

Implementation Of The Tuberculosis Elimination Program Based On Health Education In An Effort To Prevent Tuberculosis In The Community: Systematic Literature Review

Purdin

Department of Non Formal Education, Faculty of Teacher Training and Education, Jl. Ciwaru Raya, Cipare, Kec. Serang, Serang City, Banten-Indonesia

Email correspondence: 2221210035@untirta.ac.id

ABSTRAK

The TB elimination program is a disease with complex management, starting from case finding, diagnosis, reporting, preventive therapy, and treatment that requires intervention. The purpose of this study was to describe the program implementation, barriers, and challenges. This research used a systematic literature study approach, and article analysis. Literature study data collected and accessed used to search for articles reviewed using Google Scholar and Sinta databases with a span of the last five years. The results of the study showed the need to develop a TB elimination program based on public health education. Implementation barriers stemmed from a lack of knowledge and public health behaviors that caused the implementation of the program to need development. The challenge is that health workers' knowledge and practices on TB control are not satisfactory. This requires skills-based training and orientation. Thus, there is a need for further development regarding the implementation of the TB elimination program.

Keywords: *Implementation, Tuberculosis, and Health Education*

INTRODUCTION

Indonesia is a tropical country with a high incidence of tropical diseases. Many tropical diseases can arise in Indonesian society, one of which is Tuberculosis disease. Tuberculosis disease or often known as TB disease attacks the respiratory system. TB is an infectious disease and is caused by a bacterium called mycobacterium tuberculosis (Nurjanah, A. et al. 2022). Indonesia itself is in second place with the highest number of tuberculosis patients in the world after India (Pralambang and Setiawan, 2021).

Based on the Global Report Tuberculosis Indonesia in 2023, the incidence of TB in 2021 was 969,000 cases (354 per 100,000 population), deaths due to TB were estimated at 144,000 (52 per 100,000 population) and TB-HIV deaths at 6,500 (2.4 per 100,000 population). TB cases in 2022 by age group are largest; 45-54 years old (16.5%), 35-44 years old (14.7%), 25-34 years old (14.7%) and 15-24 years old (14.2%). These ages are productive ages between 15-54 years old. The proportion of male and female TB patients was 57.8% and 42.2%, respectively.

According to the book quoted from Jamaliah and Irma Hartati (2023: 1-7). Health education is an application of the concept of education in the health sector. Health education is an activity or effort to convey health messages to individuals, groups or communities by intervening in behavioral factors so that they are in accordance with health values.

Education is a learning process, which means that in education there is a more mature, better and more mature process of growth, development or change in the individual, group or society (Jamaliah and Hartati, 2023). This is supported in research by Pijayanti, et al. 2023 he said that the transformative learning method is learning that is carried out to lead to change in a better direction. The process of change occurs both for oneself and changes for the environment (Pijayanti, et al. 2023).

TB is a significant public health education problem in Indonesia, despite efforts to control the disease. The high prevalence rate indicates that there are still many challenges to be faced. Factors leading to higher TB prevalence include a lack of public awareness about TB disease, inequality in the quality of TB service availability and public health education.

As an effort to enforce TB cases and transmission. The Government of the Republic of Indonesia issued Presidential Regulation No. 67 of 2021 CHAPTER 2 Article 4 which states that: (1) The target of TB elimination in Indonesia by 2030 is to reduce the incidence rate to 6 per 100,000 population (Al-Mutfi, 2023).

This is the basis for the TB elimination movement organized by the Bakrie Center Foundation in the "TB Elimination Program Before 2030". The purpose of this joint movement is to encourage the establishment of TB as a national health development priority and harmonize activities with all existing institutions and ministries in achieving TB elimination by 2030. In addition, it actively invites the public to be proactive in efforts to end TB in Indonesia (TB Elimination Bulletin, 2020)..

Based on the description above, with the reality that is not in accordance with expectations where there is still a high rate of TB disease in the implementation of programs that are not optimal. This study aims to describe the program implementation, obstacles, and challenges of the implementation of the TB elimination program based on health education in an effort to prevent TB in the community. A number of research articles are used to strengthen the discussion described in this article. This article is expected to contribute to the world of education and health.

