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Looking at Tuberculosis Through the Lens of the Vulnerable Population in Parañaque City

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Abstract. This study aimed to support Tuberculosis (TB) advocacy and demand generation initiatives by documenting the experiences of selected population groups in Parañaque City, Philippines. It explored vulnerable populations' perspectives on tuberculosis, health promotion activities, challenges in maintaining health, and access points to health services and information. Through focus group discussions and key informant interviews, 22 elderly individuals, 18 tricycle drivers, 12 barangay health workers, and two public health nurses participated in the study. The findings highlighted various aspects of TB knowledge and awareness, including identification, risk factors, lifestyle, and treatment. The themes that emerged around understanding TB identification included perceived susceptibility, misconceptions, and treatment approaches. Participants' experiences underscored access to information and services, health-seeking behavior, and emotional responses regarding TB. Challenges identified included household situations, perceived stigma, and discrimination, shedding light on community attitudes. Varying perceptions of healthcare services were noted, with some valuing free services at health centers while others found access challenging. The study also underscores the importance of community TB knowledge, tailored healthcare, stigma reduction, and ensuring access to health programs, particularly for vulnerable groups. Advocacy recommendations include maximizing community-based information sharing through training, developing tailored health education approaches, and enhancing health literacy materials. Furthermore, advocating for flexible healthcare service delivery options, stigma reduction activities, and increased community engagement efforts are crucial. These measures are vital for effective TB control and improving overall community wellbeing, particularly in addressing the unique needs of vulnerable populations.

Keywords: Tuberculosis; Vulnerable population; Community engagement; Public health; Health promotion.

1.0 Introduction

Tuberculosis (TB) is a bacterial infection that causes a disease that most often affects the lungs. An infectious disease can spread through the air when a TB-infected person coughs, sneezes, or spits. According to the World Health Organization (WHO), in 2021, an estimated 10.6 million people across the globe fell ill to TB (WHO, 2023). It is the 13th leading cause of mortality worldwide, and until the emergence of coronavirus disease 2019 (COVID-19), TB was the leading infectious cause of global morbidity and mortality (WHO, 2023; WHO Philippines, 2023).

In the Philippines, WHO estimated that about 591,000 Filipinos have active TB disease. The Department of Health (DOH) report in 2019 identified TB at-risk or vulnerable populations as the urban poor, immunocompromised like people living with HIV (PLHIV), with diabetes, people deprived of liberty (PDL or prisoners), recent contacts of TB patients, smokers, the elderly, and the healthcare workers (DOH, 2020). To address TB in the country, the DOH organized the National TB Control Program (NTP), and operates within the devolved health care delivery system. The country's direction along TB is to reduce the burden by decreasing TB mortality by 95% and TB

incidence by 90% through a wide range of strategies, such as the utilization of TB care and prevention services by patients and communities, equitable access to directly observable therapy short-course (DOTS) facilities; adequate and competent human resources for TB elimination efforts; evidence-based and data-driven TB elimination efforts; quality TB care and prevention services, and; political commitment to implement localized TB programs.

While the senior citizens or elderly 60 and older are vulnerable to TB infection. According to studies, most cases of TB in older people are linked to the reactivation of lesions that have remained dormant. The awakening of these lesions is attributable to changes in the immune system related to aging (Caraux-Paz P. et al., 2021). Due to senescence or the process of deterioration with age, seniors are most at risk of TB due to compromised immune systems, underlying illnesses, and increased frequency of adverse drug reactions (Olmo-Fontánez A. et al., 2022).

On the other hand, the prevalence of TB among drivers in the public transportation sector has been the topic of research efforts. Such occupational groups may include risk factors like long working hours, prolonged exposure to outside environments, exposure to several passengers, and poor access to healthcare services. According to studies, several TB infections are tagged on regular commuters using public transportation (Teeter L., 2011; Andrews J. et al., 2013). In addition, one study found that TB transmission is possible through casual contact in extra-domiciliary settings, such as taking public transportation like mini-buses and aircraft (Zamudio C. et al., 2015), along with other risk factors such as vices, age, work, and lifestyle (Teeter L., 2011). A local study in Baguio City by the Department of Science and Technology revealed that there is an existing prevalence of TB among public utility jeepney drivers.

