

Empowering Families in the Prevention of Tuberculosis Transmission Through Education on Clean and Healthy Living Behavior (PHBS)

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ABSTRACT

Tuberculosis is one of the infectious diseases that are the leading cause of death worldwide. In 2019, Indonesia was ranked 2nd with the highest number of tuberculosis cases in the world. Family is one of the riskiest factors in tuberculosis transmission. However, the family has a crucial role in taking care of family members suffering from tuberculosis because good care can speed up the convalescence and prevent transmission to other family members. This can be influenced by several factors, such as family knowledge and roles. The Community Service activity carried out to family members taking care of people with tuberculosis is one of the strategies to increase knowledge of Clean and Healthy Living to reduce the rate of tuberculosis transmission. Based on the results of the evaluation, participants were able to answer questions related to the knowledge material on Clean and Healthy Living Behavior (PHBS), and almost all participants provided correct answers related to hand washing with soap (95%). It is expected that participants as a family taking care of people with tuberculosis can implement the knowledge acquired during health education about PHBS.

Keywords: Keluarga, PHBS, TBC

INTRODUCTION

Tuberculosis (tuberculosis) is an infectious disease that is one of the leading causes of poor health and one of the leading causes of death worldwide. Even during the coronavirus pandemic (COVID-19), tuberculosis was the leading cause of death from a single infectious agent, ranking above HIV/AIDS (*Worth Health Organization, 2021*)

Tuberculosis is still a public health problem both in Indonesia and internationally and is one of the goals of sustainable health development. Based on the Health Profile of Indonesia in 2020 published by the Ministry of Health of the Republic of Indonesia (2021), it was estimated that people with tuberculosis globally in 2019 would reach 10 million people and Indonesia was ranked 2nd with the highest number of people with tuberculosis in the world below India. The number of people with tuberculosis in Indonesia was 351,936 cases in 2020 and this number showed a decrease compared to 2019, which was 568,987 cases (Budijanto, 2022). West Kalimantan Province was ranked 15th with the highest *case notification rate* of 34 provinces, where the *case notification rate* of West Kalimantan was 123 out of 100,000 inhabitants (Kementerian Kesehatan RI, 2020a).

Tuberculosis transmission is influenced by several factors, including the home physical environment factors, unhealthy living behavior, health care, natural course of TB in humans, tuberculosis control efforts, and risk factors control (Nizar, 2017)

Minister of National Development Planning, Suharto Monoarfa said that the Major Project for Health System Reform has eight key areas of interrelated health system reform to ensure that the target for tuberculosis control is 1). Education and placement of health workers, 2). Improvement of Health Centers, 3). Improvement of hospitals and health services in underdeveloped areas, borders, and outermost regions, 4). Independence of pharmaceuticals and medical devices, Health resilience, 5) Disease control and Immunization, 6). Health Finance and 7). Information technology (Kementerian Kesehatan RI, 2020b)

Family is one of the most risk factors for tuberculosis transmission, especially for infants and the elderly who still have a low immune system (Kemenkes RI, 2020). One of the roles of the family is to be a protector and provides a sense of security and comfort for every member of

the family both in the social and community environment. For people with tuberculosis, the role of the family is urgently needed, especially in taking care, both physically and psychosocially. Good care will speed up the convalescence and prevent transmission to other family members. This can be influenced by several factors such as family's knowledge and roles because families play an important role as motivators, educators, facilitators, initiators, care providers, coordinators, and mediators for families suffering from tuberculosis (Friedman, 2010).

The educative process is a condition in providing knowledge, understanding, and teaching, educative comes from the term education (Nur, 2015). One effort to prevent transmission in the care of family members with tuberculosis is by providing education to families about Clean and Healthy Living Behavior (PHBS) in daily activities. Development of Clean and Healthy Living Behavior as stated in the Regulation of the Minister of Health of the Republic of Indonesia on Guidelines for the Development of Clean and Healthy Living Behavior is defined as a set of behaviors that are practiced based on awareness as learning outcomes, which make a person, family, group or community able to help themselves (independently) in the field of health and play an active role in realizing public health (Permenkes Nomor 2269 Tahun 2011 Tentang Pedoman Perilaku Hidup Bersih Dan Sehat, 2011)

Education is provided by health workers as part of the community's efforts to increase their role in tuberculosis prevention, as stated in Presidential Decree No. 67 of 2021 on TBC Management Part Five in Increasing the Role of Communities, Stakeholders, and Other Multi sectors in TBC Management (Presidential Decree Number 67 of 2021 on Tuberculosis Management, 2021). Based on this background, the Department of Nursing of the Faculty of Medicine, Tanjungpura University, in collaboration with the Perumnas 2 Community Health Center, Pontianak City, conducts Community Service (PKM) for the family having family members suffering from tuberculosis. It is expected that this PKM activity will be able to assist the government's efforts in dealing with the transmission of tuberculosis, especially for families who live in the same house.

