INTERVENTION PROGRAM IN EFFORT TO REDUCE NEW CASES OF LUNG TUBERCULOSIS IN TELUKNAGA

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Abstract: *Introduction: According to the WHO, tuberculosis (TB) will be the world's 13th largest cause of death in 2020. Indonesia is the third biggest country in terms of new tuberculosis cases, having reached 845,000 cases. In Indonesia, the number of new cases continues to rise, and there are still incidents of treatment discontinuation and undiscovered infection. Objective: Reduce new tuberculosis cases at Teluknaga Health Center. Method: The study assesses participants using a pre- and post-test, with interventions in the form of counseling and demonstrations of proper cough etiquette to raise public awareness. Non-random consecutive sampling was used to select the sample. The intervention used to improve public awareness is the independent variable in this study. The dependent variable in this study is knowledge change. Result:, 30 respondents reported a gain in their knowledge in ten specified areas regarded to be indications of expertise. Conclusion: Interventions in the form of tuberculosis counseling and cough etiquette, as well as cough demonstrations, have successful in boosting public awareness of pulmonary tuberculosis. It is hoped that changes in people's attitudes and behaviors would occur in order to prevent tuberculosis infection from spreading throughout the community.*

INTRODUCTION

Tuberculosis (TB) of the lungs is an infectious illness caused by Mycobacterium tuberculosis that is frequently observed in persons who live in densely populated areas. Tuberculosis that is not appropriately treated can result in medication resistance and complications such as substantial lung damage and death.(Firmansyah et al., 2021; Natarajan et al., 2020; Susilawati et al., 2019)

According to the World Health Organization's (WHO) Global Burden of Illness report, tuberculosis is the world's 13th largest cause of death and the second most prevalent deadly

infectious disease. By 2020, 1.5 million individuals will have died of tuberculosis. Although tuberculosis is a treatable and preventable disease, it affects up to ten million people worldwide. According to WHO Southeast Asia data from 2019, an estimated 4.3 million people have tuberculosis and 632,000 have died. Southeast Asia (43 percent) has the highest distribution, with Indonesia being one of them. Despite improvements in combating tuberculosis in Indonesia, the country continues to rank third in the world in terms of new tuberculosis cases. (Ernawati et al., 2021; Khan et al., 2019)

According to the Institute of Basic Health Research (Riskesdas), there were 845,000 tuberculosis cases in Indonesia in 2018, with 98,000 deaths, or the equivalent of 11 deaths each hour. In Indonesia, the three provinces with the highest prevalence of tuberculosis were Papua (0.77 percent), Banten (0.76 percent), and West Java (0.63 percent). Tangerang Regency registered a new case rate of 6,089 per 100,000 in 2020.(Ernawati et al., 2021; Kemenkes RI, 2018; Khan et al., 2019; Menteri Kesehatan Republik Indonesia, 2019)

Teluknaga Health Center's operational region has a high population density, which results in an increase in new tuberculosis cases each month. Between January and October 2020, there were 168 new instances. Following the implementation of PPKM in July 2021, there were eight new cases of tuberculosis, which climbed nearly threefold to 21 new cases in August 2021 and to 25 new cases in October 2021.

RESEARCH DESIGN

The study used pre- and post-test assessments in conjunction with interventions such as counseling about tuberculosis and cough etiquette in order to increase public awareness about tuberculosis. Interventions do not have to be restricted to counseling; they can also include examples of proper coughing etiquette in order to influence community behavior patterns. This investigation included all individuals who visited the Teluknaga Health Center. Individuals who refused to participate were excluded.

The sample for this study was selected using a non-random consecutive sampling technique with a total of 30 respondents. The independent variable in this study was the intervention used to enhance public awareness of tuberculosis and demonstrate proper cough etiquette. The dependent variable in this study is the change in knowledge of the interventions conducted. The degree of knowledge was determined using a questionnaire that included assessment indicators, as indicated in Table 1. The statistical analysis that was employed in this study was a descriptive table analysis of the relationships between the variables. Permission was acquired from Tarumanagara University's Faculty of Medicine for this research.

RESULT

The degree of knowledge, attitudes, and behavior of respondents on tuberculosis was determined manually and digitally using the results of a pre-test conducted prior to the intervention and a post-test conducted following the intervention. At Teluknaga Health Center, extension activities were conducted with 30 participants, 17 women and 13 males. Prior to the start of the extension activities, a pre-test was administered, with 1 person scoring 30, 4 participants scoring 40, 8 participants scoring 50, 8 participants scoring 60, 5 participants scoring 70, and 4 participants scoring 80, with the average score of 30 participants being 58. Three participants scored 60, three individuals scored 70, thirteen

participants scored 80, six participants scored 90, and five participants scored 100 on the post-test, with the average score post-test participants being 82.3. There was an increase in the average outcomes of the counseling participants's pre- and post-test scores. (See Figure 1).