Moving forward, the Philippine NGO Council on Population Health & Welfare Inc. (PNGOC) is working with Parañaque City in a health advocacy campaign supported by the TB Platforms program funded by USAID. In pursuit of an evidence-based and data-driven approach to address TB in the communities, especially in community awareness-raising and advocacy activities, a deep understanding of the perspective of at-risk and vulnerable groups is important. This study sought the perspectives on TB of the elderly population and those in the transportation sector, the tricycle drivers, in two villages in Parañaque City – Barangay San Antonio and Barangay San Dionisio. In particular, to look into the vulnerable populations' perspectives on tuberculosis, health promotion activities, challenges in maintaining health, and access points to health services and information.

2.0 Methodology

2.1 Research Design

This descriptive qualitative study used a focus group discussion (FDG) and key information (KI) interviews as its primary approach to gathering data or information. To have a deeper understanding of the perspectives and experiences of at-risk population groups to TB infections, specifically the elderly and tricycle drivers in Barangays (villages) San Antonio and San Dionisio, FGDs were conducted to facilitate an in-depth discussion on their perspectives of TB; outline their health promotion activities; identify the challenges they experienced by the to maintain health; and draw their situation along access to health services and information. The researchers did KI interviews to facilitate in-depth discussions with people who know what is happening in the community.

2.2 Research Participants

The participants were identified using convenience sampling, a non-probability sampling method where individuals were selected using a predetermined inclusion criterion. The participants were elderly and tricycle drivers (22 elderly and 18 tricycle drivers) from Barangay San Antonio and Barangay San Dionisio, Parañaque City. For elderly participants, they are those who are 60 years old and above. Tricycle drivers are identified members of the Tricycle Operators and Drivers Association (TODA) operating within the identified villages. While the KIs were identified through purposive sampling. They comprise Barangay Health Workers and public health nurses (12 barangay health workers and two nurses).

2.3 Research Instrument

A question guide was created for this study. With due permission, it was adapted from University Research Co. (URC) Knowledge Attitude and Practice (KAP) Survey tool. Several processes were used to ensure the reliability of the question guide. Firstly, the researchers participated in the training provided in using the KAP survey tool. Local partners participated in the development of the question guide. Lastly, the instrument was reviewed by an

external consultant, representatives from the PNGOC, and local partners in the project sites. Thematic analysis was used to make sense of the study's results and findings. The findings were coded, categorized, and thematized according to patterns that surfaced out of the set of data.

2.4 Data Gathering Procedure

The data-gathering process for this study involved a series of coordinated efforts to engage with the local community and ensure ethical conduct throughout the research endeavor. Initially, the researchers collaborated with the local government of Paranaque City and the City Health Office to introduce the research project and secure the necessary permissions for its implementation. Following this, approval to conduct the study was sought from local officials in the targeted villages, with a focus on fostering transparency and community involvement in the research process. Venues within the community were carefully selected and arranged for the conduct of FGDs and KIIs, with the primary aim of ensuring participants' comfort and safety during the sessions. The team, comprising the primary researchers, a commissioned documenter, and a co-facilitator, played integral roles in facilitating data collection and documentation throughout the process. Audio recording devices were employed during FGDs and KIIs to capture participant responses accurately, facilitating subsequent transcription and analysis. Additionally, participants were provided with a detailed briefing on the study's purpose, and informed consent was obtained to uphold their privacy and confidentiality throughout the research endeavor. By meticulously following these procedural steps, the research team ensured the comprehensive collection of data while prioritizing the welfare and rights of the participants involved in the study.

2.5 Ethical Considerations

The data-gathering process described above was conducted with meticulous attention to ethical considerations to safeguard the rights and wellbeing of the participants involved. Before their participation, thorough informed consent procedures were implemented, ensuring that each individual had a comprehensive understanding of the research objectives, procedures, and potential risks and benefits. Privacy and confidentiality were paramount throughout the research process, with measures taken to protect participants' personal information and ensure that their responses remained confidential. Respect for participants was upheld at all times, with efforts made to create a supportive and non-judgmental environment during data collection. Collaboration with local authorities and community leaders facilitated community engagement, fostering a sense of partnership and trust within the community. Additionally, the principles of beneficence and non-maleficence guided the research, with a commitment to maximizing benefits while minimizing potential harm to participants. The participants were made well aware that they may choose to withdraw their participation at any time, ensuring that the rights, autonomy, and dignity of the participants were upheld throughout the process.

