
The Relationship between the Role of Nurse Educator and Compliance with Control of Pulmonary Tuberculosis Patients at the Pulmonary Polyclinic, Medika Mulia Hospital, Tuban

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ABSTRACT

Compliance with control of pulmonary tuberculosis patients to the pulmonary clinic is influenced by several factors, one of which is the hospital environment (doctors, nurses, midwives and other health teams). Nurses are professions that are very close to patients, one of the approaches used by nurses is the role of nurses as educators. The purpose of this study was to identify the compliance of Tuberculosis patients for re-control and to find out the relationship between the role of the Nurse Educator and the compliance of control of pulmonary tuberculosis patients to the Tuban Medika Mulia Hospital. The method used in this research is correlation analytic method with cross sectional research design. The population in this study involved 66 pulmonary TB patients in the pulmonary polyclinic of Medika Mulia Tuban Hospital, with the determination of the sample using a systematic random sampling method. Data was collected by using a questionnaire using rho sperm test data analysis. From the analysis results obtained data with a significance value of 0.003 ($p < 0.05$), which means that there is a positive relationship between the role of the Educator nurse and the compliance of pulmonary tuberculosis patient control. Therefore, HI is accepted, namely that there is a close relationship between the role of the Educator nurse and the adherence to control of Pulmonary Tuberculosis patients at the Pulmonary Polyclinic of Medika Mulia Hospital, Tuban. The results of this study serve as input for nurses in the development of nursing knowledge, especially the role of nurses as educators at the Pulmonary Polyclinic at Medika Mulia Tuban Hospital in order to improve control compliance in pulmonary TB patients.

Keywords: pulmonary tuberculosis; patient compliance; nurse educator role

INTRODUCTION

Pulmonary tuberculosis (pulmonary TB) is a disease caused by the bacteria *Mycobacterium tuberculosis*, germs measuring one to five micrometers, spread through the air through droplets from pulmonary TB patients that spread when patients cough, sneeze, and talk (Utomo et al, 2013). Lack of knowledge of pulmonary TB sufferers about the modes of transmission, the dangers and methods of treatment will affect their attitudes and behavior as sick people and eventually become a source of infection for those around them. Health or healing is the primary need for the individual. When sick and in the hospital, the individual is a client who needs communication and interaction with health workers to facilitate the healing process (Nurjanah, 2001).

Patient compliance for hospital control is influenced by several factors, one of which is the hospital environment (doctors, nurses, midwives and other health teams). Compliance with coming for control, undergoing regular treatment for 6 months and taking medication regularly is actually the main key to the success of healing TB patients because if it is not done, this TB disease will become multi-drug resistant Tuberculosis (MDR-TB). That was the explanation from the chairman of the Directly Observed Treatment Short-course (DOT'S) and TB MDR working group at the Friendship Hospital, Dr. dr. Erlina Burhan, Msc, Sp P(K) in a media gathering about TB and lung disease. Most of the patients refused to be treated because of work reasons so that the patients could not come for control. Patients who refuse treatment will become a source of transmission for others and can even die. Many TB patients stop taking treatment because they feel their bodies are better than before, their weight has increased, before the 6-month treatment period ends, even though the negligence of TB patients causes the TB mycobacterium bacteria in their bodies to become resistant to drugs or multi-drug resistant

Nursing is a profession that is very close to clients (Nurjanah, 2009). The nurse's role here is very important in preventing the transmission of pulmonary TB infection in hospitals, because those who provide consistent 24-hour care to patients are nurses, which means also the responsibility of the nurse-client relationship, where nurses help client participation, help gain knowledge and improve health. , in this case the prevention of TB transmission through the use of compliance controls in pulmonary TB patients. Communication between nurses and clients or clients' families includes client problems, control procedures, nursing actions to be carried out as educators,

facilitators, and providers of information needed by clients related to the client's treatment program. The nurse-patient relationship is a mutual learning experience and a cognitive emotional experience for the client. The key to the relationship between nurse and client activities is encouragement and support for healing, so that clients carry out activities based on needs. Nurses use certain techniques at work to increase appreciation and change the client's behavior (Stuart and Laraia, 2001).

Masriadi, (2011) explained that pulmonary tuberculosis (pulmonary TB) is a chronic disease that can seriously reduce the physical endurance of the sufferer. Destruction and restoration or healing of lung tissue occur simultaneously, resulting in permanent and varied structural changes that cause various lung function abnormalities.

Tuberculosis is an important problem for health because one third of the population has been infected by *Mycobacterium tuberculosis* and is the cause of death. The prevalence of pulmonary TB in the world in 2008 was around 5-7 million cases, both new cases and relapse cases. The prevalence is 2.7 million of which are new smear positive and 2.1 million new smear negative cases (WHO, 2009). The total number of pulmonary TB cases in 2009 was 292,753 cases, of which 169,213 were smear positive new TB cases, 108,616 were smear negative TB cases, 11,215 were Extra Pulmonary TB cases, 3,709 were relapsed pulmonary TB cases (WHO, 2010). The number of pulmonary TB cases in 2010 was 8.8 million new pulmonary TB cases worldwide with a death rate of 1.1 million people. 59% of patients with pulmonary TB are in Asia, followed by Africa as much as 26%, the rest are in the eastern Mediterranean region, Europe and America (WHO, 2011).

