



Parents Knowledge and Experiences of Child TB Patients about Medicine Administration in the Intensive Phase

Ethyca Sari^{1*}, Tri Nur Kristina², Untung Sujianto²

¹Department of Nursing, Stikes William Booth Surabaya, Surabaya, Indonesia; ²Faculty of Medicine Universitas Diponegoro Semarang, Semarang, Indonesia

Abstract

Edited by: Ana Vucurevic
Citation: Sari E, Kristina TN, Sujianto U. Parents Knowledge and Experiences of Child TB Patients about Medicine Administration in the Intensive Phase. Open Access Maced J Med Sci. 2023 Jan 03; 11(G):78-81. https://doi.org/10.3889/oamjms.2023.9594
Keywords: Parents' knowledge of TB in children; Adherence to TB medication; TB treatment in the intensive phase; Child tuberculosis
***Correspondence:** Ethyca Sari, Department of Nursing, Stikes William Booth Surabaya, Surabaya, Indonesia. E-mail: ethyca.sari@yahoo.com
Received: 03-May-2022
Revised: 28-Jun-2022
Accepted: 02-Dec-2022
Copyright: © 2023 Ethyca Sari, Tri Nur Kristina, Untung Sujianto
Funding: This research did not receive any financial support
Competing Interests: The authors have declared that no competing interests exist
Open Access: This is an open-access article distributed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (CC BY-NC 4.0)

BACKGROUND: Children with pulmonary tuberculosis (TB) who are undergoing intensive phase of treatment often experience negative things, resulting in disobedience in taking medication. Exploration of the experiences of pediatric TB patients in the treatment process needs to be known as information for management from the aspect of drug adherence. The role of parents in overcoming these problems is very important, so it is necessary to know the extent of their knowledge about pulmonary TB disease.

METHODS: A qualitative study to explore the experiences of pediatric TB patients was conducted by interviewing 15 patients aged 8–12 years. In addition, a questionnaire was filled out to assess the knowledge about TB of the patient's parents. The results of the recorded interviews were written and analyzed using the thematic method, while the results of the questionnaire from parents were analyzed descriptively.

RESULTS: The results of the questionnaire showed that as many as ten respondents (66.6%) had a sufficient level of knowledge with 9 (60%). Analysis of the data using the Spearman rank test obtained a significance value (p) of 0.11 where $p < 0.05$, which means there is no relationship between adherence to medication for pulmonary tuberculosis in children and the knowledge of parents in the intensive phase.

CONCLUSION: Parental knowledge is sufficient or good does not guarantee that it can change the behavior of individuals or children in complying with the treatment in the intensive phase, although knowledge plays an important role in increasing adherence to taking medication in the intensive phase, there may be other factors that influence so that there is no relationship.

Introduction

Tuberculosis (TB) is a disease that is still a major public health problem, especially in developing countries. The source of transmission is TB patients with positive acid-fast bacilli (BTA) sputum examination results which spread through the air when the patient coughs or sneezes (Kemenkes, 2018) [1]. Pulmonary TB problem is increasing with the number of pediatric pulmonary TB patients who cannot complete their treatment completely (Kemenkes, 2016) [2].

In the intensive phase of pulmonary TB treatment, pediatric pulmonary TB patients are required to take medication every day and need to be closely monitored to prevent drug resistance. REF treatment on if this phase is carried out correctly within 2 months, most of the smear positive pulmonary TB will become smear negative so that the child TB patients do not experience drop out and re-treatment.

Drop out is a problem in overcoming pulmonary TB and one of the causes is disobedience to taking medication in the intensive phase, due to side effects of drugs, including nausea and vomiting. Various other

reasons for disobedience also emerged, for example, feeling healed, dizzy, all body aches, feeling bored, and so on so parents decided not to continue treatment.

Parental knowledge is knowledge that is considered very important for the success of TB treatment, because patients will get information about the mode of transmission, stages of treatment, treatment goals, side effects of drugs, and complications of the disease. The knowledge that a person has will affect how he behaves, plans, and makes decisions. The purpose of this study was to explore the experiences of pediatric TB patients in undergoing treatment in the intensive phase and to describe their parents' knowledge about TB disease and treatment.