3.0 Results and Discussion

3.1 Perspectives of the Participants on Tuberculosis

This describes the participant's knowledge about TB, its signs and symptoms, risk factors, and treatment. Some participants describe TB as a serious health problem faced by families with members who have TB. However, they can recognize that TB is treatable and that the transmission of the infection can be controlled. While participants in the study can share correct information based on their experience, current knowledge, and understanding of TB, some misconceptions may need to be corrected.

Table 1. Thematic analysis of perspectives of the participants on tuberculosis

THEMES	SUBTHEMES
TB Identification and Treatment of TB	Knowledge in identifying TB Importance of early detection and treatment of TB
Perceptions of TB	Perception of individuals susceptible to TB Misconceptions surrounding TB

Table 1 shows the themes and the following subtheme that describes the participants' knowledge about TB, which are about the knowledge of identifying TB, the lifestyle of susceptible individuals to TB disease, the importance of early detection and treatment of TB, physical aspects of susceptible individuals to TB disease, and; misconceptions about who may get TB.

Along the theme of TB Identification and Treatment of TB, the findings showed that the vulnerable population has basic knowledge of identifying TB and is aware of the importance of early detection and seeking immediate treatment. They can enumerate cardinal signs of active TB. CDC (2011) outlined the general symptoms of TB disease: it includes feelings of sickness or weakness, weight loss, fever, night sweats, coughing, chest pain, and coughing up blood. It is also notable that the vulnerable groups are aware of the common transmission of infection. According to WHO (2023), TB is spread primarily from person to person through infected air during close contact. The bacteria get into the air when someone infected with TB of the lung coughs, sneezes, shouts, or spits.

One tricycle driver participant shared that TB infection can be acquired from someone who coughs persistently, who may have TB but is unaware of it, *"…we can get TB from people who keep on coughing, but they may not know that they already have TB"*. Some elderly participants shared that some had cardinal signs, which may seem to have TB, but die without knowing it, *"We know some people who seem to have TB, but they just passed away."* A study in forensic autopsies underscores the presence of undiagnosed instances of active Tuberculosis, such cases may serve as potential sources of transmission to the broader public (Sangma T. et al., 2014).

Many participants identified signs and symptoms of TB infection, such as persistent cough, sudden weight loss, weakness and fatigue, and intermittent fever, while some participants pointed out coughing out of blood. However, there are several elderly and tricycle drivers who claimed that apart from cough and general weakness, they do not have a comprehensive understanding of TB, *"…to be honest, I don't know anything about TB"*. This finding shows that the participants have basic knowledge about TB disease manifestations in an ill individual.

The following are some of the other testimonies from the participants: *"The sudden weight loss and persistent fever that doesn't improve..." "Feeling sick, constant coughing, feeling weak..." "Recurring fever, then continuous coughing..." "Sometimes there's blood when coughing."*

Most participants identified the following as being at high risk of contracting TB: smokers, alcoholics, people who use illegal substances, *"those who smoke and drink excessively,"* and *"those who drink alcohol and use (referring to drug use)."* Additionally, those who work in street occupations, such as vendors and drivers, and those in construction industries, especially site workers, welders, and painters, were mentioned. *"…those whose jobs involve exposure are often affected by TB," "street vendors, painters," and "those in construction work."*

On the other hand, most participants are aware that TB can be treated. Similarly, it can be prevented by ensuring adequate rest, managing stress, and eating healthy and nutritious food. One participant stated, *"…even if you're extremely tired from work, you should strengthen your body with proper rest, enjoy yourself to reduce stress... and eat nutritious food."* At the same time, few are aware of and can discuss early detection and treatment, and a patient's willingness to complete the treatment is important for recovery from TB disease. *"There is treatment available for TB unlike in the past... the problem is if you don't seek medical attention, how can you be treated? And if you're undergoing treatment, you should complete it..."* This puts other family members and people they come into contact with at risk of contracting the disease, especially those with weaker immune systems, such as the elderly, those with existing illnesses, and very young children. *"It's difficult if I or my family members have TB, and we don't know, we might infect each other..." "Seniors like us could also get infected..." "It's unfortunate for the young ones at home."*

About the vulnerable population's Perception of TB, the findings highlighted their current understanding of who is susceptible to TB and their misconceptions about TB. They see individuals who may be most vulnerable and at risk of TB as those lacking healthy lifestyles, such as substance abuse, over-exhausting due to lack of rest and self-care, and lack of nutritious food intake. Attested by a study on lifestyle changes and the risks of Tuberculosis revealed that vices, especially heavy smoking and lack of physical wellness activities, increase the risk of developing TB disease (Park J. et al., 2022). The findings also highlighted that apart from aging, the vulnerable groups see that a certain nature of work can put a person at a higher risk, such as workplaces that put a person in a hazardous position of being exposed to an environment conducive to TB spread or contracting infection. According to the literature, aging and work-related stresses can reduce the optimal function of the immune system (Delves P. 2022 & Olson E. 2018). However, a notable misconception is that only those with poor physiologic constitution or bad health are at high risk of getting TB.