Indonesia is in the fourth largest position in the world in terms of the number of tuberculosis sufferers, after China and Pakistan. The number of new case findings (Case Detection Rate/CDR) in 2008 in Indonesia was 72.8 per 100 population (72.8%) or 166,376 new patients with smear positive were found.

The cause of pulmonary TB disease is *Mycobacterium tuberculosis*, the bacterium was first described by Robert Koch on March 24, 1882. *Mycobacterium tuberculosis* is a straight or slightly bent rod with a size of 0.2-0.4 x 1-4 m. Ziehl-Neelsen stain was used to identify these bacteria.

These bacteria have special properties, namely resistance to color washing with acid and alcohol, so they are often called acid-fast bacilli (BTA). Tuberculosis germs are also dormant and aerobic. *Mycobacterium tuberculosis* died at 100 C for 5-10 minutes while with 70-95% alcohol for 15-30 seconds. These bacteria can survive for 1-2 hours in the air, especially in humid and dark places (can be months), but are not resistant to light or airflow. These tuberculosis bacteria die at 100°C heating for 5-10 minutes or at 60°C heating for 30 minutes, and with 70-95% alcohol for 15-30 seconds. These bacteria are resistant for 1-2 hours in the air, especially in humid and dark places (can be months), but are not resistant to light or airflow (Masriadi, 2012).

The new strategy DOT'S, (directly observed treatment shortcourse), the main symptom is cough with phlegm and/or persistent for 3 weeks or more. Based on the complaint, a person has been identified as a suspect. Other symptoms are additional symptoms. The patient's sputum should be examined by microscopic examination. The incubation period from exposure to the appearance of major lesions or a significant pulmonary TB reaction is 4-12 weeks. (Masriadi, 2011).

METHODS

Research design

This study is a correlation analytic study because it connects the independent variable (the role of the nurse) and the dependent variable (adherence to control).

Population and Sample

The population is the entire object or subject that has the qualities and characteristics of the research to be studied (Notoadmojo, 2009). The population in this study were patients with pulmonary TB in the pulmonary polyclinic of Medika Mulia Hospital as many as 66 respondents. So the sample size for this research is 66 respondents.

Research Instruments

The instrument used in this study was a questionnaire sheet to identify the nurse's role in patient control compliance.

Data analysis

After all research data has been collected, then data processing is carried out using several stages, namely: editing, coding, scoring, tabulating.

Data analysis is a process that is carried out systematically on the data that has been collected with the aim that trends and relationships can be investigated (Nursalam, 20011) After the data is collected, data processing is carried out then the technique used to process this data is statistical test, using the "test" Spearman Rho". Researchers used SPSS version 16.0 to analyze the relationship between the two variables. The decision-making provisions are whether the hypothesis is accepted or rejected by looking at the significance. The level of significance = 0.05, meaning that if $p < \alpha$ (0.05) then H_0 is rejected, meaning that there is a significant relationship between the two variables being measured, but if $p > \alpha$ (0.05) then H_0 is accepted, meaning that there is no relationship between the two variables being measured.

RESULTS

Table 1. Distribution of respondents based on the role of nurses at the Pulmonary Clinic of Medika Mulia Tuban Hospital in June-July 2019

No	Nurse's role	Frequency	Percentage
1	High	18	27.3
2	Moderate	28	42.4
3	Low	20	30.3
	Total	66	100

Based on table 1, it can be seen that the majority of respondents (42%) considered that the role of nurses was categorized as moderate.

Table 2. Distribution of respondents based on patient control compliance at Medika Mulia Hospital, Tuban in June – July 2019

No	Control compliance	Frequency	Percentage
1	Comply	17	25.7
2	Not comply	49	74.3
	Total	66	100

Based on table 2, it can be seen that most of the respondents (74%) did not comply with the control.

Table 3. Cross table of the relationship between the role of nurses and patient control compliance at the Pulmonary Poly Hospital of Medika Mulia Tuban in June – July 2019

		Control compliance		Total
		Comply	Not comply	
Nurse's role	High	0 (0%)	1 (1.5%)	1 (100%)
	Moderate	9 (13.6%)	25 (37.9%)	34 (100%)
	Low	0 (0%)	31 (46.9%)	31 (100%)
Total		9 (13.6%)	57 (86.4%)	66 (100%)

From table 3, it can be seen that the majority of respondents (47%) who have non-adherent control compliance rate that nurses have a low role.

Statistical test results showed p -value = 0.003, so H_0 is rejected. The results of statistical analysis showed that there was a significant relationship between the role of the educator nurse and the level of compliance in the control of pulmonary tuberculosis patients at Medika Mulia Hospital, Tuban.

