 900,000 people for tuberculosis and referred roughly 3,000 persons exhibiting symptoms for additional testing and treatment.

(c)The TB Operations of PGK (Pyi Gyi Khin)

With assistance from the Global Fund and in partnership with the National Tuberculosis Programme, PGK has established a patient-centered, community-based MDR-TB care approach. By working closely with healthcare professionals, this model seeks to promote MDR-TB patients' treatment success while maintaining infection control and offering a consistent package of support. Community outreach, case detection, TB/MDR-TB patient referrals, and home-based care contact investigation are all part of the effort. Additionally, it highlights MDR-TB patient support and infection control strategies in Yangon townships, like as Insein. (Slideplayer.com, pgkmyanmar.org). Psychosocial assistance, TB co-infection management, and STI prevention and treatment are among the comprehensive services provided by PGK's Key Population Service Centers (KPSCs). By offering crucial population-friendly services, these centers make sure that members of vulnerable groups get the help and care they need. (pr-myanmar.org). In Yangon townships, especially Insein, PGK maintains its community outreach initiatives with an emphasis on TB/MDR-TB patient referral and case discovery. The goal of these initiatives is to find and assist TB patients, making sure they are diagnosed and treated as soon as possible.(slideplayer.com). To improve community-based tuberculosis services, PGK works with the National Tuberculosis Programme. In order to enhance TB care and control initiatives, this partnership entails tracking and assessing the contributions of community-based TB initiatives, such as household contact tracing and referrals. (aidsdatahub.org, iris.who.int)

(d)Insein Township's TB Activities by PSI

The PPIA-ISD project, which intends to involve the private sector in TB care, is centered on Insein Township and is administered by the Private Provider Interface Agency (PPIA) for Integrated Service Delivery (ISD). In order to facilitate TB

screening, diagnosis, and treatment, this program entails mapping and training private providers, such as pharmacies and general practitioners. The project aims to improve treatment outcomes and boost TB case notifications in peri-urban areas like Insein by including private providers into the TB care network. Since 2011, PSI Myanmar has worked with private providers to conduct ACF activities through unofficial pharmacies. When someone has TB symptoms, these pharmacies are their first port of call, allowing for early discovery and referral to the right medical facilities. In metropolitan locations like Insein Township, where access to official healthcare services may be restricted, this strategy has been especially successful. The goal of PSI's community-based communication initiatives is to increase people's knowledge of TB symptoms and motivate them to be tested. In densely populated regions like Insein Township, PSI reduces TB transmission by facilitating early diagnosis and treatment start through direct community engagement. In order to coordinate its operations with national TB control initiatives, PSI works closely with Myanmar's NTP. By ensuring that PSI's activities are incorporated into the larger framework for TB care, our relationship improves the overall efficacy of TB management in Insein Township. In line with national and international TB control goals, PSI Myanmar makes a substantial contribution to enhancing the accessibility and results of TB care in Insein Township through these programs.

3.4 Current Status of TB Management in Insein Township

3.4.1 Access and Infrastructure for Healthcare

Insein General Hospital is the primary location for the diagnosis and management of tuberculosis. Antiretroviral therapy (ART) for patients with HIV and TB co-infection is one of the specialist services it provides, along with a dedicated TB clinic. Training and research in tuberculosis management are made easier by the hospital's partnerships with medical universities. (wikipedia.org/en). Since many people in Insein initially seek care from private providers, private sector engagement is essential. Private pharmacies and clinics have been mapped and trained to improve TB case detection and treatment adherence through initiatives such as PATH's Private Provider Interface Agency (PPIA) for Integrated Service Delivery (ISD) project. (path.org, myanmarhsc.org).

3.4.2 The Diagnosis and Burden of TB

PATH organization mention that Insein has a high TB incidence, with an estimated 3,600 undiagnosed TB cases over a three-year period, mostly among manufacturing workers and migrants. This emphasizes how urgently the township needs to step up its screening and diagnostic activities. Path.org. One example of a diagnostic advancement is the use of GeneXpert MTB/RIF, which allows for the quick and precise diagnosis of TB and rifampicin resistance.

3.4.3 MDR-TB Management

Treatment Facilities are primarily located in Yangon, while one of the 68 clinics providing MDR-TB care in the country is located in Insein. However, patients, especially those from remote areas, face substantial obstacles due to the 20-month treatment program and accompanying costs. (Msf.org). In order to help patients adhere to the rigorous treatment protocols, organizations such as Médecins Sans Frontières (MSF) offer support services, including lodging, transportation, and food assistance.