While TB infection can affect everyone, it is more likely to occur in individuals with weakened immune systems, those who engage in vices such as drinking and smoking, and those who lack adequate rest and sleep. *"You won't get TB if you're strong and don't have vices,"* as some would say. While it is true that risk factors for Tuberculosis include anything that weakens a person's immune system or puts them in frequent, close contact with someone who has active TB (Goldman R., 2023), the risk also increases for fit and healthy individuals who live with someone with an active TB case, or who live or travel in places where TB is common, or share spaces with individuals with active TB, such as at work, in prison, nursing homes, and shelters (Mayo Clinic, 2023).

Furthermore, some participants shared that people who lack sleep and are in stressful situations are susceptible to TB, *"…those who never stop working... your body will weaken from exhaustion, you could be hit by TB..." "Stress and many problems in life..."* Some elderly participants are aware that they are vulnerable to contracting TB due to their age. Tricycle drivers describe their occupation as somewhat risky, as they interact with several people daily, *"…we drivers who are always on the road."*

In addition, health workers serving as Key Informants (KIs) described their efforts to disseminate health education and information to the community, families, and individuals through various activities. These include conducting health campaigns to raise awareness about the cardinal signs of TB, its risk factors, and where to access services if needed. One Barangay Health Worker (BHW) mentioned, *"Before COVID-19, the BHWs regularly conducted information dissemination and also conducted home visits."* Such efforts vary depending on the occasion and purpose of the activity. Examples include providing health education to family members of individuals diagnosed with TB or during community health forums. However, the reach of health information dissemination is limited to those who participate in the activities, visit the health center, or are reached through home visits. Another health worker stated, "*Health workers cannot reach everyone... we focus more on those who come to the center or those who are with the patient at home*".

3.2 Health Promotion Activities of the Participants

Table 2 delineates a comprehensive thematic analysis elucidating the health promotion activities undertaken by participants. Within the overarching theme of Health Promotion and TB Prevention, the subthemes underscore the efficacy of community-based knowledge dissemination strategies, a robust awareness regarding TB treatment modalities, adherence to infection control protocols, and cognizance of risk management imperatives. Next is, under the thematic domain of Perceptions on TB, the subthemes illuminate nuanced perceptions regarding susceptibility to TB among individuals, alongside prevalent misconceptions surrounding the disease.

Table 2. Thematic analysis of health promotion activities of the participants

THEMES	SUBTHEMES
Health Promotion and TB Prevention	Community-based knowledge sharing
	High awareness about TB treatment
	Knowledge of infection control
	Recognizing the importance of managing risks
Perceptions on TB	Perception of individuals susceptible to TB
	Misconceptions surrounding TB

The narrative presents the experiences of community participants regarding their access to information and services related to TB, as well as their behaviors and emotional responses toward TB as both a health and social concern. It also underscores the significance of ensuring that comprehensive health information about TB, including its causes, prevention, and treatment, is readily available within the community. Such understanding of the disease can then be shared among neighbors, friends, and individuals. Notably, an intriguing revelation emerged from a tricycle driver who successfully recovered after receiving TB treatment. His personal experience with TB now serves as a common source of information about the disease for his family and colleagues, highlighting its importance in public health interventions and educational campaigns. For instance, one tricycle driver shared, *"…to be honest, I knew nothing about TB before. I learned about TB from * (referring to a colleague) because*

he had TB". Additionally, an elderly participant recounted, *"…no one taught us about TB. I learned about it from my sister-in-law who had TB but has since passed away... the treatment takes a long time, but there is a cure."*

The findings underscore the pivotal role of community members in disseminating information about TB. Community members, such as neighbors and friends, play a significant part in raising awareness about TB, including its symptoms, transmission, and treatment options. Most participants indicated that they learned about TB from within their community, whether through conversations with neighbors or friends or from individuals who had personal experiences with TB. For example, one participant shared, *"We just talked about it when someone in the neighborhood had TB,"* and another mentioned, "*We learned about it from * (referring to a colleague), that's why we stopped inviting him to drinking sessions because he keeps coughing."*