The second activity involved counseling and demonstrations of proper cough etiquette following pulmonary tuberculosis counseling. Counseling on cough etiquette is followed by demonstrations. Then, at random, choose two people to show the cough etiquette that has been taught and to confirm that the cough etiquette is correct, particularly the use of the upper sleeve to cover the mouth. To help participants better understand and practice proper coughing, the officers invited all attendees to engage in a demonstration of proper coughing.

Constraints encountered in all interventions included pandemic conditions, which resulted in the room being insufficiently spacious for counseling, which resulted in some participants not following the health protocol (social distancing), and which resulted in some participants bringing their children to prevent them from being too focused on listening to the counseling provided.
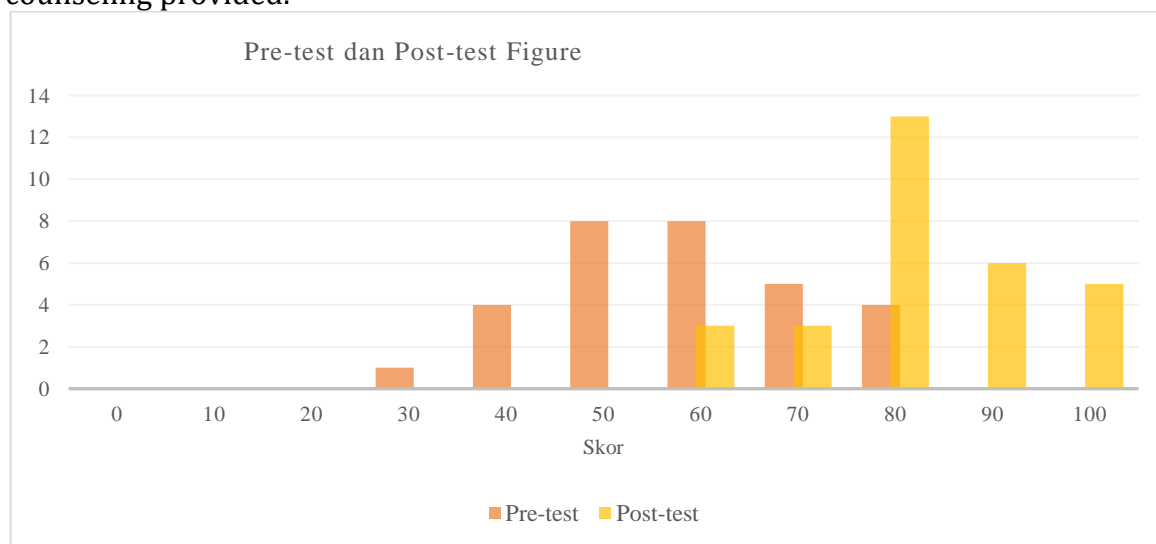

Figure 1. Comparison of Pre-test and Post-test Results

Indicator
1. What do you know about pulmonary tuberculosis?
2. What are the causes of pulmonary tuberculosis?
3. What are the symptoms of pulmonary tuberculosis?
4. How can pulmonary tuberculosis be transmitted?
5. What are the risk factors for pulmonary tuberculosis?
6. How to prevent transmission of pulmonary tuberculosis?
7. When is a sputum test necessary?
8. What is proper cough etiquette?
9. How long is the correct treatment for pulmonary tuberculosis?
10. What are the complications of pulmonary tuberculosis?

DISCUSSION

Tuberculosis continues to be a global public health problem. While several countries have made strenuous attempts to combat tuberculosis, incidences of tuberculosis continue to be reported. According to the World Health Organization (WHO), tuberculosis disease was the 13th top cause of death in 2019 and the most prevalent infectious disease caused by a single infectious agent. By 2020, it is estimated that tuberculosis will have increased to become the sole infectious agent responsible for the second leading cause of death.(Firmansyah et al., 2021; WHO, 2021)

According to WHO Southeast Asia estimates from 2019, 4.3 million persons are expected to have tuberculosis and 632,000 of them are estimated to have died. Indonesia has had the second highest rate of tuberculosis infection in the world, after India. Southeast Asia (43 percent) has the highest distribution, which includes Indonesia. 4 According to Riskesdas data, Indonesia has a tuberculosis incidence of 316 per 100,000 people in 2018 and an estimated 845,000 active cases. As a result, Indonesia is ranked third in the world for tuberculosis prevalence.(Acharya et al., 2020; Ernawati et al., 2021; WHO, 2021)

