

Challenges in the Implementation of Tuberculosis Prevention and Control in Iligan City

Rowena P. Enguito

Student, Medina College – Ozamiz City

Abstract— Tuberculosis (TB) remains a major public health concern in Iligan City, where challenges such as limited health-seeking behaviors, persistent stigma, patient non-compliance, and resource-strained frontline workers hinder effective implementation of the National Tuberculosis Program (NTP). Despite comprehensive national guidelines, program delivery at the community level is affected by complex social, operational, and institutional barriers. A descriptive-comparative research design was employed to examine the difficulties encountered by nurses and barangay midwives in carrying out TB prevention and control activities. The study involved 84 respondents—47 nurses and 37 midwives—from 44 barangays and 50 rural health centers in Iligan City. A modified questionnaire based on the DOH Manual on Tuberculosis Control and Prevention (6th Edition, 2020) was used to assess challenges across four implementation dimensions: patient-centered TB care, screening and diagnosis, treatment, and recording and reporting. Data were analyzed to determine differences in implementation challenges based on respondents' profiles and years of service. Findings revealed that most respondents were nurses (56%), and nearly half had more than three years of program experience. Implementers reported the least difficulty in patient-centered care ($M=2.06$) and treatment delivery ($M=1.59$). Moderate difficulty was noted in screening and diagnosis ($M=1.89$), while preventive treatment posed the greatest challenge ($M=2.53$). No significant difference was observed in challenges when grouped by position ($p=.142$), but difficulty levels varied significantly according to years of service ($p=.044$). Years of experience substantially influence implementers' ease in delivering TB services, highlighting the need for strengthened capacity-building. Enhancing training, addressing stigma, and improving systematic screening may improve NTP implementation. Further studies with larger samples and qualitative approaches are recommended to deepen insights into persistent implementation challenges.

Keywords— Tuberculosis, National Tuberculosis Program (NTP), Iligan City, implementation challenges, patient-centered care, screening and diagnosis, preventive treatment, health workers, stigma.

INTRODUCTION

Background of the Study

Tuberculosis (TB) has continued to be one of the most difficult health issues in most urban communities, Iligan City being one of them. In spite of the existence of national programs, local efforts still face challenges in health-seeking behaviors, patient compliance, stigma, and frontline health worker capacity. In most situations, people put off consultation because of misperceptions of TB symptoms, fear of being discriminated against, or lack of access to health facilities. Instead, health providers are under pressure because they have to allocate more and more skills, time, and resources to new diagnostic tools and patient-centered methods. These realities indicate that the TB control structures can be holistic, yet their actual implementation at the community level is influenced by multifaceted social, operational, and institutional issues.

According to the available literature, TB is one of the most prevalent infectious diseases, which causes death in the world today. *Mycobacterium tuberculosis* has

been highlighted by the World Health Organization (2017) to be a widespread, constant menace to health on the planet; the prevalence of TB in the population is almost a third of the global population. TB is still one of the leading causes of morbidity and mortality in the Philippines, where the prevalence is estimated at 10 million cases all over the world and a high level in Southeast Asia (WHO, 2018). Some of the identified problems, according to the studies, include poor levels of disease awareness, strains in treatment maintenance, the emergence of drug-resistant strains, and disproportionate quality of care, especially in areas with limited resources and a strong degree of stigma (Lasco, 2019). The work of the TB program implementers is also complicated by the introduction of new diagnostic approaches, such as the increased use of a chest X-ray at the level of screening and transition to patient-centered care (Department of Health – National Tuberculosis Control Program, 2020).

Nonetheless, even though there are national data and wider analyses, there is a contextual gap about the nature

of problems faced in Iligan City. Local reports show that there are varying Treatment Success Rates (TSR) with some years showing improvements and other years showing major reductions. Unstructured interviews with the chosen health workers indicate that they worry over a lack of manpower, rising workload caused by new diagnostic processes, and the constant rejection of treatment by some patients because of stigma and financial reasons. Cases of TB are usually hidden by the family, and private practitioners still prescribe drugs with no referrals; thus, the standardized treatment is hard to track. These are local problems that are not well recorded in scholarly literature and need to be systematically researched.