DISCUSSION

The Role of Nurses as Educators Based on Patient Assessments at the Pulmonary Poly Hospital of Medika Mulia Tuban in June – July 2019

The results showed that most of the implementation of the role of nurse educator at Medika Mulia Hospital, Tuban were perceived in the moderate category, namely 28 people (42.4%), 20 people (30.3%) perceived the low category and 18 people (27.3%) perceive with high category. The nurse's personal character plays an important role in determining the outcome of interactions in the health education process. Low awareness of teaching and lack of confidence in teaching can make the goals in the education provided not achieved, but in this study it has been shown that almost half (42.4%) of respondents perceive the role of nurse educators in the moderate category.

Nurses in carrying out the role of educator help patients to improve their health through providing knowledge related to nursing and medical actions received so that patients or families can accept responsibility for things they know (Doheny, 1982 in Kusnanto, 2011). Factors that influence the role of nurse educators, namely patient education is still a low priority and the personal character of nurse educators (Bastable, 2012). The role of nurse educator plays a more important role to ensure continuity of care in all environments (Dessy, 2011).

Nurses who have not conveyed education or educators of all components of knowledge clearly and completely can lead to increased rates of recurrence and transmission of patients in the home environment, because patients and families have not been able to carry out treatment independently and do not know the importance of complete treatment. Many things can lead to a decrease in the role of nurses in carrying out good education, one of the sources that can cause it is work stress. Increased work stress can reduce the quality of nurses in providing education and other forms of service.

Compliance Control of Pulmonary TB Patients Based on Patient Assessments at the Pulmonary Poly Hospital of Medika Mulia Tuban in June – July 2019

Researchers looked at the level of compliance in this study by distributing questionnaires to respondents at the outpatient installation of Medika Mulia Tuban Hospital. The level of patient compliance for control is seen from the questionnaire distributed to respondents who have been determined by the researcher as many as 66 respondents, it is known that more than 50 percent, namely 49 people (74.3%) are not compliant to control, the remaining 17 people (25.7%) obedient to control.

Compliance is obedience or surrender to a predetermined goal. Adherence is directly proportional to the goals achieved in the treatment program that has been determined. Adherence to health programs is a behavior that can be observed and can be directly measured (Bastable, 2002). The factors that influence compliance are environmental variables (distance affordability) and the ability to access existing resources (cost affordability) (Carpenito, 2009).

The affordability of the distance and the costs incurred for control are also problems in the field. Respondents said that they did not comply with the control because their house was far away and there was no one to take them for control, and the costs used for control would increase this month (July 2019) coinciding with children entering school and approaching the August celebrations, which made spending also increase. From the data on the distribution of respondents, most of the female respondents suffer from tuberculosis who do not comply with control due to various activities in household roles. The level of education also affects the level of adherence to control of tuberculosis sufferers because the level of education greatly affects the level of understanding of tuberculosis, the higher the level of education, the higher the level of patient control compliance. Marital status also affects the level of control compliance because there is a controller who plays a role in providing control and support in the treatment process for tuberculosis sufferers.

The Relationship between the Role of Nurses and Patient Control Compliance at the Pulmonary Poly Hospital of Medika Mulia Tuban in June – July 2019

In this study it was found that 17 (25.7%) respondents were obedient to control, this was due to several factors, including the level of education that most of the respondents had a college education level so that respondents understood more about health and the importance of control, other things that affect patient control compliance, namely support from the family, because the family plays a role in motivating patients when they are at home. The role of the nurse educator perceived by 66 respondents in the moderate category was mostly obedient to carry out control, namely 57 people (86.4%), the remaining 9 people (13.6%) were not obedient to control.

Statistical test results showed p value = 0.003. H_a is accepted if H_o is rejected,

where H_0 is rejected if the p value, 0.003 0.05. The results of statistical analysis showed that there was a significant relationship between the role of the educator nurse and the level of compliance in the control of pulmonary tuberculosis patients at Medika Mulia Hospital, Tuban.

These changes indicate that the nurse's role affects the control compliance of pulmonary TB patients.

Measuring adherence to the treatment program is more effective with a communication model for education provided to patients. Communication between nurses and patients/families in health education is very important in discharge planning which will make it easier for patients to receive or understand instructions given to patients when they are at home who can independently maintain or improve their health (Fisher 1992 in Bastable, 2013).

Limitations

Researchers still find some limitations of the study. The results of this study have research limitations, namely related to data collection techniques using research instruments in the form of a questionnaire that measures the nurse educator role variable in patient control compliance, while another obstacle in the study was that some respondents could not read so the researcher had to read out the questions one by one. Data collection using questionnaires tends to be subjective so that the honesty of the respondents determines the truth of the data provided.

CONCLUSION

From the results of this study it can be concluded that:

1. Most of the roles of nurses in the pulmonary polyclinic of Medika Mulia Tuban Hospital tend to be rated as moderate in providing education to patients with tuberculosis.
2. Compliance with control of pulmonary tuberculosis patients in the pulmonary polyclinic of Medika Mulia Tuban Hospital tends to be rated low, marked by the number of patients who do not comply with the control according to a predetermined schedule.
3. There is a relationship between the nurse's role and patient control compliance in the pulmonary polyclinic of Medika Mulia Tuban Hospital in 2019.

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