Vol. 3 No. 1 Edisi Januari 2026 E. ISSN. 3032-2472
Multidisciplinary Indonesian Center Journal (MICJO)
Journal page is available to
https://e-jurnal.jurnalcenter.com/index.php/micjo
Email: admin@jurnalcenter.com

CLINICAL PROFILE OF DRUG-RESISTANT TUBERCULOSIS (DR-TB) PATIENTS DURING THE COVID-19 PANDEMIC AT RSUD DR. SOETOMO (JANUARY 2021 - DECEMBER 2021)

PROFIL KLINIS PASIEN TUBERKULOSIS RESISTEN OBAT (TB-RO) SELAMA PANDEMI COVID-19 DI RSUD DR. SOETOMO (JANUARI 2021 - DESEMBER 2021)

Valentina Alfianti Herdy Tamyn[1*], Rebekah J. Setiabudi[2], Soedarsono[3], Ibrahim Syamsuri[4], Shofiuddin Al Mufid[5]

[1*]Airlangga University, Email: valentina.alfianti.herdy-2018@fk.unair.ac.id
[2]Airlangga University
[3]Airlangga University
[4]Airlangga University
[5]Airlangga University

*email koresponden: valentina.alfianti.herdy-2018@fk.unair.ac.id

DOI: https://doi.org/10.62567/micjo.v3i1.1608

Abstract

The emergence of the COVID-19 pandemic in 2019 has had an impact on all aspects of life, particularly global health. Indonesia is one of the affected countries. The Indonesian government has responded to the conditions of this pandemic, one of which is by imposing access restrictions to prevent the pandemic from spreading. This policy indirectly affects the community's activities, including the utilization of existing healthcare services. Meanwhile, available data show that one of the major issues that the Indonesian state is still dealing with is its status as the third country with the greatest number of TB (Tuberculosis) cases in the world, with some of the TB cases being classified as Drug-Resistant Tuberculosis (DR-TB).

Keywords : Tuberculosis, Drug-Resistant, COVID-19.

Abstrak

Munculnya pandemi COVID-19 pada tahun 2019 telah berdampak pada semua aspek kehidupan, khususnya kesehatan global. Indonesia adalah salah satu negara yang terkena dampak. Pemerintah Indonesia telah merespons kondisi pandemi ini, salah satunya dengan memberlakukan pembatasan akses untuk mencegah penyebaran pandemi. Kebijakan ini secara tidak langsung memengaruhi aktivitas masyarakat, termasuk pemanfaatan layanan kesehatan yang ada. Sementara itu, data yang tersedia menunjukkan bahwa salah satu isu utama yang masih dihadapi negara Indonesia adalah statusnya sebagai negara ketiga dengan jumlah kasus TBC (Tuberkulosis) terbesar di dunia, dengan beberapa kasus TBC diklasifikasikan sebagai Tuberkulosis Resisten Obat (TB-RO).

Kata Kunci : Tuberkolosis, resisten terhadap obar, COVID-19.

Multidisciplinary Indonesian Center Journal (MICJO)
Journal page is available to
https://e-jurnal.jurnalcenter.com/index.php/micjo
Email: admin@jurnalcenter.com

1. INTRODUCTION

According to a report by the World Health Organization (WHO), in 2018 it was estimated that 10 million people were infected with TB worldwide with 1.5 million deaths due to TB and 251,000 of these deaths were accompanied by TB coinfection with human immunodeficiency virus (HIV). In Indonesia, the results of the 2013-2014 TB prevalence survey show the prevalence of bacteriological confirmation in Indonesia is 759 per 100,000 population aged 15 years and over and the prevalence of smear-positive TB is 257 per 100,000 population aged 15 years and over (Kemenkes-RI, 2016). estimates that there are 32,000 cases of drug-resistant TB (DR-TB) in Indonesia (WHO, 2019).

In Indonesia, the estimated drug-resistant tuberculosis or DR-TB is 2.4% of all new TB patients and 13% of TB patients who have been treated with a total estimated incidence of DR-TB cases of 24,000 or 8.8/100,000 population. In 2019, about 11,500 RR-TB patients were identified and reported, about 48% of patients starting second-line TB treatment, with a treatment success rate of 45% (WHO, 2020).

COVID-19 is a disease caused by infection with the virus severe acute acute respiratory syndrome coronavirus 2 (SARS-CoV-2). COVID-19 can cause respiratory system disorders ranging from mild symptoms such as flu, to lung infections, such as pneumonia. COVID-19 (coronavirus disease 2019) is a disease caused by a virus from the Coronavirus group or often referred to as the Corona virus (WHO, 2020).

