Trends and Determinants of Tuberculosis (TB) Incidence in Myanmar from 2010 to 2022

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Introduction

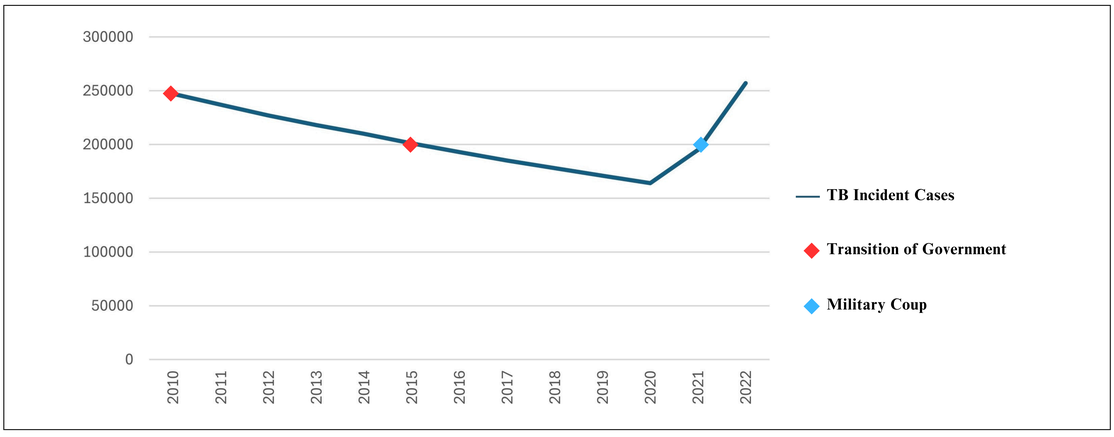
Tuberculosis (TB) caused by Mycobacterium tuberculosis bacteria remains a major public health challenge globally, particularly in low- and middle-income countries. Myanmar, with its unique socio-political landscape, faces a significant TB burden. Understanding the trends and determinants of TB incidence in Myanmar is crucial for developing effective intervention strategies. This study aims to analyze the patterns of TB incidence from 2010 to 2022 and identify key socioeconomic and healthcare-related factors contributing to these trends.

Methods

A retrospective longitudinal study was employed to analyze the trends and determinants of Tuberculosis (TB) incidence in Myanmar from 2010 to 2022, using secondary data from the WHO TB database, World Bank, Myanmar's Ministry of Health, and previous studies.

Demographic, socioeconomic, health-related, and environmental factors are collected. Time series analysis, and bivariate correlation analysis were employed to visualize trends and identify impactful factors at the significance level of $\alpha = 0.05$.

Results



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Variable	GDP per capita	Unemployment Rate	Poverty Rate	Health Expenditure	Healthcare Access	BCG Coverage	HIV Prevalence	% of Pop: in Overcrowded Places
TB Incidence	-0.452	0.395	0.502	-0.721	-0.685	-0.816	0.692	0.410

Bivariate Correlation Analysis of Determinants of TB Incidence in Myanmar from 2010 to 2022

Discussion

The analysis shows a significant decrease in TB incidence in Myanmar from 2010 to 2020 despite two government transitions. However, following the 2021 military coup, TB incidence has notably increased over the past decade.

Key determinants such as GDP per capita, government health expenditure per capita, proportion of population with healthcare access, and BCG vaccine coverage negatively correlate with TB incidence, indicating that declines in these areas can raise TB rates. Conversely, higher unemployment, poverty, HIV prevalence, and overcrowding positively correlate with TB incidence, suggesting that increases in these areas can exacerbate TB incidence rates. These findings highlight the critical role of socioeconomic factors and healthcare infrastructure in TB incidence.

Conclusion

This study highlights the complex interplay of socioeconomic and healthcare factors influencing TB incidence in Myanmar. The findings underscore the need for comprehensive public health strategies addressing income and employment disparities, improving healthcare expenditure and access, fostering BCG vaccine program, and managing HIV prevalence to control TB incidence effectively.

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