Di Indonesia, terdapat lima provinsi yang mendominasi angka kasus baru yaitu Jawa Barat, Jawa Timur, Jawa Tengah, DKI Jakarta, dan Sumatera Utara, dengan Banten menduduki urutan ke 6. Jumlah kasus TB Provinsi Banten mengalami peningkatan dari sebanyak 74,25 per 100.000 penduduk pada tahun 2018 menjadi 184 kasus per 100.000 penduduk. Kabupaten Tangerang sendiri merupakan penyumbang jumlah laporan kasus BTA positif tertinggi di Kota Banten, dengan terdapatnya jumlah kasus baru yang terdeteksi sebanyak 6.089 kasus baru per 100.000 penduduk di tahun 2020.(Ernawati et al., 2021; Natarajan et al., 2020)

In Indonesia, there are five provinces that dominate the number of new cases, namely West Java, East Java, Central Java, DKI Jakarta, and North Sumatra, with Banten ranking 6th. The number of TB cases in Banten Province has increased from 74.25 per 100,000 population. in 2018 to 184 cases per 100,000 population. Tangerang Regency itself is the contributor to the highest number of positive smear positive case reports in Banten City, with the number of new cases detected as many as 6,089 new cases per 100,000 population in 2020.(Kementerian Kesehatan Republik Indonesia, 2020; Menteri Kesehatan Republik Indonesia, 2019)

Tuberculosis is included in the 3 main efforts of the Teluk Naga Public Health Center, namely based on the results of a basic six health center survey consisting of health promotion, disease prevention and environmental improvement efforts (P2PL), as well as disease treatment and health services.

Indonesia provides guidelines on health promotion through the Decree of the Minister of Health No. 1114/Menkes/SK/VII/2005 concerning Guidelines for the Implementation of Health Promotion in the Regions and it is explained that health promotion is an effort to increase the ability of the community through learning, so that people can help themselves, and can develop activities. , in accordance with socio-cultural conditions in place and supported by health-oriented public policies.(Menteri Kesehatan Republik Indonesia, 2014, 2019)

The implementation of health promotion efforts in the field requires the right strategy, appropriate and supported by good methods and media in order to achieve the goal. The optimal delivery of messages requires a method for its delivery. The method in question

is an effective and targeted communication method. The choice of method is important by involving various aspects which include the delivery of information, the condition of the recipient of the information, along with the background of the recipient of the information, without forgetting the environmental aspects including space and time.(Fintiya & Wulandari, 201 C.E.; Hasudungan, 2020; Sandha & Sari, 2017)

Research from Sandha et al stated that the number of people who have less knowledge of TB is still high, namely at 55.1% of research respondents. Research from Hasudugan and colleagues stated that knowledge is one of the factors that play a role in the emergence of disease stigma in tuberculosis patients. This community stigma has an impact on the delay in diagnosis of pulmonary TB and causes a fairly high dropout rate for treatment. Spearman's results and analysis found that there was a relationship between the level of knowledge and the stigma of the disease with a p-value of 0.0012 or (p 0.05) and a moderate level of relationship (0.516).(Fintiya & Wulandari, 201 C.E.; Hasudungan, 2020; Sandha & Sari, 2017)

Research from Bawihu et al stated that there was a significant relationship between knowledge and the level of adherence to treatment for pulmonary tuberculosis patients. Therefore, increasing public knowledge is an important thing in increasing the rate of adherence to treatment for tuberculosis patients. The results of Hidayati's study stated that education and prevention of tuberculosis can increase knowledge and then reduce the big stigma that has an impact on decreasing TB mortality and morbidity (p-value <0.001).(Bawihu et al., 2017; Hidayati, 2015)

Hasil penelitian dari Ummami menyatakan adanya pengaruh dari pendidikan kesehatan terhadap pengetahuan (p<0,001), pengaruh pendidikan kesehatan terhadap sikap (p<0,001). Setelah dilakukan intervensi pendidikan kesehatan sebagian pengetahuan penderita menjadi lebih baik. Hasil penelitian dari Rahman dan kawan-kawan dengan analisis uji chi square mendukung adanya hubungan antara pengetahuan (p=0,000) dan sikap (p=0,000) dalam upaya pencegahan tuberkulosis (p<0,001).(Agustina & Wahjuni, 2017; Rahman et al., 2017; Ummami, 2016)

CONCLUSION

Interventions carried out in the form of counseling, demonstrations of cough etiquette have succeeded in increasing public knowledge about pulmonary TB and it is hoped that in the future it will have an impact on improving people's attitudes and behavior in tackling and preventing pulmonary TB disease circulating in the community.

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