3.4.4 Participation and Assistance of the Community

By involving local volunteers and health professionals in TB case discovery, treatment adherence monitoring, and psychosocial support, community-based care models—like those used by MSF—improve patient outcomes and lessen stigma. (Msf.org). A study published in 2020 within *PLOS Global Public Health* (PMC article) reported that household contacts of TB patients with diabetes mellitus have a greater frequency of TB, underscoring the necessity for integrated screening methods. Household contact investigations have been successful in detecting undiagnosed TB cases.

3.4.5 Continuous Difficulties

TB care is still hampered by stigma and financial barriers; patients frequently put off treatment out of fear of prejudice and budgetary limitations.

The Health Care System Political unrest adds to the strain, which hinders the expansion of MDR-TB treatment facilities and the reliable provision of TB services.

3.4.6 Directions for Strategy

With plans to expand TB care facilities and incorporate treatments into community health settings, decentralization of services is crucial to improving access. Increased case notifications and gaps in TB care delivery are the goals of enhanced private sector collaboration programs like PPIA-ISD (Private Provider Interface Agency for Integrated Service Delivery) implemented by PATH organization, 2022.

By identifying at-risk persons and preventing future transmission, integrated screening programs for diabetes mellitus and tuberculosis among household contacts can be implemented and published in 2020 in *Tropical Medicine and Infectious Disease* (MDPI), authored by Zayar et al.

Table (3.2) TB Profile of Insein Township

TB Cases	2022	2023	2024
Total registered TB cases	1247	1225	1193
No.of TB patients tested for HIV	1244	1225	1184
No.of TB patients with +ve HIV test results	82	53	63
No.of TB/HIV on CPT	82	53	63
No.of TB/HIV on ART	82	53	63

Source: TB Profile of Insein Township ,2025

CHAPTER IV

SURVEY ANALYSIS

4.1 Survey Profile

The study aims to explore the Perceptions of TB Patients in Accessing TB Treatments (Case Study: Insein Township, Yangon Region). This research is essential given the context of Myanmar's ongoing healthcare challenges, particularly in the wake of the COVID-19 pandemic, which has affected both the general healthcare system and the ability to access timely and adequate TB care. The study focuses on understanding the factors influencing TB treatment accessibility and the role of healthcare infrastructure in Insein Township, a key area in Yangon.

A total of 259 respondents were interviewed using a simple random sampling method. These respondents were sourced from various urban and regional centers within the township to ensure a broad representation of the community. The data collection was distributed across individuals affected by TB, in order to gather a comprehensive understanding of the healthcare landscape in Insein. The data reveals critical information on the accessibility of healthcare services, the availability of TB-specific treatments, and the local community's perceptions regarding TB management.

This study examines the structural and operational barriers faced by residents in accessing TB care, alongside the opportunities for improving these healthcare services. Special attention is given to the role of community health centers, the adequacy of medical personnel, and the public's awareness of TB prevention and treatment. Additionally, the research investigates how the COVID-19 pandemic has exacerbated or potentially mitigated these challenges, particularly in terms of resource allocation, health service continuity, and patient adherence to treatment protocols.

Through detailed analysis of the healthcare accessibility issues faced by Insein Township residents, this study aims to propose strategies that will aid in the enhancement of TB management and contribute to better overall healthcare services. The insights gained from this study are expected to provide valuable guidance for healthcare policymakers and practitioners in addressing the pressing need for improved

TB care accessibility in Insein Township, with potential lessons for broader implementation across Myanmar.

4.2 Survey Design

A structured questionnaire was given to 259 respondents for primary data collection. Taro Yamane's (1973) formula predicted a sample size of 259 from 1,193 with a 5.5% margin of error and 95% confidence. Due to practical issues like non-responses and partial answers, 259 respondents completed the poll, slightly surpassing the projected sample size. Although there is some variance, a sample size of 259 is statistically robust and sufficient for analytical accuracy. The final sample size is well within the statistical validity range, therefore the modest increase in sample size does not affect findings reliability. The survey was conducted between May to June 2025 and included respondents from various regions within the township, who were selected from an overall population of around 1,193 individuals. The survey questionnaires was conducted to interview TB patients who are coming to Township Health Department for taking Anti-TB drugs. TB patients are interviewed for two weeks and 30 patients within 8 days and 19 patients within 2 days.