This paper is therefore intended to analyze the issues surrounding the implementation of prevention and control of tuberculosis in Iligan City. In particular, it aims at determining the operational, social, and institutional obstacles that impact screening, diagnosis, patient-centered care, adherence to treatment, preventive therapy, and reporting practices with regard to the recommendations of the Department of Health (DOH) National Tuberculosis Control Program Manual of Procedures, 6th Edition. The findings will aim at offering evidence-based information that will assist in enhancing the local TB program delivery and assist Iligan City in reducing its TB burden within the community.

II. RESEARCH METHODOLOGY

Research Design

This study employed a descriptive-comparative research design to examine challenges in TB prevention and control in Iligan City, allowing comparison between nurses and Barangay midwives without manipulating variables (Creswell, 2014). Data were collected following the National Tuberculosis Program Manual of Procedures (Department of Health – National Tuberculosis Control Program, 2020), using structured instruments to assess TB prevention, diagnosis, treatment, and recording practices. Quantitative data were analyzed with descriptive statistics (mean and standard deviation) to measure the level of difficulty faced by healthcare providers, and inferential statistics (Mann-Whitney U and Kruskal-Wallis tests) to determine significant differences based on demographic factors such as role and years of experience. This approach provided a systematic, evidence-based evaluation of frontline TB implementers, revealing patterns and differences in program implementation

between nurses and midwives, and supporting targeted recommendations to enhance TB control at the local level.

Research Setting

The study was conducted in Iligan City, Lanao del Norte, due to its large population, diverse communities, and well-distributed health facilities, which make it an ideal setting to examine challenges in implementing the National Tuberculosis Program. With 44 barangays and at least one health center per barangay, nurses and Barangay midwives are key frontline implementers of TB prevention, diagnosis, treatment, and follow-up. The city's urbanized, industrialized, and multicultural environment, combined with accessible healthcare infrastructure, provides a representative context to explore operational issues and factors affecting TB control at the local level.

Research Respondents

The study involved 84 frontline healthcare workers in Iligan City—47 nurses and 37 midwives—who directly implement the National Tuberculosis Program (NTP) across 44 barangays and 50 health centers. Participants were purposively selected for their active involvement in TB prevention, screening, diagnosis, treatment, follow-up, and reporting, with at least one year of experience to ensure familiarity with standard practices. Only those who willingly consented were included, while new or non-participating providers were excluded. Focusing on nurses and midwives ensured that the data accurately reflected the real-world experiences of frontline TB implementers, particularly in patient-centered care, preventive therapy, treatment adherence, and program documentation.

Research Instrument

The study used a modified data collection instrument based on the Manual on Tuberculosis Control and Prevention (Department of Health – National Tuberculosis Control Program, 2020), divided into two parts. Part I gathered respondent profiles, including their role in the program and years of experience, while Part II assessed key dimensions of TB control: Patient-Centered Care, Screening and Diagnosis, Treatment, and Recording and Reporting, each comprising 4 to 7 statements on implementation activities. Respondents rated each statement based on the degree of difficulty experienced in program implementation using a 4-point scale: 4 = greatest difficulty, 3 = great difficulty, 2 = moderate difficulty, and 1 = least difficulty, with

corresponding hypothetical mean ranges of 3.6–4.00, 2.51–3.25, 1.76–2.50, and 1.0–1.75, respectively.

Data Gathering Procedure

Data gathering began with a formal request to the City Health Officer of Iligan City to secure permission to access health facilities and involve healthcare staff. After approval, nurses and Barangay midwives were informed of the study's purpose, benefits, data usage, confidentiality, and their voluntary participation, with consent obtained prior to questionnaire administration. Questionnaires were distributed at the City Health Office over one to two weeks, allowing respondents to complete them at their convenience, and were collected within one to two days to ensure completeness. The collected data were systematically organized, counted, and analyzed using appropriate statistical tools, ensuring an ethical, efficient, and reliable process for examining the challenges in TB prevention, control, and program implementation in Iligan City.