Interestingly, only a few participants mentioned learning about TB from healthcare workers, with two individuals specifically mentioning acquiring knowledge from a doctor who creates content on the internet. This highlights the importance of community engagement and peer education in addressing TB. As one participant expressed during the FGD, *"I learned about TB from the health center..."* while another stated, *"I watched Dr. *'s (name of the vlogger) vlogs about TB on YouTube."*

Furthermore, many participants shared that their understanding of TB was shaped by the experiences of others, with one participant who had TB recounting, *"I had TB myself, but I'm better now. At first, I didn't know what to do, and I thought I was going to die. My wife insisted I see a doctor, and that's when I found out I had TB..."* This indicates the significant impact of personal experiences in shaping awareness and knowledge about TB within the community.

The findings also suggest that only a small number of participants mentioned obtaining information about TB from healthcare workers. This highlights a potential gap in the dissemination of knowledge through formal healthcare channels. Although many participants are aware of the available treatment options, including where to seek treatment and the duration of treatment, there is a need to strengthen the role of healthcare workers in providing accurate and comprehensive information about TB. This is crucial to ensure that reliable information reaches the community. Some participants expressed sentiments such as, *"I know there's a program; I see it in the health center, but people should be aware of it..."* and *"The treatment for TB takes a long time, but you will get better..."* and *"treatment for TB is free from the government."* Community-based TB activities encompass a broad range of initiatives aimed at preventing, diagnosing, and improving treatment adherence and care, all of which positively impact the outcomes of TB programs (WHO, 2023).

Moreover, some unconventional methods are used by community members to address symptoms such as coughs and colds by using a mixture of gin and calamansi or Philippine lime (*gincalamansi* – as the community would refer to it). Participants who practice this tonic shared, *"…nothing beats gincalamansi; it can even cure COVID-19."; "When you have a cough, sore throat, or runny nose, just drink gin with calamansi immediately."* This tonic combines one round bottle of gin with a piece of calamansi. *"You can make it anywhere, just one bottle of gin and calamansi,"* shared by a KI BHW who has directly observed the behaviors of people in the community. Participants attributed this practice to communal knowledge passed down within the community, highlighting the importance of cultural context in healthcare practices.

Most participants are aware that TB can be acquired by being exposed too closely to a person with TB, and they listed several ways to prevent infection. These include wearing masks, consuming healthy foods to boost the immune system, ensuring adequate rest to keep the body strong, and managing household spaces if living with a household member with TB. An elderly participant shared an example, saying, *"I took care of someone with TB when I was young... you need to strengthen your body; there were no masks back then, masks only became popular with COVID... but I avoid staying in the same room... the important thing is not to be weak so you won't get infected."* However, some participants believe that items belonging to a person with TB should be separated from those of other household members, such as eating utensils. One participant stated, *"as far as I know, their belongings should be separated and not mixed with others'..."* Another said, *"they have their plates, spoons, and other items..."* These findings underscore the need for targeted educational interventions that address the knowledge gaps and preferences of the community. TB preventive treatment halts TB infection from progressing to disease in those infected and can protect both the individual and the community from TB (WHO, 2023). However, individuals who are already

undergoing treatment, including those with TB who are not actively transmitting the disease, cannot transmit it (Goldman, 2023).

All participants agreed that indulging in vices such as smoking, drinking, and using illegal substances can increase the risk of contracting TB. Some participants emphasized this point, with one elderly participant sharing, *"…smoking is hazardous..."* and another recounting, *"I work as a gravedigger in that cemetery, and many of those I buried there were heavy smokers before they died, so it's highly likely they had TB."* Additionally, many participants asserted that being near a person with TB can also pose a risk of infection. One participant explained, *"I know it's airborne, so if you're with someone at home, you can get infected."* Furthermore, most participants highlighted that individuals working or living in poor environments with inadequate ventilation or exposure to dust and fumes are also at risk. Engaging community members as educators and drawing from their experiences in educational campaigns can enhance the effectiveness of TB awareness programs, particularly when the information shared aligns with their own experiences and context (WHO, 2023).

Overall, the findings emphasized the importance of community engagement and peer education in raising awareness about TB. Utilizing community members as educators and leveraging their experiences in educational campaigns can enhance the effectiveness of TB awareness programs, particularly when aligned with their lived experiences and cultural context.