RESEARCH METHODS

Systematic Literature Review (SLR) is the method used in this study. Systematic Literature Review is a method or methodology used by the author in research in the form of a literature review using a systematic method for the purpose of collecting secondary data in the form of articles, scientific papers, and other relevant sources (Rachmadani and Kamalia, 2023).

According to (Cooper, 1988) the steps in the Systematic Literature Review are as follows: (1) Formulate the problem, by identifying research questions to direct the literature search and focus of analysis. (2) Collecting data, through journals, scientific papers and other sources relevant to the research topic. (3) Evaluating the feasibility of the data, This evaluation is used to verify the feasibility of the data used in the literature. (4) Analyzing and interpreting relevant data, Data analysis to identify key findings and provide answers to research questions. (5) Organizing and presenting data, Organizing and presenting data that is clear and easy to understand will help readers understand the information well (Rachmadani and Kamalia, 2023).

The stage of this research is the determination of the problem formulation as follows: (1) How is the concept of the tuberculosis elimination program based on health education in an effort to prevent tuberculosis in the community? (2) What are the barriers of the health education-based tuberculosis elimination program in preventing tuberculosis in the community? (3) What are the challenges of a health education-based tuberculosis elimination program in preventing tuberculosis in the community? The next step was to determine the keywords, the search process, the criteria for the selected articles, and the analysis of the selected articles. Next is determining the criteria for the literature to be reviewed, including: (1) Literature articles published in Sinta indexed research journals, namely Sinta 4 (4 Journal Articles), Sinta 5 (1 Journal Article), Sinta 6 (1 Journal Article) and Sinta 3 (4 Journal Articles) in the last five years (2024-2019). (2) Comparison of research methods used to answer the same research question. The results of this study can be used as an alternative for developing TB elimination programs.

Data for the literature review was collected with the help of access used to search for articles reviewed using a database of journal providers that have national and international properties, such as Google Scholar with a time span of the last five years (2024-2019). The keywords selected were Tuberculosis (TB) Prevention.

RESULTS AND DISCUSSION

Result

The research results are presented in two tables containing journal articles with a literature review. Table 1 explains the results of the study which include the year of publication of the journal, the name of the journal, the number of articles and the type of journal issue as follows:

Table 1 Indexed Journal Publications

Year	Journal Name	Number of Articles	Publication Type
2024	Prepotive: Journal of Public Health	1	Sinta 4
2023	Public Corner: Journal of Social and Political Sciences	1	Sinta 5
2023	Journal Of Health	1	Sinta 4
2022	Ikesma: Journal of Public Health	1	Sinta 3
2022	Jurnal Surya Medika (JSM)	1	Sinta 4
2021	Indonesian Public Health Media (MKMI)	1	Sinta 3
2021	Nursing Journal	1	Sinta 3
2020	Muhammadiyah Nursing Journal	1	Sinta 4
2022	Abdimas Medika Journal	1	Sinta 6
2020	ABDIMAS: Journal of Community Service, University Merdeka Malang	1	Sinta 3

From some of the findings obtained in Table 1, it becomes a hot topic for deeper study. This is evidenced by the writing of indexed journal articles Sinta 4 (4 Journal Articles), Sinta 5 (1 Journal Article), Sinta 6 (1 Journal Article) and Sinta 3 (4 Journal Articles) in the last five years (2024-2019). Of the 10 journals that contain the title Tuberculosis Prevention (TB). After the presentation of Table 1 which explains the year of journal publication, Table 2 explains the name of the journal author, the type of research method, and the results of journal findings related to TB prevention, as follows:

Table 2 Authors, Methods, and Findings

Author	Type of Research	Findings
Yuliastina, et al. (2023).	Qualitative	This research shows the findings, the design of the TB report application focuses on 4 menus, namely Screening, Sputum examination results, contact investigation (IK) and Supervision of taking medicine (PMO).
Karima & Oktamianti, (2024).	Scoping Review	This study shows that the JKN program has the potential to encourage TB elimination before 2030 through strengthening TB preventive promotion, strengthening the quality of TB treatment through <i>Strategic Health Purchasing</i> , strengthening cooperation with the private sector, and improving quality.
Yunita, et al. (2023).	Qualitative	This study shows the findings, knowledge and attitudes affect TB prevention efforts. There are suggestions that education about TB needs to be done in the community. This is related to public health education.
Yanti, et al. (2022).	Quasi Experiment	This study shows the findings, counseling with audio-visual methods and lectures can improve knowledge, attitudes, and behavior of TB prevention in the community.
Ningsih, et al. (2022).	Literature Review	This study shows the findings that the cause of the lack of community knowledge in TB prevention efforts is due to the lack of TB information and education by health workers or cadres. This is due to the lack of public health education.
Amallia, et al. (2021).	Observational	This study shows that tuberculosis prevention must be supported by health workers in TB elimination.