The formula used to determine the sample size is:

$$n = \frac{N}{1 + N(e^2)}$$

Where:

- n = the sample size,
- N = the population size (1193),
- e = the acceptable sampling error (assumed to be 5.5% at a 95% confidence level).

Applying the values into the equation:

$$n = \frac{1193}{1 + 1193(0.055^2)} = 258.85 \approx 259$$

This computation yielded 259 samples. The research chose 259 respondents according to particular factors.

Secondary data came from local and worldwide research papers, relevant journals, textbooks, survey reports, publications, and websites.

The questionnaire has various parts to collect data on respondents' demographics, healthcare access, tuberculosis knowledge, and TB management opinions and behaviours. Comments on community attitudes about TB care and treatment. For potential opportunities and strategies for improving healthcare accessibility for TB management in Insein. The survey examined both dependent and independent variables to explore relationships and influences related to the research objectives.

Section (1) of the questionnaire focused on personal characteristics, collecting data on age, gender, education level, occupation, marital status, income, type of respondents (Patients) and Section (2) awareness of tuberculosis. Part (3) Perception of TB Patients, such as social and community influences, trust in healthcare services, economic constraints, and information in shaping healthcare decisions. Part (4) perceptions of TB Patients regarding TB care and treatment services and Section (5) Perception of TB Patients towards further improvement of TB Treatment in Insein Township.

In addition to the structured questionnaire, in-depth interviews were conducted with TB patient from Insein Township. This qualitative data complemented the quantitative findings from the survey and provided a more comprehensive understanding of the organizational perspectives and community-level responses to tuberculosis management.

4.3 Survey Results

4.3.1 Socio-economic Characteristics of Respondents

Respondent socioeconomic status is vital to comprehending the sample population and contextualizing the study's findings. The following tables highlight 10 demographic factors: gender, age, education, marital status, employment, monthly family income, respondent type.

Table (4.1) Socio-economic Characteristics of Respondents

No	Items	Description	No. of Respondents	Percentage (%)
1	Gender	Male	155	59.8%
		Female	104	40.2%
		Total	259	100%
2	Age	Under 18	16	6.2%
		18–25	42	16.2%
		26–35	41	15.8%
		36–45	47	18.1%
		46–60	75	29.0%
		Over 60	38	14.7%
		Total	259	100%
3	Education Level	No formal education	16	6.2%
		Primary education	63	24.3%
		Secondary education	138	53.3%
		Higher education (college/university)	42	16.2%
		Total	259	100%
4	Marital Status	Divorced	2	0.8%
		Married	123	47.5%
		Single	85	32.8%
		Widowed	49	18.9%
		Total	259	100.%

Source: Survey Data,2025

Table (4.1) Continued

No	Items	Description	No. of Respondents	Percentage (%)
5	Occupation	Business owner	2	0.77%
		Daily wage laborer	67	25.87%
		Government employee	12	4.63%
		Private sector employee	52	20.08%
		Student	21	8.11%
		Unemployed	103	39.77%
		Three wheels cycle driver	1	0.39%
		Dependent	1	0.39%
		Total	259	100%
6	Monthly Household Income	Less than 100,000 MMK	79	30.50%
		100,000–300,000 MMK	57	22.01%
		301,000–500,000 MMK	63	24.32%
		501,000–800,000 MMK	10	3.86%
		More than 800,000 MMK	1	0.39%
		Prefer not to say	49	18.92%
		Total	259	100%
7	Type of Respondent	TB Patient	259	100%

Source: Survey Data, 2025

The data collected for the study provides a comprehensive overview of the socio-economic characteristics of 259 respondents.

The survey included 259 respondents, with a higher proportion of males (59.8%) compared to females (40.2%). In terms of age, the largest group was aged 46–60 (29.0%), followed by those aged 36–45 (18.1%), while the smallest group was under 18 (6.2%). Educationally, more than half (53.3%) had secondary education, 24.3% had primary education, 16.2% attained higher education, and only 6.2% had no formal

education. Regarding marital status, nearly half of the respondents were married (47.5%), followed by singles (32.8%), widowed individuals (18.9%), and a very small proportion divorced (0.8%). Among the 259 respondents, who were all TB patients, the largest occupational group was unemployed (39.77%), followed by daily wage laborers (25.87%) and private sector employees (20.08%), with smaller proportions being students (8.11%), government employees (4.63%), and very few as business owners, three-wheel cycle drivers, or dependents (each under 1%). In terms of monthly household income, the largest share earned less than 100,000 MMK (30.50%), followed by those earning 301,000–500,000 MMK (24.32%) and 100,000–300,000 MMK (22.01%), while higher income brackets above 500,000 MMK were rare (4.25% combined), and 18.92% preferred not to disclose their income.

