



Relationship between the Role of Nursing Educators with Compliance and Lung Tuberculosis Control Patients in Medika Mulia Hospital

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ABSTRACT

The compliance control of Lung Tuberculosis patients to Pulmonary Poly is influenced by several factors one of which is the Hospital environmental factors (doctors, nurses, midwives, and other health teams). Nurses are a profession very close to patients, one of the approaches used by nurses is the role of the nurse as an Educator. The purpose of this study was to know the relationship between the role of the Nurse Educator with the compliance control of pulmonary tuberculosis patients in Medika Mulia Hospital, Tuban. The method used in this research was the correlation analytic method with a cross-sectional research design. The research in this study involved 66 pulmonary TB patients in Pulmonary Medika Mulia Hospital of Tuban with the determination of the sample using a systematic random sampling method. Data collection was carried out by questionnaire using Spearman rho test data analysis. From the results of the analysis obtained data with a significance value of 0.003 ($p < 0.05$) which means there was a positive relationship between the role of Educator nurses with compliance with Lung Tuberculosis patient compliance. Therefore, H_1 was accepted, namely the close relationship between the role of the Educator nurse and the compliance control of Lung Tuberculosis patients in the Pulmonary Poly of Medika Mulia Hospital, Tuban. The results of this study provided input to nurses in the development of nursing knowledge, specifically the role of nurses as educators in the Pulmonary Poly of Medika Mulia Hospital of Tuban to improve control compliance in pulmonary TB patients.

INTRODUCTION

Pulmonary tuberculosis (pulmonary TB) is a disease caused by mycobacterium tuberculosis, a germ measuring one to five micrometers, spreading through the air through a droplet from a pulmonary TB patient that spreads when the patient coughs, sneezes, and talks (Utomo et al., 2013). Lack of knowledge of patients with pulmonary TB about the way of transmission, the dangers, and ways of treatment will affect the attitudes and behavior of a sick person and ultimately result in becoming a source of transmission for the people around him. Health or healing is the main need for these

individuals. 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, 2005).

Patient compliance for control to the hospital is influenced by several factors, one of which is hospital environmental factors (doctors, nurses, midwives, and other health teams). Compliance with the control of undergoing regular treatment for 6 months and taking the medication regularly is the main key to the success of healing TB patients because if not done, then this TB disease will become multi-drug resistant Tuberculosis (MDR-TB). Thus explained the chairman of the Working Group Direct Observed Treatment Short-course (DOT'S) and MDR TB of Dr. dr. Erlina Burhan, MSc, Sp P (K) in media meetings on TB and lung disease. Most patients refuse to be treated for reasons of work so patients cannot come in control. Patients who refuse treatment will become a source of transmission for others and may even die. Many TB patients stop treatment because they feel their body is better than before, their weight has gone up before the 6 month treatment period ends, even though the negligence of TB patients causes the TB mycobacterium bacteria in their body to become resistant to the drug or multidrug-resistant.

Nurses are a profession that is very close to clients (Nurjanah, 2005). The role of the nurse here is very important in preventing transmission of pulmonary TB infection in the hospital because the one who provides care for 24 hours consistently to the patient is the nurse, which also means accountability for the relationship between the nurse and client, where the nurse helps client participation, helps gain knowledge and improves health, in this case, the prevention of TB transmission through the use of compliance control in pulmonary TB patients. Communication between nurses with 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 client treatment programs. The nurse's relationship with the patient is a mutual learning experience and emotional experience for the client. The key relationship between nurse and client activities is encouragement and support for healing so that clients do activities based on needs. Nurses use certain techniques at work to improve the appreciation and change in client 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 sufferers. In destruction and the process of restoration or healing of lung tissue occurs simultaneously, resulting in structural changes that are permanent and varied that cause various kinds of fatal lung abnormalities.

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

Indonesia is in the fourth position in the world in the number of people with Tuberculosis, 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 found 166,376 new patients with smear-positive.

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 μm . Ziehl-Neelsen's staining is used to identify the bacteria. These bacteria have special properties, namely resistance to washing colors with acids and alcohol, so it is often called

acid-resistant bacilli (AFB). Tuberculosis bacteria are also dormant and aerobic. *Mycobacterium tuberculosis* on heating 100⁰C for 5-10 minutes while with alcohol 70-95% for 15-30 seconds. These bacteria hold for 1-2 hours in the air, especially in damp and dark places (can be for months), but are not resistant to light or airflow. These tuberculosis bacteria die at 100⁰C for 5-10 minutes or at 60⁰C for 30 minutes, and with 70-95% alcohol for 15-30 seconds. These bacteria hold for 1-2 hours in the air, especially in damp and dark places (can be for months), but are not resistant to light or airflow (Masriadi, 2012).

The new DOT'S strategy (directly observed treatment short course), the main symptom is coughing up phlegm and/or continuously for 3 weeks or more. Based on these complaints, someone can already be named as a suspect. Other symptoms are additional symptoms. The phlegm of the patient must be examined by microscopic examination. The incubation period from exposure to the appearance of major lesions or significant pulmonary TB reaction is 4-12 weeks (Masriadi, 2011). Therefore, the purpose of this study is to know the relationship between the role of the Nurse Educator with the compliance control of pulmonary tuberculosis patients in Medika Mulia Hospital, Tuban.