The spread of COVID-19 is very fast and has spread to 218 countries worldwide. WHO data on June 3, 2021, the number of cases of COVID-19 has reached 172,405,986 cases (WHO, 2021). In Indonesia, data on the number of COVID-19 cases reached 1,837,126 cases with a death toll of 51,095 cases (Kemenkes RI, 2021).

2. RESEARCH METHOD

The sample of this study was DR-TB patients in 2021. By taking secondary data through patient medical records after the ethical management process at Dr Soetomo Hospital. The research procedure consists of a preliminary process, data collection, and data processing. The research procedure has been approved by the ethics committee of the Faculty of Medicine, Universitas Airlangga.

3. RESULT AND DISCUSSION

This study was conducted using medical record data of DR-TB patients in 2021, there were 124 total DR-TB patients, and all samples met the inclusion criteria. The results of this study include demographic data, treatment history, and treatment outcomes. The results of the study are presented in the following table:

Table 1. DR-TB sampel incidence.

Age	Total
Teens (12-25)	17(13.7%)
Adult (26-45)	50(40.3%)

Multidisciplinary Indonesian Center Journal (MICJO)
Journal page is available to
https://e-jurnal.jurnalcenter.com/index.php/micjo
Email: admin@jurnalcenter.com

Old - Elderly (>45)	57(46%)
Total	124(100%)

Table 2. Gender of DR-TB Patients

Gender	Total
M	61(49.2%)
F	63(50.8%)
Total	124(100%)

Table 3. Address of DR-TB Patients

Address	Total
Bangkalan	12(9.7%)
Blora	1(0.8%)
Kediri	1(0.8%)
Mojokerto	1(0.8%)
Nganjuk	1(0.8%)
Sampang	1(0.8%)
Sidoarjo	2(1.6%)
Sumenep	1(0.8%)
Jakarta Timur	1(0.8%)
Surabaya	103(83.1%)
Total	124(100%)

Table 4. Anatomy of DR-TB Patients

Anatomy of DR-TB	Total
Ekstra Pulmo	2(1.6%)
Pulmo	122(98.4%)
Total	124(100%)

Table 5. Treatment Results of DR-TB Patients

Treatment Results	Total
Failed Due to a Change in Diagnosis	4(3.2%)
Death	13(10.5%)
No data	99(79.8%)
Break up Treatment	3(2.4%)
Recovered	5(4%)
Total	124(100%)

Multidisciplinary Indonesian Center Journal (MICJO)
Journal page is available to
https://e-jurnal.jurnalcenter.com/index.php/micjo
Email: admin@jurnalcenter.com

Table 6. Treatment History of DR-TB Patients

Treatment History	Total
New	45(36.3%)
Failure Treatment	13(10.5%)
Failure Retreatment	2(1.6%)
After Default	7(5.6%)
Relapse	42(33.9%)
Etc.	6(4.8%)
have been treated but the results are not known	6(4.8%)
Other	3(2.4%)
Total	124(100%)

The sample of this study was mostly female, >45 years old, lived in Surabaya, had more pulmonary TB, the history of "new" treatment was the highest, and the results of treatment with "no data" were the highest.

Discussion

From the data obtained, there were a total of 124 DR-TB patients in the MDR-TB polyclinic for the period 2021. It can be concluded that the COVID-19 pandemic period greatly affected the number of DR-TB patients. Supported by research from the WHO in 2021, the COVID-19 pandemic has the potential to erase and reduce the progressivity of TB success in Indonesia which has been achieved for the past 20 years. Indonesia is one of the countries that have the largest TB burden in the world. From 84 countries, data shows that there is at least a decline of up to 1.4 million TB patients in 2020. WHO has predicted that there will be 10 million new TB cases in 2020, but only 5. 8 million recorded and reported cases. And the number of cases decreased by 18% from the previous year (WHO,2021). Another study from Bhatia et.al in 2021 the data on the number of TB cases that fell in 2020 was not because the number of true patients decreased, but was caused by a lack of reporting or diagnosis due to decreased access to health facilities. And experts predict that there will be a spike in TB or TB-RO cases when the pandemic subsides, where patients can return to visit health facilities without any problems. According to statistical calculations, it is estimated that at least 380,000 new TB cases and 770 new TB-RO cases will be added (USAID, 2021). In this study, it was found that the number of female patients was higher than that of male patients. Another study by Finn McQuaid et al. in (2020) stated that the risk for developing MDR-TB and RR-TB is the same for men and women. However, in high-burden countries or countries with a high burden of TB, men are stated to have a higher risk than women. It was found that the most age group was elderly - elderly >45 years. Most of the patients were Adults (26-45 years) and Elderly (>45 years). The group is mostly included in the productive age. In this study, the productive age almost covers the total number of patients. Research conducted by Adiwinata et.al in (2018) obtained results with the most groups aged 35-44 years. The results of another study conducted by a judge in 2017 obtained results with an age range of 51-60 years. Meanwhile, according to WHO, TB is the most common disease during productive age, with data obtained in 2015 45% of TB cases aged