Ethical Considerations

This study adhered to established ethical principles in medical and public health research, ensuring the dignity, rights, and welfare of all participants (Beauchamp &

Childress, 2013). Autonomy was respected by fully informing participants of the study's purpose, benefits, and their voluntary right to participate or withdraw without consequences. Beneficence and non-maleficence were upheld by minimizing risks and safeguarding respondents' safety, while justice ensured fair and unbiased treatment of all nurses and midwives. Confidentiality and anonymity were strictly maintained, with personal identifiers excluded and data securely stored. By following these ethical standards, the study preserved participants' professional and personal integrity and maintained high standards of research integrity and professionalism.

Statistical Treatment

The data were analyzed using descriptive and inferential statistical tools. Mean and standard deviation were used to describe the level of challenges faced by National Tuberculosis Program implementers. The Mann-Whitney U test assessed differences in challenges based on the respondents' roles, while the Kruskal-Wallis test compared variations in challenges among groups categorized by years of experience in program implementation.

III. PRESENTATION, ANALYSIS, AND INTERPRETATION OF DATA

Table 1. Demographic Profile of the Respondents

Category	Descriptive	
	N	%
Role in the Implementation of the National TB Program		
Barangay Midwives	37	44
Nurse	47	56
Category	Descriptive	
Length of Experience as a Program Implementer	N	%
1 year and below	23	27
2 – 3 years	22	26
3 Years and Above	39	47

The demographic characteristics of the participants used in the study show that there were 84 healthcare providers altogether, 47 of them being nurses (56 per cent) and 37 being Barangay midwives (44 per cent) who were involved in the implementation of the National Tuberculosis Program in Iligan City. This representation indicates that the number of nurses is a little more than compared of midwives because of their central position in direct patient care, supervision, and coordination of tuberculosis prevention and control efforts. Regarding

experience, program implementers with greater than three years' experience were slightly below half (47%) of the respondents, two to three years' experience was 26 percent, and one year or less experience was 27 percent. The figures suggest that a significant number of the respondents are quite experienced in the execution of the tuberculosis programs, and this data might affect their efficiency in controlling prevention, treatment, and reporting practices.

The role in the implementation, when analyzed by the indicators, shows that both nurses and midwives are more widely represented in the implementation of the tuberculosis program, with nurses having a bit more presence, which may be explained by their more impactful clinical responsibilities in patient-centered care, administration of drugs, and supervision. The duration of experience indicates the potential competence and knowledge of the respondents on the protocols and guidelines used and the challenges met in the process of tuberculosis control.

The more experienced the respondents, the more they are likely to maneuver the complexities of the process, mentor the less experienced employees, and lead to better program results. On the other hand, those respondents who have one year or less experience can be supported and trained further to deliver to optimal

levels, and thus, there is a need to engage in constant professional development.

These results are in accordance with the findings of the earlier research, stating that the experience of the healthcare workers is directly connected with the efficiency and effectiveness of the tuberculosis program implementation. To illustrate, Alipanah et al. (2018) discovered that more experienced healthcare providers who work in tuberculosis control showed a higher level of adherence to treatment protocol and following up with patients, which led to better treatment outcomes and lower rates of drug resistance. This explains why it is critical to utilize the experience of experienced personnel and offer specific assistance to newer implementers so that the success of the entire tuberculosis program can be increased.

Table 2.1 Difficulty in Patient Centered TB care

Constructs	Descriptive		
	Mean	SD	Interpretation
Respecting Patient Autonomy and Supporting Self-Efficacy.	1.95	0.65	With Moderate Difficulty
Maximization of Patients' Physical Comfort and Wellness.	1.67	0.57	With Least Difficulty
Provision of Psycho-Emotional Support	2.57	0.62	With Great Difficulty

Note: 1.00-1.75 (with least difficulty); 1.76-2.50 (with moderate difficulty); 2.51-3.25 (with great difficulty); 3.26-4.00 (with greatest difficulty)

The findings shown in Table 2.1 outline the level of challenges which nurses and barangay midwives face when implementing patient-centered care for TB. According to aggregate mean scores, healthcare providers face moderate to significant challenges when operationalizing patient-centered strategies, and the general tendency is to face the problem of dealing with the psychosocial needs of TB patients. This finding would indicate that the aspects of patient care can be controlled; however, other aspects, especially the ones related to emotional and social support, form considerable obstacles that might undermine patient compliance and the effectiveness of TB treatment programmes in general.