Devita Sari, et al. (2021).	Quantitative	This study shows the findings, providing education through Youtube social media is an effort to provide knowledge to adolescents about TB prevention.
Robeka Wanma, et al. (2020).	Quantitative	This study shows the findings that the level of knowledge, attitude and behavior can support the prevention of tuberculosis.
Rafli Aidillah, at al. (2022).	Qualitative	This research shows the findings, Socialization is an interactive education that provides a forum to measure the importance of preventing the chain of TB spread early on, and in this TB elimination effort can be understood at various levels of the community.
Wiratama & Rajagukguk, (2020).	Qualitative	This study shows the findings that counseling or education activities can minimize transmission and can provide insight into knowledge and awareness about TB prevention.

Table 2 shows 10 authors from Indonesia. This gives the result that the topic of TB is still a very crucial problem in Indonesia and is supported by the Global TB Report, Indonesia is the second ranked country with the most cases of TB patients after India. The research results are presented in Table 2.

Discussion

Of the articles found, 10 journal articles were indexed by Sinta 4 (4 journal articles), Sinta 5 (1 journal article), Sinta 6 (1 journal article) and Sinta 3 (4 journal articles) with the keyword TB prevention. The journal articles found contain program implementation, obstacles, challenges from the implementation of health education-based TB elimination programs conceptually and operationally in TB prevention efforts in the community. This is because TB is still a problem that must be addressed in the implementation in the community as an effort to prevent TB. Factors that influence include knowledge, behavior, health education and so on.

Implementation of Health Education-Based TB Elimination Program

The Global TB Report in 2023 noted that in 2022 Indonesia was the second country with the highest number of TB cases in the world after India (WHO, 2023). The Global TB Report noted that Indonesia had 842,00 cases of pulmonary TB (319 per 100,000 population) and deaths due to TB of 116,400 (44 per 100,000 population) including positive TB-HIV (Minister of Health of the Republic of Indonesia, 2019).

According to Bramasta and Pramono, implementation is resolving conflict issues, decisions, and who gets what from an implementation. Therefore, it is said that implementation is a very important aspect for the entire program implementation process (Bramasta and Pramono, 2023) Journal of Public Administration. Meanwhile, according to Van Meter and Van Horn, as quoted by Sutmasa (2021), policy implementation is defined as actions carried out either by individuals or officials or government or private groups which are directed at achieving the goals that have been set. outlined in policy decisions (Sutmasa, 2021:28) Journal of Social and Political Sciences.

In accelerating the TB elimination program. Indonesia implemented decentralization of efforts to organize health affairs by giving authority to local governments for health development (Karima & Oktamianti, 2024).

Research by Karima & Oktamianti, (2024) The achievement of universal health coverage and the TB elimination program is a target of the Sustainable Development Goals (SDGs). The TB elimination program is a disease with quite complex management, starting from case finding, diagnosis, reporting, preventive therapy, and treatment which requires the intervention of Public Health Efforts (UKM) and Individual Health Efforts (UKP) for a long time. It must pay attention to public health education as an effort to prevent TB.

Furthermore, in the research of Yulastina, et al. (2023) Designing a TB report application for the implementation of accelerating the TB elimination program in finding, monitoring, and suppressing the number of TB spread which focuses on contact investigation (IK) and supervision of taking medicine (PMO) for TB prevention efforts.

As an effort to enforce TB cases and transmission. The Government of the Republic of Indonesia issued Presidential Regulation no. 67 of 2021 CHAPTER 2 Article 4 which states that: (1) The target for eliminating TB in Indonesia by 2030 is to reduce the incidence rate to 6 per 100,000 population (Al-Mutfi, 2023).