Multidisciplinary Indonesian Center Journal (MICJO)
Journal page is available to
https://e-jurnal.jurnalcenter.com/index.php/micjo
Email: admin@jurnalcenter.com

24-44 years (WHO, 2020). In a study conducted by Jendra et al in 2015 cases of smear positives in males were higher than females with a ratio of almost 1.5 times more in males. In each province throughout Indonesia, smear positive cases were more common in men than women. Government policies that limit people's mobility, an increase in the economic burden on the community, and the shifting of the attention of the Health system in general to handling COVID-19 have caused limitations in TB treatment. However, although the pandemic has had many negative impacts, there are also some positive impacts that can be utilized for TB and TB-RO control in Indonesia. Like good habits of wearing masks, maintaining better sanitation, and limiting physical distance can prevent the transmission of respiratory diseases (Kant S, 2021).

4. CONCLUSION

The results of this study indicate that the incidence of DR-TB in RSUD Dr. Soetomo as many as 124 patients. It was found that the incidence of DR-TB in 2021 was more frequent in the female sex group, age >45, pulmonary TB, originating from the area or domicile of Dr.Soetomo Hospital, treatment results with the information "no data" were obtained the most, while treatment history most of them are “new” patients.

5. REFERENCES

Adiwinata, R., Rasidi, J., & Marpaung, M. (2018). Clinical Profile and Treatment Evaluation of Rifampicin-Resistant and Multidrug-Resistant Tuberculosis Patients at Dr. Kanujoso Djatiwibowo Public Hospital, Balikpapan. Jurnal Respirologi Indonesia, 38(3), 135-142.

Bhatia V., Mandal PP., Satyanarayana S., et al. Mitigating the impact of the COVID-19 pandemic on progress towards ending tuberculosis in the WHO South-East Asia Region. 2020. WHO South-East Asia journal of public health, 9(2), 95–99. https://doi.org/10.4103/2224-3151.294300

Duarte , R et al . 2018. Tuberculosis, social determinants and co-morbidities (including HIV). Rev Port Pulmonology.

McQuaid CF, Horton KC, Dean AS, Knight GM, White RG. The risk of multidrug- or rifampicin-resistance in males versus females with tuberculosis. Eur Respir J. 2020 Sep 17;56(3):2000626. doi: 10.1183/13993003.00626-2020. PMID: 32430421.

Global TB Caucus. Lembar Informasi-Dampak COVID-19 pada Layanan TB. McGill International TB Centre. 2021. https://www.mcgill.ca/tb/files/tb/COVID_tb_briefing_indo.pdf

Kant S., Tyagi R. The impact of COVID-19 on tuberculosis: challenges and opportunities. 2021. Therapeutic advances in infectious disease, 8, 20499361211016973. https://doi.org/10.1177/20499361211016973

Kementerian Kesehatan RI 2016, Tuberculosis: Temukan Obati Sampai Sembuh, Jakarta: Pusadatin.

WHO. 2020, Consolidated Guidelines on Tuberculosis, Module 4: Treatment - Drug- Resistant

Multidisciplinary Indonesian Center Journal (MICJO)
Journal page is available to
https://e-jurnal.jurnalcenter.com/index.php/micjo
Email: admin@jurnalcenter.com

Tuberculosis Treatment. Geneva, https://www.who.int/publications/i/item/9789240007048 (2020).

WHO. Global Tuberculosis Report 2021. https://www.who.int/teams/global-tuberculosis-programme/data

WHO. Tuberculosis and COVID-19. 2020. https://www.who.int/docs/default-source/documents/tuberculosis/infonote-tb-COVID-19.pdf

WHO. WHO Coronavirus (COVID-19) Disease Indonesia. WHO Coronavirus (COVID-19) Disease Dashboard. 2020.

WHO. WHO Coronavirus (COVID-19) Disease Report. 2020.