4.3.2 Awareness about Tuberculosis

Over half of the respondents (53.28%) first suspected they might have tuberculosis after being referred by friends or family, followed by 24.71% who discovered it through routine medical check-ups, 18.53% through self-awareness of symptoms, and only 3.47% via government health campaigns. When seeking initial medical help, two-thirds (66.80%) went to private hospitals or clinics, while 32.82% chose government facilities, and a very small number (0.39%) approached pharmacies. Regarding diagnosis timelines, the majority were diagnosed within 1–4 weeks (39.00% in 1–2 weeks and 40.93% in 3–4 weeks), while 18.53% were diagnosed in less than a week, and only 1.54% waited over a month. Most respondents (85.71%) reported no difficulties in getting a TB diagnosis; however, among the 14.29% who did face challenges, the main issues were the distance to healthcare facilities (51.35%) and long waiting times at hospitals (45.95%), with high costs of medical tests being a minor factor (2.70%).

Table (4.2) Awareness about Tuberculosis

No.	Items	Response	No. of Response	Percentage (%)
1	How did you first learn that you might have tuberculosis	Government health campaign	9	3.47%
		Referred by a friend/family	138	53.28%
		Routine medical check-up	64	24.71%
		Self-awareness of symptoms	48	18.53%
		Total	259	100%
2	Where did you first seek medical help for TB symptoms?	Government hospital/clinic	85	32.82%
		Pharmacy	1	0.39%
		Private hospital/clinic	173	66.80%
		Total	259	100.0%
3	How long did it take to receive a confirmed TB diagnosis after experiencing symptoms?	Less than 1 week	48	18.53%
		1-2 weeks	101	39.00%
		3-4 weeks	106	40.93%
		More than 1 month	4	1.54%
		Total	259	100%
4	Did you face difficulties in getting a TB diagnosis?	No	222	85.71%
		Yes	37	14.29%
		Total	259	100.0%
	If yes, what were the difficulties?	Distance to healthcare facilities	19	51.35%
		High cost of medical tests	1	2.70%
		Long waiting time at hospitals	17	45.95%
		Total	37	100%

Source: Survey Data, 2025

4.3.3 Perception on accessibility of TB Treatment

Most respondents (62.93%) lived 1–5 km from the nearest TB treatment center, while 27.03% were 5–10 km away, 8.11% lived within 1 km, and only 1.93% were more than 10 km away. The vast majority (79.92%) relied on public transportation to reach the center, with smaller proportions using bicycles/motorbikes (16.99%), private vehicles (2.32%), or walking (0.77%). Nearly all respondents (97.68%) visited the healthcare center monthly for TB treatment, with very few attending weekly (0.77%) or only when necessary (1.54%). Most patients (95.75%) never missed an appointment; among the 4.25% who did, the main reasons were work or family commitments (45.45%), financial constraints (36.36%), and long waiting times at hospitals (18.18%). The majority of respondents expressed positive views about the TB healthcare services they received, with 72.20% reporting being satisfied and 20.46% being very satisfied, while only a small fraction were neutral (6.95%) or dissatisfied (0.39%). Regarding challenges in accessing TB treatment, the most frequently reported issue was discrimination or stigma from the community (4.25%), followed by lack of awareness about TB treatment (1.93%), poor hospital facilities (0.39%), and high treatment costs (0.77%), indicating that while overall satisfaction is high, social stigma remains a notable barrier for some patients.