This joint movement was initiated by several countries known as the Sustainable Development Goals (SDGs) with the aim of ending the TB epidemic in the world. Likewise, in Indonesia, the objectives of the TB elimination program are outlined in the health sector service standards for TB elimination in the form of TOSS (find, treat, and cure TB) (Rafi Aidillah, et al. (2022).

The aim of the elimination program is written in Presidential Regulation no. 67 of 2021 Chapter 2 Article 4 which is the basis for the TB elimination movement organized by several communities or institutions in the "TB Elimination Program Before 2030".

Implementation of a TB elimination program based on health education needs to be carried out for TB prevention efforts in the community with the aim of providing knowledge to the community about prevention through education. This program seeks to provide awareness of the importance of taking an active role in TB elimination before 2030 with collaborative efforts across community sectors. The importance of clean and healthy living behavior (PHBS) for TB prevention efforts.

Health education is a form of independent nursing action individually or as a group in public health problems (Widiyastuti., et al, 2020). According to the presidential committee on health education in 1997, it was concluded that health education is one way that is able to resolve problems or gaps between statements obtained and health practices. According to Widodo (2014) health education is part of overall health efforts (promotive, preventive, curative and rehabilitative) which focuses on efforts to improve healthy living behavior. Conceptually, health education is an effort to influence/invite other people (individuals, groups and communities) to behave in healthy lives (Widodo, 2014: 90). Journal of Basic Education and Learning.

Barriers to Health Education-Based TB Elimination Program

The barriers found from the existing literature reviews are that the implementation of the TB elimination program has not optimized health education as an effort to prevent TB but has been implemented.

In the implementation aspect of the TB elimination program, a number of barriers, including the reporting of TB diagnosis with a high rate of TB referrals to hospitals. As well as inadequate treatment and monitoring, are obstacles to the success of TB treatment to accelerate TB elimination (Karima & Oktamianti (2024). Furthermore, Obstacles found in tuberculosis prevention efforts require intensive and continuous counseling about tuberculosis, especially about how to prevent, how to transmit and the causes of tuberculosis (Yunita, et al. (2023). (2023).

Furthermore, the obstacle that is often found is the level of knowledge and attitude of the community regarding efforts to prevent TB transmission. A person's knowledge about TB plays an important role in the success of efforts to prevent TB transmission. Education affects knowledge because the higher a person's education, the easier it is to receive information in the community (Ningsih, et al. 2022). Meanwhile, community behavior is very influential on TB prevention in supporting the acceleration of TB elimination (Amallia, et al. 2021).

Barriers to TB elimination programs based on health education need health promotion, because it has the potential to overcome most of the problems or obstacles in the implementation of TB programs in TB prevention and services. Health promotion is in the form of audio-visual media. By using the media, it will be able to stimulate or forward information to various senses, the more often you use a variety of learning media, the easier the information will be understood (Yanti, et al. 2022). The effect of education on the level of knowledge is one of the risk factors for TB and factors that affect TB prevention. Knowledge is the basis for taking preventive and treatment actions (Devita Sari, et al. 2021).

From the description above, the high TB problem is related to knowledge and behavior, with the importance of health education with the aim of increasing awareness, willingness and role in TB prevention (Ministry of Health of the Republic of Indonesia, 2010).

Challenges of TB Elimination Program in the Community

Health education-based learning requires health workers who are skilled in providing knowledge to the community in TB prevention efforts. In the research of Yunita, et al. (2023) Overall, the knowledge and practices of health workers regarding TB infection control were unsatisfactory. This requires regular skill-based training and orientation of categories of health workers to improve TB prevention efforts. As well as to optimize the program by prioritizing the support of health workers in its implementation, so that the program can be implemented evenly throughout the community (Amallia, et al. 2021).

Furthermore, research by Wiratama & Rajagukguk (2020) Tuberculosis knowledge in the community is still lacking with several factors including low education levels, as well as lack of knowledge and health behavior from the community. Therefore, counseling and education must be carried out intensively through transformative learning in an effort to prevent TB in the community and healthy and clean living behavior (PHBS). Transformative learning is learning that is carried out towards change for the better. The process of change occurs both for itself and changes for its environment (Pijayanti, et al. 2023).