Taking a closer look at the indicators of the provision of psycho-emotional support, one must say that the latter received the most significant mean score ($M = 2.57$, $SD = 0.62$), which showed a significant difficulty. This observation highlights the difficulty in meeting the mental health care, social isolation, and emotional well-being of TB patients by healthcare workers, which is essential to the reduction of adherence and

stigmatization. Respect for patient autonomy and facilitation of self-efficacy showed medium hardness ($M = 1.95$, $SD = 0.65$), which means that, despite the efforts of healthcare workers to engage patients in the decision-making process, there are still barriers that include patient lack of education, cultural differences, and resources. In contrast, maximization of physical comfort and wellness of patients was the least challenging ($M = 1.67$, $SD = 0.57$), which presupposes that physical care, attention to drug side-effects, and an overall wellness support are easier to manage by the respondents, presumably due to the presence of protocols and their experience.

The provision of TB care presents multiple challenges for healthcare providers, extending beyond clinical management to psychosocial and emotional support. Paz-Soldán et al. (2020) found that TB care workers often struggle with balancing patient-centered care with the practical demands of treatment delivery, including addressing stigma, patient adherence, and emotional needs. These findings emphasize that effective TB control requires not only clinical competency but also

targeted training in patient-centered approaches, equipping nurses, midwives, and other providers to navigate the social, emotional, and psychological dimensions of care while maintaining high-quality treatment standards. Compared to the current study, both

studies propose that despite the medical and physical elements of care being well-routinely dealt with, the psycho-emotional aspect is still a significant impediment to truly patient-centered care of TB.

Table 2.2 Screening and Diagnosing Tuberculosis

Constructs	Descriptive		
	Mean	SD	Interpretation
Systematic Screening	2.23	0.53	With moderate difficulty
Diagnostic Tuberculosis	1.56	0.57	With the least Difficulty

Note: 1.00-1.75 (with least difficulty); 1.76-2.50 (with moderate difficulty); 2.51-3.25 (with great difficulty); 3.26-4.00 (with greatest difficulty)

The screening and diagnosing tuberculosis data show that the respondents had moderate general difficulty in conducting the given activities, which was represented by the mean score of 1.90 (the average of two constructs). It means that although nurses and Barangay midwives face certain difficulties when it comes to systematic screening and diagnosis of TB, things are not too hard. The moderate challenge can also influence the effectiveness of the case identification, and that may slow down the prompt diagnosis and treatment, which is essential in the context of TB control and prevention.

A comparison of the single indicators shows that systematic screening had a mean of 2.23 and a standard deviation of 0.53, which is moderately difficult. This indicates that the use of regular and comprehensive screening procedures within communities and health centres is problematic, including a lack of resources, manpower, and excessive patient workload. Comparatively, diagnostic tuberculosis had a mean score of 1.56 and a standard deviation of 0.57, which

implied the least difficulty. This means that carrying out diagnostic tests like sputum tests or getting a chest X-ray would be comparatively easy, but getting all the presumptive cases identified by systematic screening is a huge challenge. The results reveal that improved support, standardized practices, and capacity building are necessary to improve the early interventions of TB case detection.

The findings are similar to the research by Querri et al. (2017), who observed that community health workers experienced difficulties in the systematic screening of TB due to issues with patient mobility, follow-up, and limited resources, and the diagnostic procedures did not create significant problems in the case of the presence of appropriate tools. The comparison also highlights that the bottleneck in TB control is not often in the ability to diagnose but in the systematic identification and involvement of presumptive TB cases and the role of enhancing outreach and case-finding approaches in the programs of social health.

