

UNIVERSITI TEKNOLOGI MARA



**THE PREVALENCE OF
MYCOBACTERIUM TUBERCULOSIS
INFECTION IN HOSPITAL PULAU PINANG**

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ABSTRACT

Background of study: Tuberculosis is a treatable disease and powerful drugs are available, TB remains a great public health concern worldwide. Today, TB ranks number eight on the list of the most common causes of death worldwide, and it is the second most common cause of death from an infectious disease after the human immunodeficiency virus (HIV) (1). The objectives of this thesis were to study the socio-demographic background, clinical and laboratory data of TB patients in Penang Hospital, and to determine the prevalence of the patterns and types of drug regimen used in their treatment. **Methods:** A retrospective study of all TB patients registered at the chest clinic was conducted May 2002 to February 2003. In this study, a total number of 207 patients in Hospital Pulau Pinang were carried out and their demographic data were accessed through the form. Analysis was found that 55.5% were Chinese, 33.8% Malay, 72.9% male, 49.6% smokers and 52.2% secondary educated. In term of disease and drug data, 83.1% of the patients had pulmonary TB, 11.1% had extra pulmonary TB, 2.4% TB with HIV and 1.9% had drug resistant TB, 5.4% of the patients were on 2SHRZ/4SHR, 21.7% were on 2HRZE/4HR, 10.1% were on 2HRZ/4HR, 4.8% were on 2SHREZ/4SHR and 1.9% were on 2HRE/4HR as for anti-TB drug regimens which shows standard abbreviations are adopted: S = Streptomycin, H = Isoniazide, R = Rifampicin, Z= Pyrazinamide, and E = Ethambutol; and the number used refer to “month of treatment”. **Conclusion:** Tuberculosis was previously uncommon and largely pathogenic. The findings showed that the majority of the patients were Chinese, male and secondary educated. Most of the patients had pulmonary TB and about one third of the patients had diabetes. Besides, commonly used regimen was SHRZ/4SHR. However, many unresolved issues still exist, especially with regard to diagnosis TB should not be ignored but requires careful assessment.

Key words: tuberculosis ,mycobacterium spp.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

In the entire history of humankind, it is believed that tuberculosis (TB) has killed more people than any other disease. Besides, tuberculosis dates back to at least 4000 BC and was present in ancient Egypt, Greece, Rome, and India. However, in 1882, the microbiologist Robert Koch discovered the tubercle bacillus, at a time when one of every seven deaths in Europe was caused by TB and isolated *Bacillus anthracis*, the tuberculosis bacillus and the cholera vibrio. Unfortunately, there are one in five deaths in 17th century London. Since 1980's(3). Today, TB ranks number eight on the list of the most common causes of death worldwide, and it is the second most common cause of death from an infectious disease after the human immunodeficiency virus (HIV) (3). When appropriately diagnosed and treated, TB is largely curable. Yet, in 2011, there were an estimated 8.8 million new TB cases and 1.4 million deaths, an equivalent of 3,800 deaths per day, caused by TB (3). The burden of TB is highest in Africa and Asia, and the five countries with the largest number of incident cases in 2011 were India, China, South Africa, Indonesia and Pakistan. China and India together account for almost 40% of the world's TB cases. The wide range of estimated per capita TB incidence rates can be exemplified by 6 per 100,000 population in Sweden (4), to alarmingly 993 per 100,000 population in South Africa (3), in 2011.

1.2 Background of study

There has been increase in the prevalence of TB infection in Malaysia from year to years. In 2001, TB was the second most commonly notified communicable disease in Malaysia. It is common in the patients admitted in intensive care units, during the period between May 2002 until February 2003, and prospectively for the patients that were still on TB treatment after February 2003 to the end of September 2003. Besides, TB either has a symptom or not depending on the patients, and it does not necessarily indicate that they have a TB. If present in critically ill patients, it should be regarded as a marker for the possibility of TB infections. Risk factors for TB infections include extremes of age, HIV patients and smokers.