

Impact of COVID-19 Pandemic on Pulmonary Tuberculosis Care in Secondary and Tertiary Care Centers of Thailand

Chutipon Kiatsrithanakorn(1), Naphat Asawametharphan(1), Saenabadee Sethachavalwong(1), Sakarn Charoensakulchai(2), Boonsub Sakboonyarat(3), Detchvijitr Suwanpakdee(4), Ram Rangsin(5), Mathirut Mungthin(6), Kanlaya Jongcherdchootrakul(7), Panadda Hatthachote(8)

1- Medical student, Phramongkutklao College of Medicine, Bangkok, Thailand

2- Doctor, Phramongkutklao College of Medicine, Bangkok, Thailand

3- Doctor, Department of Military and Community Medicine, Phramongkutklao College of Medicine, Bangkok, Thailand

4- Assistant Professor, Infectious Disease Unit, Department of Pediatrics, Phramongkutklao College of Medicine, Bangkok, Thailand

5- Professor, Department of Military and Community Medicine, Phramongkutklao College of Medicine, Bangkok, Thailand

6- Professor, Department of Parasitology, Phramongkutklao College of Medicine, Bangkok, Thailand

7- Assistant Professor, Department of Military and Community Medicine, Phramongkutklao College of Medicine, Bangkok, Thailand

8- Assistant Professor, Department of Physiology, Phramongkutklao College of Medicine, Bangkok, Thailand

Introduction

Historically, a pandemic usually disrupted a country's public health systems. COVID-19 pandemic, as well, has disrupted the care of several tropical infectious diseases, including tuberculosis (TB). In the past years, the pace of TB elimination has lagged behind the goal of End TB Strategy. It remains to be seen whether the COVID-19 pandemic will hamper this process.

Objective

The purpose of this study was to address the effects of COVID-19 pandemic and its consequences on pulmonary TB care, as well as risk factors of unsuccessful TB treatment outcomes during the pandemic.

Methods

Retrospective cohort study was conducted on 1,500 TB patients receiving treatment during 2012 to 2021. Collected data included treatment dates, demographic data, sputum collection for acid fast bacilli smear and culture, directly observed therapy (DOT), follow-ups, and treatment outcomes. Incidence was calculated using person-time function. Risk factors were calculated by Cox proportional hazard model.

Results

A total of 188 cases received treatment during COVID-19 pandemic (2020-2021). Patients who had no facility-based DOT during the pandemic were markedly higher than before the pandemic.

Incidence rates of unsuccessful pulmonary TB treatment in 2020 was 24.3 per 100 PY and 8.0 per 100 PY in 2021. Monthly notification of new pulmonary TB cases had downward trend. Risk factors of unsuccessful treatment during COVID-19 pandemic were tobacco use (AHR 6.12, 95%CI 1.31-28.56) and having history of missing follow-up or no doctor's appointment at any point during the treatment course (AHR 3.63, 95% CI 1.44-9.17)

Conclusion

This study described the effects of the pandemic and its consequence toward pulmonary TB care. Management of pulmonary TB in Thailand was severely hit by COVID-19 pandemic, but it also resulted in novel innovations for the future of pulmonary TB care.

Keywords:

Pulmonary tuberculosis; COVID-19; Thailand; Impact; Management