

## Comparison of health promotion through lecture method and audiovisual media on the level of knowledge of students regarding Tuberculosis in Soppeng Regency 2024

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### Abstract

**Background:** Tuberculosis is still one of the leading causes of morbidity and mortality in the world. In Indonesia, every 30 seconds one person is infected with tuberculosis and an average of 13 people die every hour. However, TB sufferers still face challenges in getting treatment and care. Important risk factors in the epidemiology of pulmonary tuberculosis are socioeconomic status, low income, population density, high unemployment, lack of funds for health services, and low knowledge of TB. There are 3 strategies in health promotion, namely empowerment, atmosphere building, and advocacy. This study aims to see the effect of lecture methods and audiovisual media on the level of knowledge of students about TB.

**Method:** The type of research used is quantitative research using quasi-experimental design. The number of samples is 102. The tool for data collection is a questionnaire and uses SPSS.

**Results:** The students' knowledge regarding TB disease was found to be superior to the control group (audiovisual media) p-value 0,000 compared to the intervention group (lecture method) p-value 0,068.

**Conclusion:** Based on research on the comparison between lecture methods and audiovisual media in health promotion regarding TB disease, it was found that audiovisual media is more effective in increasing the level of knowledge of students compared to lecture methods.

**Keywords:** Lecture; audiovisual; knowledge; students.

### INTRODUCTION

Tuberculosis is still one of the leading causes of illness and death in the world. According to the WHO Report in the 2022 Global TBC Report, Indonesia is currently ranked second in the world as the largest contributor of TB sufferers after India, with an estimated incidence of 969,000 cases or 354 per 100,000 population and mortality of 144,000 or 52 per 100,000 population. In Indonesia, every 30 seconds one person is infected with Tuberculosis and an average of 13 people die every hour. However, TB sufferers still face challenges in getting treatment and care (1).

Important risk factors in the epidemiology of pulmonary tuberculosis are socioeconomic status, low income, population density, high unemployment, lack of funds for health services, and low knowledge of TB (2). To reduce the morbidity and mortality of tuberculosis cases, WHO issued the END-TB Strategy program which has 3 pillars. Pillar

number 2 concerns the importance of cooperation with the government, private sector stakeholders, and the community for the prevention of TB, one of which is in the form of health promotion (3). Indonesia has started to promote health regarding TB as stated in the 2011-2014 Tuberculosis Control Strategy, however this has not shown a decrease in tuberculosis cases in Indonesia (4).

The government's efforts have developed a national strategy for controlling TB 2020-2024 and stipulated the Republic of Indonesia Law Number 67 of 2021 concerning the control of TB. So that this period is very crucial for accelerating the achievement of TB elimination in 2030. The movement efforts implemented include the implementation of the TOSS TB Movement (Find TB Treat Until Cured), active, ongoing and intensive TB case finding, implementation of the Healthy Indonesia program with a Family Approach, cross-

sector involvement, and involving the participation of all levels of society (5).

Based on the Ottawa Charter, health promotion, such as health education, cannot be separated from the media because through the media, the message delivered can be more interesting and understood, so that people can decide to adopt it as positive behavior (6). There are 3 strategies in health promotion, namely empowerment, atmosphere building, and advocacy. In atmosphere building, media such as billboards in the yard, posters on the walls of the room, film/video shows, publication of papers/news in wall magazines, and holding discussions, inviting experts or religious scholars or public figures to give lectures, utilizing the yard for a medicine garden/nutrition garden can be done (7).

Based on Kurniawan's research, it was found that there was a difference in respondents' knowledge about TB treatment before and after being given the lecture method with  $p < 0.001$  (8). This is in line with Yanti's research which shows that there is a significant difference in increasing knowledge, after being given treatment  $p < 0.05$  at the Inshafuddin Integrated Dayah, Banda Aceh (9).

The lecture method is the oral presentation of teaching materials, the easiest method for conveying information and very efficient without requiring media. The knowledge that can be obtained from the lecture method can be very much but does not make the person listening clearly understand what is being conveyed (10). Audiovisual media has the advantage of making someone remember information longer and providing a more realistic picture (7).