Table (4.3) Perception on accessibility of TB Treatment

No.	Items	Response	No. of Response	Percentage (%)
1	How far is the nearest TB treatment center from your home?	Less than 1 km	21	8.11%
		1-5 km	163	62.93%
		5-10 km	70	27.03%
		More than 10 km	5	1.93%
		Total	259	100%
2	What mode of transportation do you usually use to visit the TB treatment center?	Bicycle/motorbike	44	16.99%
		Private vehicle	6	2.32%
		Public transportation	207	79.92%
		Walking	2	0.77%
		Total	259	100%

Source: Survey Data, 2025

Table (4.3) Continued

No.	Items	Response	No. of Response	Percentage (%)
3	How frequently do you visit the healthcare center for TB treatment?	Weekly	2	0.77%
		Monthly	253	97.68%
		Only when necessary	4	1.54%
		Total	259	100%
4	Have you ever missed a TB treatment appointment?	No	248	95.75%
		Yes	11	4.25%
		Total	259	100%
	If yes, what were the reasons?	Financial constraints	4	36.36%
		Long waiting time at hospitals	2	18.18%
		Work/family commitments	5	45.45%
		Total	11	100%
5	How satisfied are you with the healthcare services you receive for TB treatment?	Dissatisfied	1	0.39%
		Neutral	18	6.95%
		Satisfied	187	72.20%
		Very satisfied	53	20.46%
		Total	259	100%
6	What challenges do you face in accessing TB treatment?	Discrimination/stigma from community	206	4.25%
		High cost of treatment	2	0.77%
		Lack of awareness about TB treatment	40	1.93%
		Poor hospital facilities	11	0.39%
		Total	259	100%

Source: Survey Data, 2025

4.3.4 Perception of TB patients regarding TB care and Treatment Services.

Based on the data presented, the majority of respondents (54.83%) perceive their community's attitude toward people with tuberculosis (TB) as supportive and understanding. A smaller portion (37.07%) described the attitude as neutral, while only 5.79% felt it was discriminatory or stigmatizing. A minimal number (2.32%) were unsure of the community's stance. When asked about the type of support TB patients need most, emotional support and counselling was identified as the top priority, cited by 207 respondents, making up 79.92% of the total. Other forms of support such as transportation assistance (9.65%), health education and awareness (5.79%), more respectful treatment by health workers (3.09%), community-based care and follow-up (0.77%), and job or income support during treatment (0.39%) were mentioned by far fewer participants. This indicates a strong perceived need for emotional and psychological support for TB patients within the community.

Table (4.4) Perception of TB patients regarding TB Care and Treatment Services

No.	Items	Response	No. of Response	Percentage (%)
1	How would you describe the community's attitude toward people with TB?	Discriminatory or stigmatizing	15	5.79%
		Neutral	96	37.07%
		Not sure	6	2.32%
		Supportive and understanding	142	54.83%
		Total	259	100%

Source: Survey Data, 2025

Table (4.4) Continued

No.	Items	Response	No. of Response	Percentage (%)
2	What kind of support do you think TB patients in your community need the most?	Health education and awareness	15	5.79%
		Emotional support and counselling	207	79.92%
		Community-based care and follow-up	2	0.77%
		Job or income support during treatment	2	0.39%
		More respectful treatment by health workers	8	3.09%
		Transportation assistance	25	1.16%
		Total	259	100%

Source: Survey Data, 2025

4.3.5 Perception on TB patients toward further improvement of TB Treatment

The data reveals that respondents in Insein Township believe that the most effective strategy to improve access to TB treatment is through community partnerships, with 34.75% favoring collaboration with local leaders and NGOs. This is followed by increasing public awareness and education campaigns (31.27%) and building more local TB clinics or treatment points (28.57%). Only a small percentage (5.41%) suggested that training more healthcare workers would be the most effective approach.

When asked about services that would enhance TB care accessibility, the overwhelming majority (74.13%) pointed to financial or nutritional support for TB patients as the most impactful. Other suggestions included evening or weekend clinic hours (13.13%), use of mobile apps or SMS reminders for follow-up (5.79%), home-based care and medicine delivery (4.63%), and mobile TB screening and treatment services (2.32%).

Finally, the vast majority of respondents (96.53%) believe that government health departments should take the primary responsibility for improving TB healthcare

access in the community. Very few considered NGOs and community organizations (0.77%) or township or ward health authorities (2.70%) as the main responsible entities. This highlights a strong expectation for government-led action in addressing TB care accessibility.