3.3 Challenges Experienced by the Participants to Maintain Health

The findings are information about the participants' activities and attitudes towards Tuberculosis as a health concern, and their lived experiences in their homes and their community. Healthy activities play a pivotal role in maintaining overall health and well-being Findings highlighted the participants' living conditions and their perception of Tuberculosis.

Table 3. Thematic analysis of challenges experienced by the participants to maintain health

THEMES	SUBTHEMES
Household situation	Cramped houses (household crowding)
	More than one householder
Perceived stigma and discrimination	Feeling of shame
	Fear of maltreatment
Perceived self-care to prevent TB	Healthy lifestyle
	Early detection and treatment

Table 3 encapsulates a thematic analysis illustrative of the challenges encountered by participants in sustaining optimal health. Within the thematic realm of Household Situation, subthemes delineate the prevalence of cramped living conditions, denoting household crowding and multiple householders' presence, reflecting complexities in domestic arrangements. The thematic domain of Perceived Stigma and Discrimination unveils the participants' experiences of shame and apprehension of maltreatment, underscoring the pervasive impact of societal attitudes on health-seeking behaviors. Furthermore, within the theme of Perceived Self-care to Prevent TB, subthemes elucidate the participants' endorsement of healthy lifestyle practices and the imperative of early detection and treatment, portraying a proactive stance toward disease prevention. These insights emphasize the multifaceted nature of challenges impeding health maintenance and the necessity of tailored interventions addressing social determinants of health.

Household situations were a common concern among participants, with many describing their living conditions as cramped. One participant explained that their household was overcrowded, with too many family members sharing limited space. They expressed, "*There is nothing we can do if we do not have a large living space, my children, their children."* This overcrowding leads to adverse living conditions, where the number of occupants exceeds the capacity of the available dwelling space, as defined by the World Health Organization (WHO, 2018). Such conditions can result in physical and mental health issues.

Since TB is primarily transmitted through the air when an infected person coughs, sneezes, or speaks, overcrowded households pose a higher risk of exposure to TB bacteria. This risk is exacerbated by poor ventilation, inadequate natural light, and lack of hygiene. Research has shown that TB incidence is closely linked to crowded

living conditions, emphasizing the importance of well-ventilated homes to prevent the spread of the disease (Baker M. et al., 2008; Du C. et al., 2019). Therefore, ensuring adequate ventilation in households is strongly recommended to reduce the risk of TB transmission.

According to the Philippine Statistics Authority (PSA) Census of 2020, the average household crowding index of Filipino households ranges from 4 to 5 persons per household. Health workers described that families in poor neighborhoods in their barangays typically have an average of five persons per household. In some cases, the increase in the number of households is due to multiple households sharing the same physical house. Some participants mentioned that it is common for more than two extended families to share a single house. One elderly participant mentioned that they reside in the household of their relative due to convenience, as they work in San Dionisio, while their actual residence is in Naic, Cavite. They said, *"I am staying with my cousin... My child and I work here, so we live there. We only go home to Naic occasionally."* The participants' narratives shed light on the housing situations of vulnerable families in the two areas.

Perceived stigma and discrimination were prevalent among all participants, with many expressing feelings of shame in the event of developing TB. Most participants identified healthcare workers from the health center and their spouses or family members as the first individuals they would confide in if they were to contract TB. However, some participants admitted that they would still feel uncomfortable sharing their condition if they were to contract TB.

Excerpts from the FGD include statements such as: *"…if possible, I will just keep it to myself, but if someone finds out, it might be the doctor or my wife,"* shared by a tricycle driver; *"It is difficult because if others find out, they will avoid you, I have experienced that feeling of being avoided by people,"* shared by a participant who had TB; *"I will tell my family so I do not infect them, but not others, especially if the neighbors find out, we will all be shunned..."* shared by an elderly participant; *"…maybe I will feel pity for someone with TB, but if you find out that someone I am with has TB, you might not be disgusted, but you will still avoid them,"* shared by another tricycle driver.

Stigma and discrimination surrounding Tuberculosis (TB) are significant challenges that affect individuals, families, and communities. Most especially to prevent the incidence of TB. One study concurs with the participants' perceived stigma and discrimination. According to Chen (2021), stigma among TB patients is high, hence resulting in anxiety, poor social support, and less patience among health workers. With the persistence of stigma relevant to the experiences of communities in Pampanga, delayed seeking of medical treatment was due to expectations to be discriminated against, shunned, and isolated in the event they are diagnosed with TB disease (Zimmerman et al., 2022).