Based on the profile of the South Sulawesi Health Service, cases of tuberculosis in children increased in 2023 to 1,584 cases, while the previous year there were 1,238 cases (11). Soppeng Regency has 447 (54.24%) cases of TB, so this is a consideration for researchers to conduct research in Soppeng Regency. There are 31 cases of TB in children in Soppeng Regency (12).

Islamic boarding schools are places that are vulnerable to the spread of TB and have different backgrounds, habits, knowledge and awareness of health is still low. Like the implementation of TB socialization carried out by Rosya on students of the Asshiddiqiah Islamic boarding school in North Kedoya, it aims to break the chain of TB transmission in the dormitory. If one of the students is infected, it is possible that the students in the same room with the patient will be infected with TB. So education about TB is still very important to be carried out on the target students who live in Islamic boarding schools (13). Based on this background, the researcher is interested in conducting further research regarding the comparison of lecture methods and audiovisual media on the level of knowledge of students regarding tuberculosis.

## METHOD

The type of research conducted is quantitative research using a quasi-experimental design. The nonequivalent pretest-posttest design technique is carried out by providing two different treatments to two population groups to see the effect of the intervention given. The study compared two groups, namely the intervention group was given the lecture method while the control group was given the audiovisual method.

The population is all students in the pesantren, totaling 137 students. The sampling methodology in this study uses the Slovin formula, so that 102 samples were obtained and divided into an intervention group and a control group of 51 students each.

This study was conducted in August 2024, which was conducted at the Yasrib Islamic Boarding School. In both research groups, before being given health education about TB, the researcher first gave a questionnaire (pretest) to the students to assess their knowledge about TB. Then the treatment was carried out in the form of health education with the lecture method in the intervention group and health education using audiovisual media in the control group and after 2 weeks of treatment, another

measurement was carried out (posttest) to determine the knowledge of each treatment group.

Data collection techniques consist of primary data collection techniques and secondary data. Primary data is obtained from questionnaire data filled out by the respondents themselves while secondary data is obtained from the pondok related to the students such as the total number of students in the pondok and other supporting data.

This data analysis uses SPSS 25.0 software to analyze quantitative data. The inferential statistics used are the Paired Simple T Test which is conducted to see whether there are differences in the pretest and posttest results of students from the intervention group and the control group.

## RESULTS

### 1. Univariate Test Results

**Table 1. Characteristics of Respondents in the Intervention and Control Groups During the Pretest at the Yasrib Islamic Boarding School**

Respondent Characteristics	Intervention Group	Control Group
a. Age		
14 Year	38 (74,5%)	38 (74,5%)
15 Year	13 (25,5%)	13 (25,5%)
<b>Total</b>	<b>51 (100%)</b>	<b>51 (100%)</b>
b. Gender		
Woman		
Man	38 (74,5%)	38 (74,5%)
	13 (25,5%)	13 (25,5%)
<b>Total</b>	<b>51 (100%)</b>	<b>51 (100%)</b>

Source: Primary Data 2024

Based on the table above, the results show that out of 102 students at the Yasrib Islamic Boarding School, the control and intervention groups were the same in terms of age and gender characteristics. The sample size in the 14-year-old age group was 38 (74.5%) and 13 samples in the 15-year-old age group (25.5%). The same number and percentage were also found in gender characteristics.

### 2. Bivariate Test Results

Based on table 2. The average intensity of knowledge in the intervention group before the lecture method was 0.33 (SD = 0.476) and after the lecture method was 0.41 (SD = 0.497). While the average knowledge in the

control group before the audiovisual media was 0.33 (SD = 0.476) and after the treatment was 0.90 (SD = 0.300). The results of the Wilcoxon test showed no significant difference between the average intensity of knowledge before and after the lecture method was carried out in the intervention group ( $p = 0.068 > 0.05$ ). So it can be concluded that the provision of the lecture method showed no significant difference between the average intensity of knowledge before and after the lecture method was carried out, while in the control group there was a significant difference between the average intensity of knowledge before and after the audiovisual media was carried out on students regarding TB disease ( $p = 0.000 < 0.05$ ).