Methods

A qualitative study to explore the experiences of pediatric TB patients was conducted by interviewing 15 pulmonary TB patients aged 8–12 years who underwent outpatient treatment at the Pegirian Health Center. The

number of these patients is valid patients recorded in the 2018–2021 period, and complete records of the treatment course of TB patients are available, which have been carefully validated in interviews. In addition, it has also been confirmed with data on TB patients in children of the same age whose results were the same (snowball sampling.). In addition, questionnaires were filled out to assess knowledge about TB from the patient's parents. The questionnaire was developed by the main researcher and has been validated by means of a validity and reliability test that is said to be valid if the knowledge of all items has a significance value of $>\alpha = 0.05$ (5%). The results of the Spearman rank test have met these requirements. The results of the recorded interviews were written and analyzed using the thematic method, while the results of the questionnaire from parents were analyzed descriptively.

Results

The results of the interviews showed that the 15 respondents had undergone TB treatment, ranging from 3 months to 5 months. The following is the themes generated from interviews about the experiences of pediatric TB patients in undergoing the treatment process:

Side effects of TB drugs

Some respondents complained of drug side effects, including: nausea, vomiting, flatulence, body aches, dizziness, and feeling weak.

"I feel unwell, nauseous, vomiting, and dizzy." (P2)

"Weak body, joint pain, flatulence and nausea, and vomiting." (p8).

Difficulty swallowing medication at the beginning of the treatment period

All respondents stated that there were difficulties at the beginning of treatment, including feeling that the medicine was too big so it felt uncomfortable in the throat. However, after going through a 2-month treatment period, they were able to adapt. "At first I felt tortured, because the medicine was big and it felt like my throat was burning, but after 2 months I got used to it." (P5).

Understanding of how TB treatment affects adherence

In general, respondents understand that adherence and discipline to treatment for 6 months can cure their illness. They got this understanding from doctors, nurses, and their mothers.

"Mom and the doctor said, as long as I obey the doctors and nurses to want to be treated, I can recover." (P7)

"If I take the treatment diligently, do not forget to take my medicine, and obey the doctor, I will recover" (P9).

Good communication from health workers

Most of the respondents felt that the puskesmas nurses had given a good explanation and encouraged them to complete the treatment completely.

"Nurses are good, always talk to me and I'm told to keep my spirits up." (P6, P9).

Parent and neighbor support

All respondents stated that there was good support from their parents, even from their neighbors.

"Mommy and daddy take me every time I check, Mom always gives me medicine." (P2)

"Mama always accompanies me for control, I am always given to take my medicine on time." (P4, P8)

"The neighbors said, my sister will get better soon, so I can play again." (P4, P6)

The questionnaire which was filled out by the respondent's parents consisted of ten women (the respondent's mother) and five men (the respondent's father). The employment status of all respondents' fathers is working, while only one respondent's mother is working. Table 1 shows a description of the results of the questionnaire showing the level of education with the level of knowledge of parents about pulmonary TB and its treatment. Parents' knowledge about TB disease and its treatment is 3/15 (20%) in good level and 9/15 (60%) in adequate level. There is no significant difference in the level of knowledge in terms of education level.

Table 1: Knowledge and education of parents of respondents with pulmonary TB in children

Education	Knowledge level about pulmonary TB and its treatment			p-value
	Not enough	Enough	Good	
SD	2	3	2	0.72
SMP	0	2	1	
SMA	1	4	0	
Jumlah	3	9	3	

Children's adherence to taking medication during the intensive period showed nine children were obedient (100%), while six other children were not compliant (<99%) consisting of one child with poor adherence and five children with moderate compliance. Table 2 shows the results of the cross-tabulation between the level of parental knowledge about pulmonary TB disease and its treatment with the child's adherence to taking TB medication. The results of the analysis showed that there was no significant difference in children's adherence to medication in terms of the level of parental knowledge of TB disease and its treatment.

