

CHAPTER 1

INTRODUCTION

1.1 Background

Spondylitis Tuberculosis (ST) or Vertebral Tuberculosis or Pott's Disease, caused by the *Mycobacterium tuberculosis* bacteria, attacks the corpus vertebrae, potentially causing serious morbidity, including neurological deficits and permanent spine deformity. The most common deformity is kyphotic deformity, known as the gibbus. The diagnosis is usually established at advanced stage, where severe spinal deformity and neurological deficits such as paraplegia are evident (Faried, 2015).

Spinal tuberculosis is a frequently encountered extrapulmonary form of the disease. In developing countries, most cases of spinal tuberculosis are seen primarily in immigrants from endemic countries. It is necessary to increased awareness about spinal tuberculosis because the epidemic of human immunodeficiency virus (HIV) infection caused resurgence in all forms of tuberculosis. Despite its common occurrence and the high frequency of long-term morbidity, there are no straightforward guidelines for the diagnosis and treatment of spinal tuberculosis. Early diagnosis and prompt treatment is necessary to prevent permanent neurological disability and to minimize spinal deformity (Garg & Somvansi, 2011).

According to data from the World Health Organization WHO (2016) about one-third of the world's population is infected with *Mycobacterium tuberculosis*, although only a small percentage of the infected develops the illness. The exact incidence and prevalence of Pott's disease are not known for most countries. However, it is assumed to be proportional to pulmonary infection, approximately 10% of clients with extrapulmonary tuberculosis have skeletal involvement, the spine is the most frequently affected area. Spinal Tuberculosis represents about 50% of all cases of

skeletal tuberculosis. People with impaired immune systems due to chemotherapy for cancer, old age, diabetes mellitus, alcoholism, malnutrition and drug abuse, are at greater risk of developing the disease. In the case of Human Immunodeficiency Virus (HIV) co-infection the risk is 26 to 31 times higher, since *Mycobacterium tuberculosis* infection is the most common opportunistic infection associated with HIV . The genetic susceptibility associated to ST was also demonstrated by Zhang *et al.* in 2010 This group investigated, in the Chinese population, the association between this infection and the Fok-I Polymorphism in the vitamin D receptor gene, demonstrating that this gene increases the susceptibility to ST .

In 2015, 10.4 million new cases of TB worldwide were detected. Sixty percent of the cases were diagnosed in 6 countries: India, Indonesia, China, Nigeria, Pakistan and South Africa. There were more than 400.000 people had HIV infection . The 2013 United Kingdom (UK) Public Health Agency report notified 7892 cases of TB in 2013 73% of cases occurred in people not born in the UK, with 15% having arrived in the country less than need 2 years ago : 4.5% (353 patients) had spinal cord injury Ramos *et al* (2011). published a study on the North American population in 2011. It is reported 75 858 clients with tuberculosis and 3.7% of these presented vertebral complications . In endemic countries, ST is more common in children and young adults, while the disease affects more the adult population in the developed eastern and western countries (Esteves, 2017).

Indonesia in 2015 is the fifth largest contributor to tuberculosis in the world with an additional 583,000 new cases each year. Most sufferers fall into the productive age group (15 - 54 years old) with low socio-economic and educational levels. Infection *mycobacterium tuberculosis* in the spine is called tuberculosis spondylitis which accounts for 10-15%

of all cases of extrapulmonary tuberculosis, and 1.8-5% of all cases of tuberculosis. The spine is the most common site of *Mycobacterium tuberculosis* infection and accounts for 50% of all tuberculosis Osteoartrikular. It was found also the predominance of men to women as well as greater incidence in children in countries with high prevalence of tuberculosis. In Indonesia, it's recorded 70% of tuberculosis spondylitis of all tuberculosis bone most in Ujung Pandang area. Generally this disease attacks people who are in a low socioeconomic state. As many as 50% of patients with tuberculosis spondylitis have comorbid problems of neurological deficits that will aggravate morbidity in 10 - 45% (Rahyussalim, 2015).

Based on data from Ulin General Hospital in orthopedic ward in 2014-2016. It is obtained the data that spondylitis tuberculosis is rare disease at orthopedic ward. The total of spondylitis tuberculosis client was 8 on 2014. The total client was 6 on 2015. The total client was 19 in 2016. The condition showed that the ranking spondylitis disease in not always same every year, sometimes it increased, but the next year it decreased.