Table 2.3 Treatment of Tuberculosis

Constructs	Descriptive		
	Mean	SD	Interpretation
Treatment of Drug Susceptible Tuberculosis	1.56	0.63	With the least difficulty
Treatment of Drug-Resistant Tuberculosis	1.63	0.59	With the Least difficulty

Note: 1.00-1.75 (with least difficulty); 1.76-2.50 (with moderate difficulty); 2.51-3.25 (with great difficulty); 3.26-4.00 (with greatest difficulty)

The results on tuberculosis therapy administration indicate that the highest levels of operational difficulty were least in all respondents, with the resulting 1.56 and 1.63 drug-susceptible and drug-resistant TB, respectively, falling within the range of minimal difficulty. This trend means nurses and Barangay midwives living in Iligan City have a very high

likelihood of confidence and competence in performing the set TB treatment procedures, such as proper drug administration, careful monitoring of patient compliance, and consistency in the administration of treatment procedures. This relative challenge is therefore an implication of the presence of effective treatment guidelines and an adequate level of knowledge

of standard working practices among implementers, which is a precursor to the realization of positive clinical results and the prevention of TB-compromised complications.

The mean value of drug-susceptible TB management (1.56) shows that health workers do not face many challenges in implementing the use of first-line anti-TB drugs, surveillance of adherence, and follow-ups. On the other hand, the average of the drug-resistant TB (1.63) suggests that despite the relatively higher complexity of the cases and the need to follow the protocol more strictly, the respondents still could handle the treatment successfully. All these observations support the relevance of specific training, accumulated experience, and the availability of evidence-based guidelines in relation to the fact that TB patients can get the right

interventions in time, to improve the overall effectiveness of the National TB Programme.

The identified trend is consistent with the results of Alipanah et al. (2018), who stated that the implementation barriers were lower among healthcare workers when extensive guidelines, organized training, and adherence-support systems, including Directly Observed Therapy (DOT), were in place. The research highlighted that treated protocols and systematic support significantly increase the compliance and treatment outcomes among the drug-susceptible and drug-resistant TB cohorts.

Therefore, the strength of TB treatment execution depends on clear training, clear protocols, and the support systems of providers, which should be consistent.

Table 2.4 Preventive Treatment, Recording, and Reporting

Constructs	Descriptive		
	Mean	SD	Interpretation
Preventive Treatment of Tuberculosis	2.53	0.72	With Great Difficulty
Recording and Reporting	1.54	0.53	With Least Difficulty

Note: 1.00-1.75 (with least difficulty); 1.76-2.50 (with moderate difficulty); 2.51-3.25 (with great difficulty); 3.26-4.00 (with greatest difficulty)

The data on preventive treatment, recording, and reporting show that a heterogeneous degree of difficulty is faced by the respondents. Though the mean score of preventive treatment of tuberculosis was 2.53, with a classification of with great difficulty, recording and reporting gave a score of 1.54, with the interpretation of with least difficulty.

In general, the results indicate that healthcare providers have considerable issues in adopting tuberculosis preventive treatment programs, including Isoniazid Preventive Therapy (IPT) in high-risk groups, but the maintenance of proper documentation and reporting is relatively easy and effectively done. These findings imply that preventative care needs more resources and support to improve the coverage and performance of the programs, and the data management systems seem to be working well.

The analysis of the individual constructs shows that the most challenging aspect of the process in dealing with TB is the preventive treatment, which can be explained by such factors as the problem of patient adherence, lack of follow-up capacity, and the logistical challenges of providing preventive therapy to high-risk groups, such

as HIV-positive and child household contacts. On the other hand, recording and reporting are the least challenging, which means that the respondents are well trained to record TB cases, treatment progress, and program outcomes following standard procedures.

Monitoring the impact of the TB program, accountability, and evidence-based decisions necessitate effective recording and reporting; however, the main bottleneck is the implementation of preventive treatment guidelines into practice that must be consistent.