The participants discussed perceived self-care practices to prevent TB. Most participants emphasized the importance of maintaining a healthy diet as a preventive measure against TB. Among elderly participants, many highlighted the significance of dietary choices, specifically mentioning fruits and vegetables as essential sources of nutrition. They emphasized the importance of consuming whole foods rather than relying on instant options. Additionally, several participants mentioned the importance of achieving work-life balance, managing stress, and dedicating sufficient rest, sleep, and recreation time. For instance, a tricycle driver stated, *"…times have changed; you need to focus on work if you want to provide for your family's needs, but it's still important to make time for rest…"* An elderly participant shared, *"The problem is, stress can weaken the body, so it's important to also have time for enjoyment…"*

Several elderly participants concurred that engaging in physical activities to maintain both physical and mental health is crucial for preventing TB. *"You know, even though we're old, we shouldn't be lacking in things to do... for exercise, we go out for walks,"* one elderly participant remarked, while another highlighted the importance of remaining active despite age, stating, *"…her (while referring to a co-participant), even though she uses a cane, still goes out for walks... it is important to keep moving even for us seniors."* Additionally, one participant noted that elderly individuals who lack mobility are more susceptible to TB, stating, *"You will get sick too if you're a senior and can't move anymore... bedridden."* On the other hand, the majority of elderly individuals and tricycle drivers agreed that quitting smoking can significantly reduce the risk of contracting TB. One participant emphasized that quitting smoking not only benefits the smoker but also those around them. In terms of lifestyle factors, the literature

identifies various activities that can lower the risk of TB, including practicing good hygiene, maintaining a healthy diet, getting enough sleep, managing stress, engaging in regular exercise, refraining from smoking and receiving vaccinations (Singh M., 2023; CDC, 2011; & DOH, 2023).

Along with early detection and treatment – while participants expressed fear of the stigma associated with TB if they were to contract the disease, they strongly emphasized the importance of seeking early medical care. Most participants highlighted the significance of seeking medical assistance upon experiencing signs and symptoms. *"If you feel something, you should see a doctor,"* shared one elderly participant, while another stated, *"TB is not as scary now as it used to be. Unlike cancer and diabetes, TB treatment is free and can be cured."*

The experience of a tricycle driver who had TB illustrates the importance of early detection and treatment. Seeking medical attention earlier when one is still strong is the best option, but in the participant's case, they sought medical care when it was already late. *"I thought, maybe if I had sought medical attention when I first had symptoms, I wouldn't have deteriorated... looking at me now, I've gained weight (referring to their previously skinny build); I lost so much weight when I had TB... I could not even move. They had to carry me to the hospital."*

Many participants agree that visiting the health center should be a regular activity, especially for those susceptible to TB infection. One elderly individual emphasized, *"It is a big help for us seniors to be able to go to the health center, especially since we have various health concerns."* Conversely, there are a few participants who shared that knowledge about TB can help individuals make better decisions about their health. One tricycle driver expressed their thoughts, saying, *"For me, it is important that we have this kind of meeting today, where we talk about TB. I think it's a big help to everyone if more people can participate in these meetings."*

On the healthcare service side, early detection of TB, especially among TB contacts, is a strategy to identify TB cases at an earlier stage and to prevent transmission. Early detection through TB contact investigation can lead to the identification of additional cases, particularly among vulnerable groups such as the elderly and children. Discussions with health workers revealed a focus on case finding, with one stating, *"We prioritize case finding... The patient and their contacts must be screened promptly."* Another emphasized the importance of early detection for prompt treatment and prevention of further transmission, *"the earlier, the better, so they can be treated promptly and not spread the disease."* Despite challenges like non-compliance, community health workers diligently conduct house-to-house visits. Similarly, comprehensive education, covering both cognitive and psychological aspects, is needed to encourage TB contacts to fully participate in early detection efforts until their diagnosis is confirmed (Putra W., 2019).

3.4 Access Points to Health Services and Information

Table 4 presents the thematic analysis of access points to health services and information. Under the Perception of Support Structure in the Barangay theme, subthemes include participants' perceptions of accessibility to health services, feelings of exclusion, and trust in health workers. Moreover, participants highly value the availability of free TB treatment. Access to health services and information prevents TB and maintains overall health. This presentation presents the participants' perceptions of the health programs and services available in their barangays. The overall theme from the findings is the participants' perceptions of support structure in the Barangay.