METHODS

Community service activities were conducted using lecture, discussion, and demonstration methods on 20 families nursing their family members suffering from tuberculosis in the Work Area of Project Implementation Unit of Perumnas 2 Community Health Center Pontianak. This community service activity went through several stages, including:

- Stage 1. Field orientation activities aiming to get to know the field conditions where community service is to be conducted, namely Project Implementation Unit of Perumnas 2 Community Health Center, coordination with the head of the health center and coordinator in charge of the tuberculosis program from the Project Implementation Unit of Perumnas 2 Community Health Center
- Stage 2. Self-assessment survey conducted by identifying people with tuberculosis assisted by coordinators in charge of the tuberculosis program and tuberculosis cadres around the Project Implementation Unit of Perumnas 2 Community Health Center Pontianak
- Stage 3. Consultation with the Head of the Puskesmas and the coordinator of the tuberculosis program regarding the agenda of the activities to be carried out, *namely the provision of education using power points, pocketbooks, and stickers with the title "Prevent the Spread of Tuberculosis with PHBS"* for families caring for tuberculosis patients.
- Stage 4. Participatory planning on community service activities to prevent the transmission of tuberculosis is planned to involve 20 families who live in one house and are caring for people with tuberculosis
- Stage 5. Implementation of activities. Community service activities attended by 20 families of tuberculosis patients and tuberculosis health cadres were held on July 05, 2022. The activity was opened by the Head of Puskesmas Perumnas 2 and then continued with an explanation of Clean and Healthy Living Behaviors (PHBS) to prevent the transmission of tuberculosis by the PKM team of lecturers of the Department of Nursing Faculty of Medicine UNTAN. The PKM team did not only provide education through the material but also through pocketbook media and stickers about Clean and

Healthy Living Behaviors, such as Opening windows, especially in the morning, drying mattresses under the sun, nutritious food, regular exercise, cough etiquette, adequate rest, smoking ban, spitting ban, keeping the house clean, washing hands with soap and Vaccination.

RESULTS

Community service activities were conducted by the lecturer team of the Department of Nursing of the Faculty of Medicine of Tanjungpura University at the Project Implementation Unit (PIU) of Perumnas 2 Community Health Center Pontianak. This PKM activity was attended by 20 family members who took care of people with tuberculosis. Activities were carried out by paying attention to safety and health aspects and implementing health protocols. The material presented was carried out for 90 minutes, and then followed by discussion and evaluation. The evaluation results at the end of the activity using the PHBS knowledge questionnaire distributed to 20 participants obtained the following correct answers.

Table 1. Knowledge of PHBS Education Participants (n=20)

Question Outline	f	%
Opening the window in the morning	16	80
Drying the sleeping equipment	15	75
Nutritious food	16	80
Exercising regularly	16	80
Cough etiquette	17	85
Adequate rest	17	85
Smoking ban	15	75
Spitting ban	18	90
Keeping the house clean	18	90
Washing hands with soap	19	95



Vaccinations 1 55

Figure 1. Health Education Activities Clean and Healthy Living Behavior



Figure 2. Handbook Distribution

DISCUSSION

PHBS education activities were carried out to increase the knowledge of family members who took care of people with tuberculosis in preventing the transmission of tuberculosis using 11 PHBS indicators in daily activities. From the evaluation results, it is found that most participants were able to correctly answer the questions about the PHBS material provided. Almost all participants answered the questions about hand washing with soap correctly (95%).

The knowledge of hand washing with soap was the knowledge having the highest score, this is because, during the COVID-19 pandemic, health promotion about hand washing has been widely done to the community and was one of the efforts in preventing the transmission of the virus. *Coronavirus Disease Prevention and Control (Covid-19) Guidebook*, 4th revision, published by the Directorate General of Disease Prevention and Control (P2P) of the Ministry of Health of the Republic of Indonesia, stated in section three that hand washing with soap is one of the behaviors of clean and healthy living to maintain health and personal hygiene. This behavior could have been a very good habit because this behavior is not only able to maintain health and hygiene but it is also taught by religion (Kementerian Kesehatan Republik Indonesia, 2020)

CONCLUSION

After carrying out PHBS education, the knowledge of family members to behave clean and healthy while taking care of people with tuberculosis increased. It is because the implementation of PHBS at home can reduce the risk of tuberculosis transmission in the family. Participants consisting of families living in the same house with tuberculosis patients were very enthusiastic about this educational activity. They did not only acquire knowledge about PHBS for tuberculosis patients, but they also obtained additional nutrition information to improve their family's immune system. Counseling activities with the theme of balanced nutrition guidelines, PHBS, and stress management during the pandemic period needs to be actively with some improvements such as finding more people who can take part in a series of events such as making online socialization activities so that more can be benefit (Andriani & Kurniasari, 2022)

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