Based on the data above the writer as a nurse tries to outline the basic concepts of spondylitis tuberculosis in theoretical background and provides comprehensive nursing care to clients with spondylitis tuberculosis . The writer will explain more about what the spondylitis tuberculosis, including the main cause that can lead to the spondylitis tuberculosis, how the spondylitis tuberculosis can be happened, what are the signs and symptoms of spondylitis tuberculosis, on how to treat that spondylitis tuberculosis, what are diagnostic finding that we have to do for the client with spondylitis tuberculosis, the prognosis that may happen to the client and also the complication of spondylitis tuberculosis. The nurse should assess the client comperhensively, find the nursing diagnosis that appear from the assessment, make a planning on what the

nurse will do for the client and also take action or take the implementation for the client. After that, the nurse should evaluate the result of the implementation that already carried out and make the documentation of that client.

Based on the data, it shows that there is still a complaint in client with tuberculosis spondylitis in Ulin General Hospital Banjarmasin, if not treated immediately it will give the impact of pain that will inhibit the lack of physical activity so that it can cause the supply of oxygen into the muscle which later can lead to disruption of lower extremities function. Therefore, the writer is interested to take the case of spondylitis tuberculosis in orthopedic ward of Ulin General Hospital Banjarmasin as the final project paper, by observing the client with spondylitis tuberculosis disease and its comprehensive nursing care.

1.2 The Purpose

1.2.1 General Purpose

The general objective of writing this scientific paper is reporting the results of nursing spondilitis tb.

1.2.2 Specific Objectives

The special purposes of writing this scientific papers are:

1.2.2.1 Collecting data on the health status of clients with spondilitits tb including bio-psycho-socio-spiritual aspects.

1.2.2.2 Formulating a nursing diagnosis that describes a problem encountered on spondilitis tb.

1.2.2.3 Determining nursing interventions that can be performed on the client with spondilitis tb.

1.2.2.4 Giving the implementation of nursing according to the plan that has been done.

1.2.2.5 Evaluating outcomes of nursing care that were given to the client with spondilitis tb.

1.2.2.6 Documenting the results of nursing care on spondilitis tb.

1.3 The Benefit of Writing

The benefit of writing are:

1.3.1 Academic

For educational institutions, especially students, to increase knowledge about spondilitis tb , so the implementation of nursing care in patients with spondilitis tb can be improved better.

1.3.2 Theoretically

The nursing care report of client with spondilitis tb cases is expected to develop knowledge, especially as a support in nursing care to client with cases of spondilitis tb.

1.3.3 Practically

1.3.3.1 Patient

To increase health, prevent complication, improve knowledge about the treatment of spondilitis tb.

1.3.3.2 Family

To enhance cooperative relations and the family members motivation, to comply with treatment and care programs, as well as to increase family knowledge about the disease.

1.3.3.3. Health service

To increase knowledge of nursing care in patient with spondilitis tb so that the quality of services can be improved.

1.3.3.4. Writer

To get experience in performing nursing care with a comprehensive approach to the nursing process and can determine tips and art to improve the quality of nursing care to clients with spondilitis tb case.

1.4 The Scientific Method of Nursing Care

Scientific method used in the writing of the present paper is a case study approach by exploring the treatment process to get all the data that supports both subjective data and objective data. The nursing process approach includes the assessment, formulation of nursing diagnosis, nursing plans, which was implemented according to the existing plans in order to evaluate the care provided.

1.5 The Systematic of Writing

Systematic of writing this case study consists of four parts.

1. Chapter 1 introduction consists of background, general purpose, specific purpose, scientific method of nursing care, systematic of writing, and benefits.
2. Chapter 2 about theoretical background of the spondilitis tb that includes anatomy and physiology, definition, etiology, clinical manifestation, pathophysiology, phatway, diagnostic examination, treatment, prognosis, complications, nursing care plan, nursing diagnosis, intervention, and evaluation.
3. Chapter 3 nursing care report consists of assessment, data analysis, diagnosis nursing, intervention, implementation, and evaluation of nursing.
4. Chapter 4 closing that contains of Conclusion and Recommendation.