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**Nursing Care of Clients with Pulmonary Tuberculosis with Ineffective  
Airway Cleaning in General Hospitals  
Koja area, North Jakarta**

Ragil Supriyono<sup>1</sup>, Memed Sena Setiawan<sup>2</sup>

Harum Nursing Academy, Jakarta Indonesia<sup>1</sup>

Department of Nursing, RSPAD Gatot Soebroto College of Health Sciences, Jakarta<sup>2</sup>

e-mail: [rsmaspriyono@gmail.com](mailto:rsmaspriyono@gmail.com)<sup>1</sup>, [memed.senasetiawan@akperrspadjakarta.ac.id](mailto:memed.senasetiawan@akperrspadjakarta.ac.id)<sup>2</sup>

**Abstract**

Tuberculosis (TB) is a chronic infectious disease caused by the bacterium *Mycobacterium tuberculosis*. This bacterium is rod-shaped and is acid-resistant, so it is known as Acid-resistant Bacilli (BTA). Pulmonary Tuberculosis (TB) on the 8th floor of Block B at Koja Hospital, North Jakarta, from the last 6 months there has been an increase, obtained from data on the number of tuberculosis patients in July 2017, 324 people. This study aims to determine the comparison of the three respondents, namely client 1 (Mrs.M) and client 2 (Mrs.Y), Client 3 (Mr.D) correctly performs Deep Breathing and Effective Coughing on the independence of Pulmonary Tuberculosis patients. The research method is descriptive with a case study approach, namely by carrying out nursing care in Pulmonary Tuberculosis (TB) starting from assessment, intervention, implementation and evaluation of nursing. And data collection can be carried out for 6 days at Koja North Jakarta Hospital. Data analysis requires further treatment and collaboration with other medical teams, clients and families which are very necessary for the success of nursing care. It can be seen from the variable results on Nursing Care of Pulmonary Tuberculosis (TB) patients. It can be seen from the results of independent activity variables doing Deep Breathing and Effective Exhalation correctly.

Keywords: Nursing Care; Pulmonary Tuberculosis; Ineffectiveness; Airway Clearance

**Introduction**

Tuberculosis (TB) is a chronic infectious disease caused by the bacterium *Mycobacterium tuberculosis*. This bacterium is rod-shaped and is acid-resistant, so it is known as Acid-resistant Bacilli (BTA). Most TB germs often attack the lung parenchyma and cause pulmonary TB, but can also attack other

organs (extra-pulmonary TB) such as the pleura, lymph nodes, bones and other extra-pulmonary organs. Tuberculosis (TB) is an infectious disease that is still a global concern. The death rate from *Mycobacterium tuberculosis* is also high. This is because when people with pulmonary TB cough, sneeze, speak or spit, they sprinkle pulmonary TB germs into the air.

A person can be exposed to pulmonary TB by simply inhaling a small amount of TB germs. Then data from the Ministry of Health showed that in 2009 1.7 million people died of TB while there were 9.4 million new cases of TB, 3.3 million of whom were women.

TB disease (Tuberculosis) is still a world health problem where WHO reports that 0.5% of the world's population is affected by this disease, most of them are in developing countries around 75%, including in Indonesia every year 539,000 new positive cases of Tuberculosis (TB) are found with 101,000 deaths.

Based on data from the World Health Organization (WHO) in 2013, 9 million people in the world have been infected with TB germs. In 2014 there were 9.6 million world population infected with TB germs. In 2015, the highest number of pulmonary TB cases were in the African region (37%), the Southeast Asian region (28%), and the Eastern Mediterranean region (17%).

In Indonesia, the prevalence of pulmonary TB is grouped into three regions, namely Sumatra (33%), Java and Bali (23%), and Eastern Indonesia (44%). TB disease is the third cause of death after heart disease and respiratory tract in all age groups and number one for infectious disease groups. The death toll from pulmonary TB in Indonesia is estimated at 61,000 deaths each year.

Based on statistical data obtained from the Medical Record at the Koja Hospital, North Jakarta, from May 2016 to June 2017, the number of patients treated at the Koja North Jakarta Hospital in the Internal Medicine Room, Block B, namely, 325 people (Register Book of the RSUD Koja, North Jakarta).

