CHAPTER 10

Impact of Covid-19 Pandemic on Tuberculosis Notifications (2019- 2022) in the State of Punjab

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INTRODUCTION

As it is widely known, Coronavirus disease (COVID-19) was an infectious illness caused by the SARS-CoV-2 virus. While most individuals who contract the virus experience mild to moderate respiratory symptoms and recover without needing specific medical intervention, some may develop severe illness requiring medical attention. Older adults and those with underlying health conditions like cardiovascular disease, diabetes, chronic respiratory issues, or cancer are at higher risk of developing severe complications. It's important to recognize that COVID-19 can affect anyone, regardless of age, and lead to serious illness or death. The virus spreads primarily through respiratory droplets or aerosols expelled from an infected person's mouth or nose when they cough, sneeze, talk, sing, or breathe. Adhering to respiratory etiquette, such as covering one's mouth and nose when coughing or sneezing and self-isolating if feeling unwell, is crucial. The most effective preventive measures include understanding how the virus spreads and taking necessary precautions [1].

Tuberculosis (TB), caused by the bacterium Mycobacterium tuberculosis, mainly affects the lungs but can affect other parts of the body as well. TB is both curable and preventable and spreads through the air when individuals with lung TB cough, sneeze, or spit, releasing TB germs. About a quarter of the global population has a TB infection, where they have been exposed to TB bacteria but are not yet ill or contagious. When active TB disease develops, symptoms such as cough, fever, night sweats, or weight loss may be mild initially, leading to delays in seeking treatment and further transmission of the bacteria. Individuals with active TB can infect 5–15 others through close contact in a year. Those with weakened immune

systems, such as people living with HIV, malnutrition, diabetes, or those who smoke, have a higher risk of falling ill. Without proper treatment, approximately 45% of HIV-negative individuals with TB and nearly all HIV-positive individuals with TB are at risk of death [2,3].

RESEARCH OBJECTIVES

1. To examine the influence of the Covid-19 pandemic on tuberculosis (TB) notification rates compared to the annual targets established by the Government of India.
2. To assess the Presumptive TB Examination Rate (PTER) and TB Notification Rate across the 22 districts of Punjab during the specified timeframe.
3. To investigate the factors contributing to the fluctuations in TB notification rates during the specified period.
4. To evaluate the effect of Covid-19 on mortality rates across all districts of Punjab.

RESEARCH METHODOLOGY

The study adopted a quantitative approach with a descriptive and exploratory design. Data for analysis was sourced from the NIKSHAY portal, established by the Government of India to oversee tuberculosis (TB) data nationwide and monitor the outcomes of the National Tuberculosis Elimination Program (NTEP). The study period spanned from 2019 to 2022, with data collection conducted from March 2022 to June 2022 at the Directorate of Health and Family Welfare (Parivar Kalyan Bhawan), Punjab. The study encompassed the entire population of all twenty-two districts in Punjab. The sample size included TB notifications from both the

public and private sectors across all twenty-two districts of Punjab. Data analysis was carried out using Microsoft Excel and Tableau software.

RESULTS & DISCUSSION

In 2021 and 2022, there was a partial recovery of the previous direct proportionality relationship during the deadlier second wave of COVID-19. Several factors contributed to this recovery. Firstly, there was an improvement in machinery and infrastructure, enabling more effective management of TB cases. Additionally, bidirectional screenings and active case finding (ACF) rounds were conducted, facilitating the identification and treatment of TB patients. Notably, the private sector played a significant role in the recovery efforts during this period. In 2021, there were no COVID waves from January to March and July to December, allowing hospitals to operate fully and engage more effectively with the private sector. However, in 2020, default rates remained consistent due to the challenges posed by the COVID-19 pandemic and nationwide lockdown, which hindered accurate contact tracing. Despite the overall stability in default rates in 2021, some districts experienced an increase due to hospitals resuming operations amid severe staff shortages.

The COVID-19 pandemic has had a profound impact on global efforts to combat tuberculosis (TB). According to the World Health Organization's 2021 Global TB report, TB deaths increased for the first time in over a decade in 2020. This reversal of progress can be attributed to several factors. Firstly, there was a disruption in access to TB services and a reduction in resources, as human, financial, and other resources were diverted to the COVID-19 response, limiting the availability of essential TB services. Secondly, lockdown measures made it challenging for

individuals to seek care, further exacerbating the situation. While TB services were among many others disrupted by the COVID-19 pandemic in 2020, the impact on TB was particularly severe, highlighting the urgent need to address the challenges posed by the pandemic on TB control efforts.

CONCLUSION

In the coming years, the treatment success rate is expected to show an increase, following a decline in 2020. This uptick is likely to be attributed to the implementation of improved monitoring systems for indicators at both the state and district levels, as well as the reallocation of existing human resources to facilitate the completion of pending data entries. There is an anticipation that the state will fully recover to its pre-COVID levels by 2022.

As a result, a significant number of cases are anticipated to remain undiagnosed and untreated, contributing to the continued transmission of TB among household contacts. Therefore, it will be crucial to implement supplementary measures alongside the restoration of normal TB services, with a focus on reducing the existing pool of TB in endemic areas. These measures may include intensive community engagement, efforts to maintain awareness of the importance of TB services, and the enhancement of active case-finding initiatives, including the rapid expansion of contact tracing to compensate for missed diagnoses during the lockdown period. Additionally, encouragement of additional innovative approaches, such as leveraging digital technology and other tools, will also be prioritized.

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