Table (4.5) Perception on TB Patients toward further improvement of TB Treatment

No.	Items	Response	No. of Response	Percentage (%)
1	What do you think is the most effective way to increase access to TB treatment in Insein Township?	Build more local TB clinics or treatment points	74	28.57%
		Increase public awareness and education campaigns	81	31.27%
		Partner with local community leaders and NGOs	90	34.75%
		Train more healthcare workers in TB care	14	5.41%
		Total	259	100%
2	Which of the following services would make TB care more accessible in your area?	Financial or nutritional support for TB patients	192	74.13%
		Mobile TB screening and treatment services	6	2.32%
		Evening or weekend clinic hours	34	13.13%
		Use of mobile apps or SMS reminders for follow-up	15	5.79%
		Home-based care and medicine delivery	12	4.63%
		Total	259	100%

Source: Survey Data, 2025

Table (4.5) Continued

No.	Items	Response	No. of Response	Percentage (%)
3	In your opinion, who should be most responsible for improving TB healthcare access in your community?	Government health departments	250	96.53%
		NGOs and community organizations	2	0.77%
		Township or ward health authorities	7	2.70%
		Grand Total	259	100%

Source: Survey Data, 2025

CHAPTER V

CONCLUSION

5.1 Findings

The survey of 259 tuberculosis (TB) patients in Insein Township provided valuable insights into their demographics, awareness, perceptions, and experiences regarding TB care and treatment. The majority were male (59.8%) and aged between 46–60, with over half having completed secondary education. Most were either married or unemployed, and a significant portion had low household incomes, with nearly one-third earning less than 100,000 MMK monthly. In terms of awareness, many first suspected TB through advice from friends or family, and most sought initial care from private clinics. Diagnosis was generally timely, with over 80% diagnosed within four weeks and the majority facing no significant barriers, though distance and long wait times were noted by a few. Most patients lived within 5 km of a treatment center, relied on public transport, and consistently attended monthly appointments, showing strong treatment adherence and high satisfaction with healthcare services. However, some reported challenges such as community stigma and lack of awareness. Encouragingly, over half of respondents viewed their communities as supportive, with emotional support identified as the greatest unmet need. To improve TB care access, respondents favored partnerships with community leaders and NGOs, more awareness campaigns, and expanding local treatment facilities. Financial and nutritional support was seen as the most crucial service enhancement, and nearly all participants believed government health departments should lead efforts to improve TB healthcare access in their community.

5.2 Suggestions

Based on the survey findings, several targeted suggestions can be made to enhance TB care and treatment in Insein Township. First, the government should prioritize increasing financial and nutritional support for TB patients, particularly those who are unemployed or living in poverty, to ease the economic burden during treatment

and improve adherence. Strengthening community-based care models by establishing more local TB clinics or treatment points—especially in areas where access remains a challenge—would reduce travel time and associated costs. To address the identified need for emotional and psychological support, integrating counselling services into TB treatment programs is essential. Furthermore, since a significant number of patients first suspected TB through informal sources, there is a clear need to expand public education and awareness campaigns, using culturally sensitive messaging to promote early symptom recognition and reduce stigma. These campaigns should be community-led where possible, involving local leaders and NGOs to foster trust and acceptance. To improve patient convenience and continuity of care, introducing mobile health services, extending clinic hours to evenings or weekends, and offering medicine delivery or home-based care could be highly beneficial. Additionally, digital tools such as mobile apps or SMS reminders for appointments and follow-ups can support treatment adherence. While the majority of respondents were satisfied with existing healthcare services, continuous training for healthcare workers in both clinical care and respectful, stigma-free communication should be emphasized. Finally, since most participants believe the government should take the lead in improving TB healthcare access, it is critical for government health departments to coordinate with local stakeholders, ensure sustainable funding, and develop long-term strategies that are inclusive, accessible, and responsive to the community's needs. These combined efforts can lead to more effective TB control and ultimately improve health outcomes in Insein Township.

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APPENDIX

QUESTIONNAIRES

Section 1: Socio-economic characteristic of Respondent

1. Phone Number:

2. Name:

3. Age:

☐ Under 18

☐ 18–25

☐ 26–35

☐ 36–45

☐ 46–60

☐ Over 60

4. Gender:

☐ Male

☐ Female

☐ Other (Please specify): _____

5. Marital Status:

☐ Single

☐ Married

☐ Widowed

☐ Divorced

6. Educational Level:

☐ No formal education

☐ Primary education

☐ Secondary education

☐ Higher education (college/university)

☐ Vocational/technical training

7. Occupation:

☐ Unemployed

- ☐ Student
- ☐ Government employee
- ☐ Private sector employee
- ☐ Daily wage laborer
- ☐ Business owner
- ☐ Other (Please specify): _____