These findings correlate with the results stated by Querri et al. (2017), who stated that healthcare providers often face challenges when introducing TB preventive measures because of the mobility of patients, their unawareness, and resource limitations. Administrative processes (e.g., the recording and reporting) are not usually problematic, provided that the corresponding systems exist.

This highlights the need to strengthen measures such as patient education, adherence assistance, and logistics to increase the effectiveness of TB preventive treatment programs.

Table 3.1 Difference in the Difficulty Encountered as to Role in the Implementation

Level of Difficulty		Statistic	df	P
	Implementors' t	-0.985	83.0	0.142
	Mann-Whitney U	123		

The information in Table 3.1 demarcates the difference in the perceived difficulty of the respondents, based on the role they held in the National Tuberculosis Program. The Mann-Whitney U test gave $U=123$ and a p-value of 0.142, which is greater than the standard significance of 0.05. Therefore, it can be seen that the difference between the difficulty that nurses experience as compared to Barangay midwives when carrying out tuberculosis control and prevention activities in Iligan City is not statistically significant. To sum it up, these two professional groups face similar issues regardless of their professional title.

The effects of these results imply that the roles and the corresponding issues involved in the implementation of TB programs are shared quite fairly between nurses and midwives. Both are accused of patient-centered care, screening, diagnosis, treatment, and preventive interventions, which imply organization, technical skills, and compliance with available programmatic

standards. The equality in the difficulty levels can be explained by the fact that the training curricula, set of guidelines, and system of support provided by the Department of Health are the same, so all the implementers have similar competencies and resources to perform their functions effectively.

It is consistent with the findings of another study by Alipanah et al. (2018), who found that the differences in professional roles among the healthcare providers were not significantly associated with their ability to implement the TB programs, provided that they were trained properly, followed the guidelines, and had appropriate support structures.

The mentioned study highlights that the effectiveness of TB program implementation depends on adherence to the standardized procedures and the resource availability rather than the particular professional path of implementing the program.

Table 3.2 Difference between the Difficulty Encountered when Classified According to the Length of Experience

Length of Service	χ^2	Df	P
	3.77	4	0.0438

Table 3.2 shows the difference in the perceived difficulty of the respondents depending on their level of time in being program implementers. A Kruskal-Wallis test gave a 3.77 value with a p -p-value of 0.0438, which is less than the standard significance value of 0.05. As a result, the difference in the difficulty reported by the respondents in terms of their years of experience in the implementation of the National Tuberculosis Programme has a statistically significant difference.

Considering these results, service length seems to temper the perception and control of the respondents to deal with challenges in the implementation of the tuberculosis program. Patients with more experience might be less hindered since they know the protocols of the procedures, have a higher level of clinical knowledge, and have access to the strategies of managing patients.

On the other hand, inexperienced implementers may have to face increased challenges in other areas like the

screening of cases, monitoring of treatment, and the use of preventive interventions. The observations have highlighted the importance of organized mentoring, career growth, and special training of the recently hired TB programme implementers, thus enhancing their morale and productivity.

This result is consistent with the results provided by Querri et al. (2020), who proved that the healthcare provider experience plays a significant role in determining their ability to provide TB care effectively.

The senior implementers are also in a better position to overcome the logistical barriers, resolve the issue of patient adherence, and deal with challenging cases, all of which contribute to improved programme outcomes.

The paper also highlights the importance of the length of experience as an important element to reduce obstacles and maximize the efficiency of the TB programme implementation.

IV. SUMMARY OF FINDINGS, CONCLUSION, RECOMMENDATION

Summary of Findings

The categorization of the respondents as to the role of implementation was dominated by nurses (56%) over the barangay midwives (44%). Additionally, 47% of the respondents have been a program implementor for 3 years and above; 26% for 2 – 3 years; and 27% for 1 year and below.