METHOD

This research is a correlation analytic study because it connects the independent variable (the role of the nurse) and the dependent variable (control compliance). The population is the whole object or subject that has the quality and characteristics of the research to be studied (Notoadmojo, 2003). The population in this study was 66 patients with pulmonary tuberculosis in Medika Mulia Hospital. So, the sample size for this study was 66 respondents. The instrument used in this study was a questionnaire sheet to identify the role of nurses in adhering to patient control.

After all the research data has been collected, the data is processed using several stages, namely: editing, coding, scoring, tabulation. Data analysis is a process carried out systematically on data that has been collected with the aim that trends and relationships can be investigated (Nursalam, 2008). After the data is collected, data processing is done then the technique used to process this data is a statistical test, using the test " Spearman rho". The researcher uses SPSS version 16.0 to analyze the relationship between the two variables. The decision-making provisions whether the hypothesis is accepted or rejected by looking at significance. The level of significance = 0.05, meaning that if $p < \alpha$ (0.05) then H₀ is rejected, meaning that there is a significant relationship between the two variables measured, but if $p > \alpha$ (0.05) then H₀ is accepted meaning there is no relationship between two variables measured.

RESULTS AND DISCUSSION

Results

General data

Table 1
Distribution of Frequency of Respondents by Gender in Pulmonary Poly

| No | Type of Gender | Frequency | Percentage |
|---------------|----------------|-----------|-------------|
| 1 | Male | 30 | 45.5% |
| 2 | Female | 36 | 54.5% |
| Amount | | 46 | 100% |

Based on Table 1, it can be seen that the majority (54%) of respondents in pulmonary poly are female.

Table 2
 Distribution of Frequency of Respondents by Age in Pulmonary Poly

| No. | Age | Frequency | Percentage |
|---------------|-----------------|-----------|-------------|
| 1. | 16-35 Years Old | 15 | 22.7% |
| 2. | 36-65 Years Old | 41 | 62.1% |
| 3. | >65 Years Old | 10 | 15.2% |
| Amount | | 66 | 100% |

Based on Table 2, it can be seen that the majority (62%) of respondents in pulmonary poly aged 36-65 years old.

Table 3
 Distribution of Respondents Based on Marriage Status in Pulmonary Poly

| No. | Marriage | Frequency | Percentage |
|---------------|---------------|-----------|-------------|
| 1. | Married | 46 | 69.8% |
| 2. | Single | 11 | 16.6% |
| 3. | Widow/Widowed | 9 | 13.6% |
| Amount | | 66 | 100% |

Based on Table 3, it can be seen that the majority (70%) of respondents in pulmonary poly have married status.

Table 4
 Distribution of Respondents Frequency by Education in Pulmonary Poly

| No | Education | Frequency | Percentage |
|---------------|-------------------|-----------|-------------|
| 1 | No school | 2 | 3.0% |
| 2 | Elementary school | 7 | 12.1% |
| 3 | Middle school | 4 | 6.1% |
| 4 | High school | 23 | 34.8% |
| 5 | DIII/S1 | 29 | 43.9% |
| Amount | | 66 | 100% |

Based on Table 4, it can be seen that the majority (44%) of respondents in pulmonary poly education DIII/S1.

Table 5
 Distribution of Respondents Frequency by Occupation in Pulmonary Poly

| No | Work | Frequency | Percentage |
|---------------|---------------|-----------|-------------|
| 1 | Does not work | 19 | 28.8% |
| 2 | Student | 5 | 7.6% |
| 3 | Private | 27 | 40.9% |
| 4 | Labor | 10 | 15.1% |
| 5 | Pension | 5 | 7.6% |
| Amount | | 66 | 100% |

Based on Table 5, it can be seen that the majority (41%) of respondents in pulmonary poly have private/entrepreneurial work.

Special Data

Table 6
 Distribution of Respondents Frequency by Role of Nurses in Pulmonary Poly

| No | The role of the nurse | Frequency | Percentage |
|---------------|-----------------------|-----------|-------------|
| 1 | High | 18 | 27.3% |
| 2 | Medium | 28 | 42.4% |
| 3 | Low | 20 | 30.3% |
| Amount | | 66 | 100% |

Based on Table 6, it can be seen that almost half (42%) of respondents consider that the role of nurses is categorized as moderate.

Table 7
 Distribution of Respondents Frequency Based on Patient Control Compliance

| No | Compliance control | Frequency | Percentage |
|---------------|--------------------|-----------|-------------|
| 1 | Obedient | 17 | 25.7% |
| 2 | Not obey | 49 | 74.3% |
| Amount | | 66 | 100% |

Based on Table 7, it can be seen that the majority (74%) of respondents are not compliant to control.