The purpose of this study was to carry out assessments, determine nursing problems, make nursing diagnoses, create nursing interventions or plans, implement

or perform nursing actions and evaluate clients with Pulmonary Tuberculosis who experience ineffective airway clearance.

## Method

The research method is descriptive with a case study approach, namely by carrying out nursing care in Pulmonary Tuberculosis (TB) starting from assessment, intervention, implementation and evaluation of nursing. And data collection can be carried out for 6 days at Koja North Jakarta Hospital. Data analysis requires further care and collaboration with other medical teams, clients and families which are indispensable for the success of nursing care

Data collection was carried out by collecting data by way of direct interviews with patients and families, observations from physical examinations directly to patients, namely the IPPA approach (Inspection, Palpation, Percussion and Auscultation) on the client's body system, from the results of diagnostic examinations and data from room nurses who treating patients in the Lung Room of the Koja Regional General Hospital, North Jakarta, so that the authors get Subjective and Objective data.

Testing the validity of the data was obtained by testing the validity of the data by conducting direct interviews, physical examination of the patient and medical record data, as well as using three main data sources, namely client nurses and families related to the problem under study.

Data analysis was carried out since field research, from data collection to all data collected. Data analysis was carried out by collecting facts, then comparing them with existing theories and pouring them into discussion opinions. Data collection techniques were carried out by

means of WOD (interviews, observations, documents).

## Result

At this stage of the study students conducted direct interviews with clients, nurses, and obtained from the client's status. The assessment is carried out in stages and arranged according to the assessment format, the assessment lasts for 3 days, starting June 10-16 2017. using the nursing process approach starting from the Assessment, Nursing Diagnosis, Nursing Implementation, Nursing Planning, and Nursing Evaluation stages

The Lung Room is a lung room located on the 8th floor of block B at the Koja Regional General Hospital, North Jakarta, with 7 rooms and a bed capacity of 39 patients. The lung room is divided into 7 rooms consisting of a lung room for pulmonary TB patients, COPD room, BP room, pneumonia room, clean room conditions, good lighting, calm situation (because the visiting hours system has been regulated by the hospital so that it is more organized and orderly).

## Discussion

### Assessment

Assessment is the initial stage of the nursing process which is carried out where the author tries to examine the client as a whole through the social and spiritual aspects of biopsychosocial. The results of the assessment are in the form of basic data, special data, supporting data, physical examination, reading medical records and nursing notes.

In the study of theory and cases there was no gap where the etiological theory of Pulmonary Tuberculosis was that there were factors from the environment and lifestyle that could be affected by this disease. In Mrs.M, it comes from internal

factors or because of heredity from her older sibling who had suffered from Pulmonary Tuberculosis, in Mrs.Y it was caused by environmental dust and vehicle dust, especially often contaminated with cigarette smoke, and in Mr.D it was caused by the smoking factor. which has been done since starting high school and also working in an environment that has a lot of dust and pollution, especially pollution from cigarette smoke.

In theory and cases there is no discrepancy in the signs and symptoms that appear. The signs and symptoms found in theory are a feeling of tightness in the chest and difficulty removing sputum. What is often issued by clients is pain and difficulty removing sputum. What clients often complain about is pain in the respiratory area.

In general, the management carried out on clients is in accordance with theory, but clients still need to be given knowledge about how to deal with complaints that are often felt, exercise and other drug therapy and effective cough techniques are given, then in theory and cases there are gaps in diagnostic examinations where in theory examinations carried out were laboratory, smear test, medical history and physical examination.

Supporting factors when carrying out the assessment are the availability of an assessment format, the establishment of therapeutic communication, the occurrence of a good relationship between nurses, patients and families and also supporting or adequate hospital equipment facilities. And in general there are no inhibiting factors in conducting the assessment.

### Nursing diagnoses

In nursing diagnoses, there is a gap between theory and cases. In theory, there are 3 diagnoses, namely the first

diagnosis: Ineffective airway clearance related to difficult sputum expulsion. Second diagnosis: Impaired nutritional changes less than body requirements related to decreased appetite.