The difficulty encountered by implementers as to Patient-Centered TB care was “with least difficulty” ($M=2.06$); the experienced burdensome of the implementers in screening and diagnosing TB can be generalized as “with moderate difficulty” ($M=1.89$); the subscale, Treatment of Tuberculosis was interpreted as “with least difficulty” ($M=1.59$); and the implementers had a “great difficulty” on preventive treatment of Tuberculosis Program ($M=2.53$, $SD=0.72$);

There is no significant difference between the level of difficulty encountered when grouped according to profile U (83) =123, $p=.142$; and there is a significant difference on the difficulty encountered when grouped according to years of service $X^2 (3) =3.77$, $p=.044$.

Conclusions

The findings of this research are quite informative and can be used by the National Tuberculosis Control Program. The inferential test showed that the number of years of program implementation plays a significant role in the reduced degree of difficulty among the program implementers. The Department of Health (DOH) must therefore have mechanisms through which it trains potential implementers and inducts them into the program activities, considering their knowledge, skills, and experience before handing them over to the program.

Recommendations

The results of this paper may become one of the most important references to Barangay Midwives and Nurses that underline some aspects of the implementation of the National TB Prevention and Control Program in the local context. It is advised that the implementers should establish a clear grasp of the variables associated with the delivery of the psycho-emotional support and systematic TB screening, since this was cited as the area which they struggle to achieve.

The results showed that the implementation agents of the programs have challenges in overcoming the social

stigma of tuberculosis in society. Thus, it is suggested that members of the community should be informed about the nature and informed that any type of social discrimination is not permissible, and this will facilitate the identification and screening of residents likely to have TB.

Since this study is made in response to the professional healthcare offered by the City Health Office of Iligan City to its citizens, findings of this study may be utilized as grounds for intervention programs. Considering that it is the implementing institution, it is advised that the City Health Office should regularly train program implementers in order to overcome difficulties in delivering psycho-emotional support and systematic screening of TB.

The constraints mentioned in this research could be used as a guide by other scholars in the future. Similar research should be carried out using a bigger sample size to enable the implementation of parametric statistical tools. Moreover, qualitative research about the reasons why the implementers find psycho-emotional support and systematic screening difficult might be more revealing and can be used as an area of further research.

REFERENCES

- [1] Alipanah, N., Jarlsberg, L., Link, N. N., & Ernesto, D. F. (2018). Adherence interventions and outcomes of tuberculosis treatment: A systematic review and meta-analysis of trials and observational studies. *PLoS Medicine*, 15(7), e1002595. <https://doi.org/10.1371/journal.pmed.1002595>
- [2] Beauchamp, T. L., & Childress, J. F. (2013). *Principles of biomedical ethics* (7th ed.). Oxford University Press.
- [3] Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). SAGE Publications.
- [4] Department of Health – National Tuberculosis Control Program. (2020). *Manual of procedures for the National Tuberculosis Control Program* (6th ed.). https://itis2.doh.gov.ph/assets/img/downloads/mop/NTP_MOP_6th_Edition.pdf
- [5] Lasco, G. (2019). Why TB remains a major issue in the Philippines and how we can put an end to it.
- [6] Paz-Soldán, V. A., Alban, R. E., Jones, C. D., Powell, B. L., & Oberhelman, R. A. (2020). Challenges in tuberculosis patient care: A qualitative study of health care workers in Peru. *BMC Health*

Services Research, 20(1), 1–11.
<https://doi.org/10.1186/s12913-020-05152-y>

- [7] Querri, A., Ohkado, A., Yoshimatsu, S., Coprada, L., Lopez, E., Medina, A., Garfin, A., Bermejo, J., Tang, F., & Shimouchi, A. (2017). Enhancing tuberculosis patient detection and care through community volunteers in the urban poor, the Philippines. *Public Health Action*, 7(4), 268–274.
<https://doi.org/10.5588/pha.17.0036>
- [8] World Health Organization. (2017). Guidelines for the treatment of drug-susceptible tuberculosis and patient care. Geneva: WHO.
- [9] World Health Organization. (2018). Global tuberculosis report 2018. World Health Organization.https://www.who.int/tb/publications/global_report/en/