Table 8
 Relationships between the Role of Nurses and Patient Control Compliance in Pulmonary Poly

| The role of the nurse | Compliance Control | | Total |
|-----------------------|--------------------|-------------------|------------------|
| | Obedient | Not obey | |
| High | 0 (0%) | 1 (1.5%) | 1 (100%) |
| Medium | 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 8, it can be seen that almost half (47%) of respondents who have disobedient control compliance believe that nurses have a low role.

Discussion

The Role of Nurses as Educators Based on Patient Ratings in Pulmonary Poly of Medika Mulia Hospital of Tuban

Table 6 shows that almost half of the implementation of the role of the nurse educator in Medika Mulia Hospital in Tuban was perceived as being in the medium category, namely 28 people (42.4%), 20 people (30.3%) perceiving in the low category and 18 people (27.3%) perceive with a high category. The personal character of the nurse plays an important role in determining the outcome of interactions in the health education process. Low teaching awareness 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 medium category.

Nurses in carrying out the role of educator help patients to improve their health through the provision of knowledge related to nursing and medical actions received so that patients or families can accept responsibility for the things they know (Doheny, 1982 in Riyadi & Kusnanto, 2011). Factors influencing the role of the nurse educator are that patient education is still a low priority and the personal character of the educator nurse (Bastable, 2012). The role of the educator nurse plays a more

important role to ensure continuity of care in all environments (Dessy, 2011).

Nurses who have not delivered education or educator of all components of knowledge clearly and completely can cause an increase in the number of relapses and transmission of patients in the home environment because patients and families have not been able to perform care independently and do not know the importance of treatment until completion. Many things can cause a decrease in the role of nurses in doing good education, one source 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 Evaluation in Pulmonary Poly of Medika Mulia Hospital of Tuban

Researchers looked at the level of compliance in this study by distributing questionnaires to respondents in the outpatient installation at Medika Mulia Hospital in Tuban. The level of patient compliance for control seen from the questionnaire distributed to respondents that have been determined by researchers 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.

Obedience is obedience or surrender to predetermined goals. Compliance is directly proportional to the goals achieved in the prescribed treatment program. Adherence to a health program is observable behavior and can be directly measured (Bastable, 2002). Factors that influence compliance are environmental variables (distance affordability) and the ability to access existing sources (affordability costs) (Carpenito, 2009).

Affordability of distance and costs incurred for control is also a problem in the field. Respondents said that they were not compliant with control because their homes were far away and no one was ushering in for control, and the costs used for control would increase this month (July 2019) to coincide with children entering school and approaching the August celebrations which made spending also increase. From the data distribution of respondents obtained by the majority of female respondents suffering from Tuberculosis that is not obedient to control due to various activities in the household role. The level of education also affects the level of compliance with tuberculosis control because education level greatly influences 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 whose role is to provide control and support in the process of treating tuberculosis patients.

The effect of health promotion on community perceptions about Poskesdes services in Senang haji Village, Merakurak District, Tuban Regency

This study found 17 (25.7%) of respondents adhere to control, this is due to several factors including the level of education most of the respondents have a college education level so that respondents understand more about health and the importance of control, other things that affect Patient control adherence is support from the family because the family's role is to motivate patients when at home. The role of the nurse educator perceived by 66 respondents in the medium category was mostly obedient to carry out the control of 57 people (86.4%), the remaining 9 people (13.6%) were not compliant with the control.

Statistical test results show the value of $p = 0.003$. H_a is accepted if H_0 is rejected, where H_0 has rejected if the value of $p \leq \alpha$, $0.003 \leq 0.05$. The results of the statistical analysis found that there was a significant relationship between the role of the educator nurse and the level of compliance with the control of pulmonary tuberculosis patients at Medika Mulia Hospital in Tuban.

These changes indicate that the role of nurses influences the control of pulmonary TB patients. Measuring adherence made to a 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 the planning of repatriation that will facilitate patients in receiving or understanding instructions given to patients when at home that can independently maintain or improve their health (Fisher, 1992 in Bastable, 2013).

Limitation

Researchers still find several limitations of the study. The results of this study have research limitations related to data collection techniques using research instruments in the form of questionnaires that measure the role of the nurse educator role in patient control compliance, while other obstacles in the study are some respondents who cannot read so the researcher must read one by one question. Data collection using a questionnaire tends to be subjective so that the honesty of respondents determines the truth of the data provided.

CONCLUSIONS

From the results of this study, it can be concluded that there was a relationship between the role of nurses to comply with patient control in Pulmonary Poly of Medika Mulia Hospital, Tuban. Theoretically, it is hoped that the results of this study can be used as scientific information, especially nursing management related to the role of nurse educators with compliance with the control of pulmonary tuberculosis patients. Practically, (1) for sufferers, it is expected that each patient can accept and understand the role of the educator nurse because each individual has a different character, to improve patient control compliance. (2) For institutions, it is expected that for educational institutions it is expected that the results of this study can be used as information about nursing science in the field of management. (3) For hospitals, the Hospital should always supervise related to the role of the nurse educator so that patient control compliance increases. (4) For further researchers, the next researcher is expected to be able to examine the factors that influence patient control, namely the role of nurses who have not been examined. (5) Nurses must be able to use language and ways that are easily understood in providing education about control compliance to increase the success rate of tuberculosis treatment.

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