**Table 2. Differences in Average Knowledge Before and After Treatment in the Intervention and Control Groups at the Yasrib Islamic Boarding School**

Variable	Group	measurement	Mean	SD	SE	n	p-value
Knowledge	Intervention	Before	0,33	0,476	0,067	51	0,068
		After	0,41	0,497	0,070	51	
	Control	Before	0,33	0,476	0,067	51	0,000
		After	0,90	0,300	0,042	51	

Source: Primary Data 2024

**Table 3. Differences in Average Knowledge Before Treatment in the Intervention and Control Groups at the Yasrib Islamic Boarding School**

Variable	Group	Mean	SD	SE	n	p-value
Knowledge	Intervention	0,33	0,476	0,067	51	0,261
	Control	0,33	0,476	0,067	51	

Source: Primary Data 2024

Based on table 3. The average intensity of knowledge before treatment in the intervention group was 0.33 (SD = 0.476) while in the control group the average intensity of knowledge had the same value as the intervention group. Further analysis using

the Mann-Whitney test showed that there was no significant difference in the average intensity of knowledge between the intervention group and the control group ( $p = 0.261 > 0.05$ ).

**Table 4. Differences in Average Knowledge After Treatment in the Intervention and Control Groups at the Yasrib Islamic Boarding School**

Variable	Group	Mean	SD	SE	n	p-value
Knowledge	Intervention	0,41	0,497	0,070	51	0,000
	Control	0,90	0,300	0,042	51	

Source: Primary Data 2024

Based on table 4. The average intensity of knowledge after treatment in the intervention group was 0.41 (SD = 0.497) while in the control group the average intensity of knowledge was 0.90 (SD = 0.300). Further analysis using the Mann-Whitney test showed that there was a significant difference in the average intensity of knowledge of the intervention group and the control group ( $p = 0.000 < 0.05$ ). In other words, providing audiovisual media is more effective in increasing knowledge of students about TB disease compared to the lecture method.

## DISCUSSION

Based on the number of students at the Yasrib Islamic Boarding School consisting of 51 respondents in the intervention group

(lecture method) and 51 respondents in the control group (audiovisual media), the results of the Wilcoxon test showed a significant value of 0.000 ( $p < 0.05$ ) which indicates that there is a significant difference between the scores before and after treatment which means that using audiovisual media is superior compared to the lecture method in conveying information and can affect the level of understanding of respondents. This result is also seen in Hikmawati's research entitled health education with audiovisual media has an effect on family support in TB patients, showing a striking difference between the intervention group and the control group after being given treatment with a significance value of  $p = 0.000 < 0.05$  (14).

Based on research conducted by Roby, namely the influence of educational videos on the level of knowledge of taking anti-tuberculosis medication in outpatients at Murni Teguh Hospital, Ciledug, Tangerang City, the results showed that after being given the educational video, there was a comparison with before it was given, p-value  $0.000 < 0.05$  (15). And research from Budi Yanti concluded that the Health Counseling Program through audio visual media and direct lecture techniques can increase knowledge, attitudes and behavior ( $p < 0.05$ ) of TB prevention in Islamic boarding school environments. This method can be used in various infectious disease counseling so that it can help the government in controlling the incidence of TB in Indonesia (16).

Lecture methods and audiovisual media have an important role in educating students about Tuberculosis (TB). The lecture method, which involves the verbal delivery of information by a teacher, can provide in-depth explanations and allow direct interaction to answer questions (17). However, this method often takes longer to convey information and may not be interesting enough for everyone. On the other hand, audiovisual media, such as videos and multimedia presentations, can show the symptoms, causes, and prevention of TB in a more interesting and easy-to-understand way (18,19). This media can also convey information in a more visual and interactive way, which may be more effective in attracting students' attention and increasing their understanding (20). The combination of lecture methods and audiovisual media can be an effective strategy for educating students about TB, with lectures providing in-depth information and audiovisual media strengthening understanding through visualization and interactivity (21).