8. Monthly Household Income:

- ☐ Less than 100,000 MMK
- ☐ 100,000–300,000 MMK
- ☐ 301,000–500,000 MMK
- ☐ 501,000–800,000 MMK
- ☐ More than 800,000 MMK
- ☐ Prefer not to say

9. Residence:

- ☐ Insein Township (urban)
- ☐ Insein Township (rural)
- ☐ Other (Please specify): _____

10. Are you a TB patient, family member of a TB patient, or healthcare provider?

- ☐ TB patient
- ☐ Family member of TB patient
- ☐ Healthcare provider
- ☐ Other (Please specify): _____

Section 2: Tuberculosis (TB) Awareness

1. How did you first learn that you might have tuberculosis?

- ☐ Self-awareness of symptoms
- ☐ Referred by a friend/family
- ☐ Routine medical check-up
- ☐ Government health campaign
- ☐ Other (Please specify) _____

2. Where did you first seek medical help for TB symptoms?

☐ Government hospital/clinic

☐ Private hospital/clinic

☐ Traditional healer

☐ Pharmacy

☐ Other (Please specify) _____

3. How long did it take to receive a confirmed TB diagnosis after experiencing symptoms?

☐ Less than 1 week

☐ 1-2 weeks

☐ 3-4 weeks

☐ More than 1 month

4. Did you face difficulties in getting a TB diagnosis?

☐ Yes

☐ No

If yes, what were the difficulties?

☐ High cost of medical tests

☐ Long waiting time at hospitals

☐ Lack of TB awareness

☐ Distance to healthcare facilities

☐ Other (Please specify) _____

Section 3: Perception of TB Patients

1. How far is the nearest TB treatment center from your home?

☐ Less than 1 km

☐ 1-5 km

☐ 5-10 km

☐ More than 10 km

2. What mode of transportation do you usually use to visit the TB treatment center?

☐ Walking

☐ Bicycle/motorbike

☐Public transportation

☐Private vehicle

☐Other (Please specify) _____

3.How frequently do you visit the healthcare center for TB treatment?

☐Daily

☐Weekly

☐Monthly

☐Only when necessary

4.Have you ever missed a TB treatment appointment?

☐Yes

☐No

If yes, what were the reasons?

☐Financial constraints

☐Lack of transport

☐Long waiting time at hospitals

☐Work/family commitments

☐Other (Please specify) _____

5.How satisfied are you with the healthcare services you receive for TB treatment?

☐Very satisfied

☐Satisfied

☐Neutral

☐Dissatisfied

☐Very dissatisfied

6.What challenges do you face in accessing TB treatment?

☐High cost of treatment

☐Lack of medicine availability

☐Poor hospital facilities

☐Discrimination/stigma from community

☐Lack of awareness about TB treatment

☐Other (Please specify) _____

Section (4) Perception of TB patients regarding TB Care and Treatment Services

1. How would you describe the community's attitude toward people with TB?

- ☐ Supportive and understanding
- ☐ Neutral
- ☐ Discriminatory or stigmatizing
- ☐ Not sure

2. What kind of support do you think TB patients in your community need the most?

- ☐ Emotional support and counselling
- ☐ Free or low-cost medication
- ☐ Transportation assistance
- ☐ More respectful treatment by health workers
- ☐ Job or income support during treatment
- ☐ Health education and awareness
- ☐ Community-based care and follow-up
- ☐ Other (please specify): _____

Section 5: Perception on TB Patients toward further improvement of TB Treatment

1. What do you think is the most effective way to increase access to TB treatment in Insein Township?

- ☐ Build more local TB clinics or treatment points
- ☐ Improve transportation options to existing clinics
- ☐ Increase public awareness and education campaigns
- ☐ Partner with local community leaders and NGOs
- ☐ Train more healthcare workers in TB care
- ☐ Other (please specify): _____

2. Which of the following services would make TB care more accessible in your area?

- ☐ Mobile TB screening and treatment services
- ☐ Home-based care and medicine delivery
- ☐ Evening or weekend clinic hours

- ☐ TB testing at general outpatient clinics
- ☐ Financial or nutritional support for TB patients
- ☐ Use of mobile apps or SMS reminders for follow-up
- ☐ Other (please specify): _____

3. In your opinion, who should be most responsible for improving TB healthcare access in your community?

- ☐ Government health departments
- ☐ Township or ward health authorities
- ☐ NGOs and community organizations
- ☐ Religious or community leaders
- ☐ Private healthcare providers
- ☐ Other (please specify): _____

***** Thank You *****