Third diagnosis: Sleep pattern disturbance related to coughing. What the authors did not find in this case was the diagnosis: High risk for impaired gas exchange related to pleural effusion. In Mrs.M's case there were two diagnoses where two of them had the same diagnosis as the theory, namely ineffective airway clearance related to sputum accumulation and the second was less nutrition than body requirements related to inadequate intake.

Supporting factors in determining nursing diagnoses are complete collected data, and the availability of reference books. While in general the inhibiting factors were not found.

### **Nursing planning**

Nursing planning was prepared when the authors conducted research on the three respondents by taking action for 6 days. Where at the planning stage there are 3 aspects, namely setting general goals, specific goals, outcome criteria and nursing plans that can be measured and have a deadline for achieving Nursing Planning according to the current conditions and needs of the client. General goals can be achieved if a series of specific goals can be achieved.

In general, the outcome criteria are in accordance with the theory, namely specifically, measurable, achievable, according to theory (reality), and the time limit for implementing nursing, but this is also adjusted to the patient's condition.

As for the nursing plan that the authors make, for client 1, client 2 and client 3 is to perform an effective cough technique. While the supporting factors for the planning of nursing actions are the

availability of adequate room facilities, while in general there are no inhibiting factors.

### **Nursing implementation**

In general, the implementation of nursing actions has been carried out based on plans that have been prepared and then adjusted to the client's circumstances or conditions. Where in the implementation of the author cooperates with room nurses in carrying out nursing actions.

The supporting factor of nursing is the existence of good cooperation between the client, the client's family, the writer and the room nurse in carrying out nursing actions and also adequate facilities.

### **Evaluation**

Nursing evaluation is the final stage of the nursing process which aims to assess the final results of all the nursing actions that have been given. The evaluation by the author is based on the client's condition and is made according to the problems in the evaluation, namely by using SOAP (Subjective, objective, analysis, and planning).

Of the 3 nursing diagnoses the authors found in the case of Mrs.M the diagnosis was resolved. Nursing diagnoses that have been resolved, namely (first diagnosis: ineffective airway clearance related to sputum accumulation. Second diagnosis: disturbed nutritional pattern less than body requirements related to inadequate intake. Third diagnosis: disturbed sleep patterns associated with coughing)

Whereas in the case of Nn.Y the authors found 3 diagnoses resolved. Nursing diagnoses that have been resolved, namely (first diagnosis: ineffective airway clearance related to sputum accumulation. Second diagnosis:

disturbed nutritional pattern less than body requirements related to inadequate intake. Third diagnosis: disturbed sleep patterns associated with coughing)

Whereas in the case of Mr. D the authors found 3 diagnoses resolved. Nursing diagnoses that have been resolved, namely (first diagnosis: ineffective airway clearance related to sputum accumulation. Second diagnosis: impaired nutrition related to inadequate intake. Third diagnosis: sleep pattern disturbance associated with coughing)

As long as the authors carry out effective coughing techniques, there are differences in the response from clients with the same treatment, this is because Mr. D. The supporting factors for nursing evaluation are the development of patients in the form of cooperative patients, increasing knowledge about the client's disease. While in general there are inhibiting factors in evaluating nursing.

### Summary

The implementation of nursing actions in theory and cases is all carried out based on plans that have been prepared based on interventions that have been selected from theoretical interventions and adapted to the circumstances or conditions of the client and there is a gap between theory and case interventions, but all plans that have been made cannot be implemented as a whole. only focused on the actions taken on client 1 with the first diagnosis of ineffective airway clearance related to sputum accumulation. When the author performs the same nursing actions for client 1, client 2 and client 3, namely by practicing effective coughing and when the author evaluates there is a difference in response between client 1, client 2 and client 3 because client 3 has had TB for a long time compared to clients 1 and client 2.

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11. Jombang” dengan metode penelitian, ini merupakan pra eksperimen dengan jenis one-group pre-post test design

12. Prida Dkk, 2016. “*Pengaruh Fisioterapi Dada Terhadap Ekspektorasi Sputum dan Peningkatan Saturasi Oksigen Penderita Tuberkulosis di RSP Dungus Madiun,*” dengan metode penelitian bersifat kuantitatif dengan desain *quasi experimental*.