## CONCLUSIONS

Based on research on the comparison between lecture methods and audiovisual media in health promotion regarding TB disease, it was found that audiovisual media is more effective in increasing the level of knowledge of students compared to lecture methods. Audiovisual media, which includes

videos, animations, and other visual materials, are able to attract the attention of students in a more interactive and interesting way. The delivery of information through visuals and audio can also clarify complex concepts and facilitate the understanding and retention of information.

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## REFERENCES

1. National Tuberculosis Program Monitoring and Evaluation Meeting; 2023
2. A, Ash'ari. Childhood Tuberculosis: A Neglected Paradigm in Developing Countries. 2017. Department of Public Health Indonesia. 3(1) : 7-10.
3. World Health Organization. 2021. Global Tuberculosis Report. Geneva.
4. Ministry of Health of the Republic of Indonesia. 2022. National Guidelines for Tuberculosis Control. Jakarta, Ministry of Health.
5. Ministry of Health, Republic of Indonesia. 2022. Report on Tuberculosis Control Program 2021.
6. Ministry of Health of the Republic of Indonesia. 2021. Health Promotion. Jakarta: Ministry of Health of the Republic of Indonesia.
7. Budi Yanti, et al. 2022. Health Promotion Through Audiovisual Media And Lecture Methods Improve Prevention Of Tuberculosis. Aceh: Journal of Public Health Sciences.
8. Kurniawan, et al. 2023. The Effect of Counseling with the Lecture Method on



- Improving the Treatment Behavior of Tuberculosis Patients at the Lotu Health Center. *Journal of Public Health*
9. Yanti, B., et al., 2022. Counseling with Audio Visual Media and Lecture Methods Can Improve Tuberculosis Prevention. *Ikesma: Journal of Public Health Sciences*
  10. Mariatul Fadilah, et al. 2019. Comparison of Health Promotion through Audiovisual Media on Elementary School Children's Knowledge Level regarding TB Disease. Vol 2 No 2.
  11. Health Office. 2023. South Sulawesi Health Profile.
  12. Soppeng District Health Office. 2023. Profile of the Soppeng District Government Health Office.
  13. Rosya, E., Wahyuni, Y., Sari, W., Health, F., Nursing, P.S., & Unggul, U.E. 2021. Literacy Risk of Pulmonary Tuberculosis (Pulmonary TB) In Students of Asshiddiqiah Islamic Boarding School, North Kedoya. Faculty of Health Sciences, Public Health Study Program, Bhakti Kencana University, Bandung, 39-44
  14. Hikmawati, AN., Hartiningsih, SN., Setyawan, A., & Adkhanasari, DN. (2021). Health education with audiovisual media has an effect on family support for TB patients. *Scientific Journal of Permas: Scientific Journal of STIKES Kendal* 11.1 (2021): 63-70.
  15. Roby Nuryadin, Seriga Banjarnahor. 2023. The Effect of Educational Videos on the Level of Knowledge of Taking Anti-Tuberculosis Drugs in Outpatients at Murni Teguh Ciledug Hospital, Tangerang City. *Indonesian Trust Health Journal*, Volume 6, No. 2 – November 2023.
  16. Budi Yanti, et al. 2022. Counseling with Audiovisual Media and Lecture Methods Can Improve Tuberculosis Prevention. *Ikesma: Journal of Public Health Sciences*. Vol. 18 No. 3, ISSN: 2684-7035; DOI: 10.19184/ikesmas.v18il.27147.
  17. Azhar, S. (2022). *Educational and Learning Methods in Islam*. Jakarta: Pustaka Al-Mahira.
  18. Budiarto, M. (2021). *Health Education and Health Behavior: Approaches and Strategies*. Bandung: Sinar Abadi Publisher.
  19. Sari, D. (2020). *The Use of Audiovisual Media in Learning: Theory and Practice*. Yogyakarta: Andi Publisher.
  20. Utami, L. (2019). *Health Education and Counseling: Methods and Media*. Surabaya: Cendikia Publisher.
  21. WHO. (2021). *Tuberculosis (TB) Fact Sheet*. World Health Organization. Retrieved from <https://www.who.int/news-room/fact-sheets/detail/tuberculosis>