According to the Center for Parliamentary Analysis, Expertise Body of the Secretariat General of the Indonesian House of Representatives, TB control in Indonesia is faced with a number of complex challenges, namely as follows: (1) Limited access to quality health services, especially in rural and remote areas. This can hinder efforts to prevent, diagnose and treat TB. (2) Limited financial resources, medical personnel and health infrastructure which can limit the government's ability to provide adequate prevention and treatment services. (3) Imperfection of the system for recording and reporting TB cases which can make it difficult to monitor and evaluate programs, as well as disrupt disease control efforts. (4) Difficulty monitoring patient compliance with treatment. Many factors influence patient compliance, including accessibility of health services, drug side effects, social stigma, and socio-economic problems. (5) Development of drug-resistant TB, making treatment difficult and increasing the risk of TB spreading, (6) Lack of public awareness about TB, including symptoms, modes of transmission, and the importance of prevention and treatment. (7) TB often occurs together with other diseases, such as HIV/AIDS, which can increase the prognosis and increase the complexity of case management.

TB is still a public health and education problem. The increasing prevalence rate still has many problems that must be faced, including public awareness about health and the inequality of health services and education in various regions.

CONCLUSIONS AND SUGGESTIONS

Conclusion

The implementation of the TB elimination program is to find, monitor, and suppress the spread of TB, which focuses on contact investigation (CCI) and supervision of taking medicine (PMO) for TB prevention efforts. TB elimination program is also a disease with complex management, starting from case finding, diagnosis, reporting, preventive therapy, and treatment that requires intervention. It must be implemented based on public health education.

Challenges of TB Elimination Program in the Community: (1) Limited access to quality health services, especially in rural and remote areas. This can hinder efforts to prevent, diagnose and treat TB. (2) Limited financial resources, medical personnel and health infrastructure which can limit the government's ability to provide adequate prevention and treatment services. (3) Imperfection of the system for recording and reporting TB cases which can make it difficult to monitor and evaluate programs, as well as disrupt disease control efforts. (4) Difficulty monitoring patient compliance with treatment. Many factors influence patient compliance, including accessibility of health services, drug side effects, social stigma, and socio-economic problems. (5) Development of drug-resistant TB, making treatment difficult and increasing the risk of TB spreading, (6) Lack of public awareness about TB, including symptoms, modes of transmission, and the importance of prevention and treatment. (7) TB often occurs together with other diseases, such as HIV/AIDS, which can increase the prognosis and increase the complexity of case management.

The need to prevent TB in the community through knowledge and behavior. And the importance of health education based on community education with the aim of increasing knowledge,

awareness, willingness and role in TB prevention in the community. To answer these challenges, there is a need for program development in efforts to prevent TB in the community and healthy and clean living behavior (PHBS).

Suggestions

The TB elimination program still needs a lot of education-based development. The development can be done through intensive educational counseling with technology-based learning methods. So that the program can be implemented properly.

Health education has a very important contribution in developing programs to prevent TB transmission. Therefore, health education can be a learning alternative that can be chosen by health workers, such as cadres and others in accelerating TB elimination.

It is hoped that this will add insight to researchers' knowledge and also serve as a guidebook for conducting further research. It can also be used as literature review material for various information related to the strategy and implementation of a health education-based TB elimination program carried out by a health organization.