Table 2: Level of knowledge of parents and children's obedience in taking TB drugs

Parents' knowledge about TB and its treatment	Children's adherence to taking TB drugs			p
	Disobedient (≤99%)	Obeys (100%)	Total	
Not enough	2	1	3	0.11
Enough	4	5	9	
Good	0	3	3	
Total	6	9	15	

Discussion

The results of the interviews showed that all respondents aged 7–12 years had a positive attitude toward TB treatment. Family and environmental support as well as the role of doctors and health workers at the Puskesmas are very large and have a positive impact on their attitudes and behavior. However, the results of the adherence rate were only 60% which occurred in the intensive period, namely, in the first 2 months of TB treatment which is also a period of adaptation for the child TB sufferers. This is reflected in the results of interviews which also showed that almost all patients had difficulties in the first 2 months of treatment. Family member support is an important factor in adherence to medication [3]. Meanwhile, according to Dhewi et al. [4], family support has a relationship with adherence to medication for TB patients, where he stated that PMO should be a member of his own family, namely, his mother or father for reasons that are more trustworthy. In addition, the close emotional relationship greatly affects the PMO, apart from being a drug-taking supervisor, it also provides emotional support to children with TB.

Adherence to medication is a complex behavior influenced by factors along the interrelated continuum of care between patients, drug providers, and the health system [5]. Factors related to the patient can be unintentional, for example, forgetting to take medication, not understanding the dose, or schedule of taking medication, while intentional factors include deciding on their own to stop treatment, modifying medication regimens, drug side effects, and beliefs and attitudes. Good attitudes can improve their health [6].

The results showed that most of the respondents' parents had knowledge about TB and its treatment which was included in the sufficient and good categories. Knowledge is an important domain in the formation of open behavior [7]. In general, knowledge is influenced by formal education factors. However, the results of this study indicate that there is no significant difference in terms of the level of education regarding parental knowledge about TB disease. Knowledge will determine a person's attitude, positive aspects will lead to a positive attitude as well. Knowledge will determine a person's attitude, and positive aspects will lead to positive attitudes. This is also the result of knowing, and this happens after people sense a certain object. Sensing occurs through the human senses, namely, the

senses of sight, hearing, smell, taste, and touch. Most of human knowledge is obtained through the eyes and ears). Meanwhile, one of the supports for adherence to treatment of TB in children is to find out how far the level of knowledge of parents is related to TB treatment in children.

This study also showed that there was no difference in adherence to TB medication in the intensive phase in terms of parental knowledge about TB disease and its treatment. This shows that good knowledge does not guarantee adherence to taking TB drugs, especially in the intensive phase which is also a period of adaptation and is also stated by these pediatric TB patient.

The limitation of this study is the number of samples from parents of children with TB patients which is quantitative data so that the results of the analysis may not reflect the actual situation in the population. However, the things that have been raised by the respondents of pediatric TB patients are very valuable in making policies to increase the motivation of children with TB patients, especially in the intensive treatment phase.

Conclusion

Pediatric TB patients have difficulty in the intensive treatment phase due to TB drug preparations that are not acceptable to these patients, both in terms of the amount of medication and the side effects it causes. It is likely a the main cause of non-adherence to taking medication in the intensive phase.

Acknowledgments

In this study, the author received a lot of motivational guidance from various parties, so on this occasion, the author would like to thank:

1. Mr. Musiri as Head of RW IV Pegirian village who has helped in this research process
2. The people of RW IV Pegirian Village who are willing to be respondents in this study.

References

1. Kemenkes RI. Tuberkolosis. Jakarta: Pusat Data dan Informasi Kementrian; 2018.
2. Kemenkes RI. INFODATIN. Pusat Data dan Informasi

-
- Kementerian Kesehatan RI; 2016.
3. Niven N. *Health Psychology: An Introduction to Nurses and Other Health Professionals*. Jakarta: EGC; 2012.
 4. Dhewi DK. *The Relationship between Knowledge, Patient Attitudes and Family Support With Medication Compliance in Pulmonary Tuberculosis Patients at Bpkm Pati*. S1 Nursing Study Program Stikes Telogorejo Semarang; 2011. Available from: <https://www.journal.unair.ac.id/filerpdf/ijchnb> [Last accessed on 27 April 2014].
 5. Rolnick SJ, Pawloski PA, Hedblom BD, Asche SE, Bruzek RJ. Patient characteristics associated with medication adherence. *Clin Med Res*. 2013;11(2):54-65. <https://doi.org/10.3121/cmr.2013.1113> PMID:23580788
 6. Gadkari AS, McHorney CA. Unintentional non-adherence to chronic prescription medications: How unintentional is it really? *BMC Health Serv Res*. 2012;12:98. <https://doi.org/10.1186/1472-6963-12-98> PMID:22510235
 7. Donsu JD. *Psychology Nursing*. Jakarta: Pustaka Baru Press; 2017.