Table 4. Thematic analysis of access points to health service and information

THEME	SUBTHEMES
Perception of support structure in the Barangay	Accessible but not for "me" Trust and confidence towards the health workers High regards to available free treatment for TB

Participants' perception of the support structure in the Barangay varies, particularly regarding healthcare services. Many of the participants who work to earn a living expressed a preference for visiting the health center due to its accessibility and the fact that services are free. One tricycle driver emphasized, *"…given the hardships of life, it's okay to have something free at the health center... it's expensive to seek treatment at private facilities."* This sentiment was especially strong among the elderly, who highly appreciated the availability of free services and commodities for

senior citizens at the health centers. One participant remarked, *"I no longer have a job – it is a big help that services at the center are free,"* another mentioned, *"…medicines, check-ups, and vitamins, everything is free."*

However, for those working in the informal sector, particularly the tricycle drivers, queuing at the health center is not feasible. Instead of waiting in line, they prefer to spend their time driving their tricycles to earn income. Additionally, the operating hours of the health center often conflict with their schedules. Two participants also mentioned the health center's cut-off time as another reason for choosing not to visit. A study conducted by the Philippine Institute of Development Studies (PIDS) identified access as one of the major barriers to early TB diagnosis among the poor in highly urbanized areas in the country (Reyes K., 2014). While TB programs and services are available, the limited time available to access them poses a challenge for participants.

Some of the sharing by tricycle drivers during the FGD included: "*Instead of lining up, we just opt to go out and drive..." "They also have cut-offs, so even if we go there after saving up for the day's fare, we can't line up anymore because it's already past the cut-off." "If you just waste your time lining up and then get cut off, your chance for earnings for the day will also go to waste; it's just a waste, right?"*

Participants who frequently visit or have engaged with the health center, mostly the elderly or those who have interacted with health workers, are confident that health workers are a good source of support regarding their health concerns. One barangay health worker shared that there are instances when people in the community refer to them as doctors, *"Sometimes, people call us BHWs, 'doctors.*" BHWs serve as frontline workers on the ground in providing essential health services. They play a crucial role in the fight against TB and in promoting the primary healthcare approach to health empowerment by offering accessible and acceptable health services at the barangay level.

As they are aware of the TB program offered by the local health department, most participants expressed satisfaction with the availability of free TB treatment, stating, "*It's a big help.*" Some participants mentioned a preference for receiving health check-ups from private providers due to convenience but acknowledged that it can be expensive. For instance, one tricycle driver participant shared, *"...in private clinics, you still have to wait, but not as long, and there's air conditioning."* Therefore, free treatment, check-ups, and medications are highly beneficial for long-term treatments like TB. Health workers also noted that several TB patients were initially referred from private facilities. *"We have patients who left us and went to private facilities, but we let them go because they will eventually come back to our center,"* mentioned by a BHW, recounting that TB patients will eventually access the free treatment as private services are costly. In Paranaque City, private care facilities refer TB patients to TB Directly Observed Therapy Shortcourse (TB DOTS) for laboratory tests and treatment.

4.0 Conclusion

Elderly residents and tricycle drivers in San Antonio and San Dionisio possess basic TB knowledge sourced largely outside of local health programs, necessitating action from health authorities. Empowering these communities with TB awareness enables early detection, prevention, and active participation in local TB control efforts. Specific contexts, like the household crowding in areas like San Antonio and San Dionisio, can exacerbate TB transmission and limit access to healthcare due to financial constraints. Discrimination against TB patients further compounds social and economic challenges, necessitating a community-wide effort to combat stigma. While the community values health centers and workers for primary health needs, addressing barriers like busy schedules requires accessible and flexible health programs. Bridging gaps through remote and onsite options can encourage individuals to prioritize their health and well-being. Understanding diverse factors such as culture, socioeconomic status, and education informs healthcare providers in tailoring services to meet the unique needs of vulnerable populations, necessitating culturally sensitive care, enhanced health literacy, and strategies to overcome access barriers, while also leveraging community-based information-sharing to disseminate accurate health information and address misconceptions.

5.0 Contributions of Authors

Kevin de Vera led the conception and design of the study, data collection and analysis, and writing the research report. Christine Censoro assisted in the conception and design of the study, data collection, and coordination work to ensure the success of data collection. The authors reviewed and approved the final work.

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7.0 Conflict of Interests

The authors declare no conflicts of interest about the publication of this paper.

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