REFERENCES

- Aidillah, M. R., Sumarni, S., & Sari, D. I. P. (2022). Socialization of Tuberculosis Elimination Efforts through the Role of the Community. *Abdimas Medika*, 3(1), 52-55.
- Al Mufti, N. T. H. (2023). Community-based TB Elimination Project in West Java with West Java Penabulu-Stpi Consortium (Doctoral dissertation, AIRLANGGA UNIVERSITY).
- Amallia, A., Kusumawati, A., & Prabamurti, P. N. (2021). Community Behavior in Tuberculosis Prevention in the Working Area of Puskesmas Manyaran Semarang City. *Indonesian Public Health Media*, 20(5), 317-326.
- Jamaliah, N., & Hartati, I. (2023). *Health Education*. NEM Publisher.
- Kamalia, P. U. (2023). Analysis of Differentiated Learning Strategies on Learners' Learning Outcomes: A Systematic Literature Review. *Asatiza: Journal of Education*, 4(3), 178-192.
- Karima, K., & Oktamianti, P. (2024). THE ROLE OF JKN FOR TUBERCULOSIS ELIMINATION IN INDONESIA. *PREPOTIVE: JOURNAL OF PUBLIC HEALTH*, 8(1), 220-226.
- Lina, L., Ulfatin, N., & Sultoni, S. (2021). The skills domain of high school students in the era of the industrial revolution 4.0. *Journal of Education: Theory, Research, and Development*, 6(4), 520-536.
- Ningsih, F., Ovany, R., & Anjelina, Y. (2022). Literature Review: The Relationship between Knowledge and Community Attitudes about Tuberculosis Transmission Prevention Efforts: Literature Review: Relationship of Knowledge to Community Attitude about Tuberculosis Prevention Measures. *Journal of Surya Medika (JSM)*, 7(2), 108-115.
- Nurjanah, A., Rahmalia, F. Y., Paramesti, H. R., Laily, L. A., PH, F. K. P., Nisa, A. A., & Nugroho, E. (2022). Social determinants of tuberculosis in Indonesia. *Indonesian Journal of Public Health Research and Development*, 3(1), 71-82.
- Pijayanti, E., Rosmilawati, I., & Ganiadi, M. (2023, August). Changes in Mindset and Behavior of Package C Learners as a Result of Transformative Learning at PKBM Cipta Cendekia Tangerang City. In *Proceedings of the National Seminar on Non Formal Education* (Vol. 1).
- Sari, E. D., Lisum, K., & Susilo, W. H. (2021). The Effect of Youtube-Based Health Education on High School Students' Knowledge about Tuberculosis Prevention. *Journal of Nursing*, 13(2), 395-402.
- Wanma, F. R., Putra, K. P., & Nusawakan, A. W. (2020). The relationship between knowledge level, attitude and behavior of tuberculosis prevention in Meyado District, Teluk Bintuni Regency, West Papua. *Muhammadiyah Nursing Journal*, 5(2).
- Wiratma, D. Y., & Rajagukguk, T. (2020). Tuberculosis Prevention Counseling to Minimize Transmission in the Elderly Community in Serdang Bedagai Regency. *Abdimas: Journal of Community Service of Universitas Merdeka Malang*, 5(3), 294-299
- Yanti, B., Heriansyah, T., & Riyan, M. (2022). Counseling with Audio Visual Media and Lecture Method Can Improve Tuberculosis Prevention. *Journal of Public Health Sciences*, 18(3), 171-179.

- Yulastina, R. (2023). Designing an Android-Based TB Report Application Through a Database Management System (DBMS) Approach to Accelerate TB Elimination in Sumenep. *Public Corner*, 18(1), 68-77.
- Yunita, L., Rahagia, R., Tambuala, F. H., Musrah, A. S., Sainal, A. A., & Suprpto, S. (2023). Effective Community Knowledge and Attitudes in Tuberculosis Prevention Efforts. *Journal of Health (JoH)*, 10(2), 186-193.
- Widodo, B. (2014). Pendidikan kesehatan dan aplikasinya di SD/MI. Madrasah: Jurnal Pendidikan dan Pembelajaran Dasar, 7(1), 12.
- Bramasta, R., & Pramono, S. (2023). Implementasi Program Layanan Masyarakat Melalui Aplikasi "WargaKu" di Kota Surabaya. *Soetomo Administrasi Publik*, 1(1), 47-60.
- Pralambang, S. D., & Setiawan, S. (2021). Risk factors for the incidence of tuberculosis in Indonesia. *Journal of Biostatistics, Population and Health Informatics*, 2(1), 60-71.
- Sutmasa, Y. G. (2021). Ensuring the Effectiveness of Public Policy Implementation. *Cakrawarti Scientific Journal*, 4(1), 25-36.
- Bramasta, R., & Pramono, S. (2023). Implementation of the Community Service Program through the "WargaKu" Application in the City of Surabaya. *Soetomo Public Administration*, 1(1), 47-60.
- Widodo, B. (2014). Health education and its application in elementary/MI. Madrasah: Journal of Basic Education and Learning, 7(1), 12.