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World Health Organization (WHO)

Research Report

Topic 3: Identifying solutions to counter the emergence of tuberculosis (TB).



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Contents

Introduction:.....	1
Definition of Key Terms:	1
Background Information:.....	1
Major Countries involved:	2
Relevant UN Resolutions:.....	2
Previous Attempts to Solve the Issue:.....	3
Possible solutions:.....	3
Bibliography:	3

Introduction:

Tuberculosis (TB), the infectious virus, has been shown to have emerged over the past few decades. Around one quarter of the global population is estimated to have been infected with TB bacteria. Around 5 to 10% of those people infected will eventually develop TB disease. Fortunately, tuberculosis is preventable and curable, however, to achieve the UN global target of ending the TB epidemic, 13 billion dollars in funds are needed annually for TB care¹.

Definition of Key Terms:

Tuberculosis (TB): A serious illness that mainly affects the lungs caused by a type of bacteria and is spread through airborne droplets.

World Health Organization (WHO): The United Nations agency which connects nations, partners, and people to promote health, keep the world safe, and help the vulnerable.

Epidemic: A widespread outbreak of an infectious disease in a community at a particular time.

Background Information:

Tuberculosis most often affects the lungs, but in some cases can affect kidneys, brain, spine and skin. It is caused by a type of bacteria (TB bacteria). TB is an airborne disease, so it is spread through the airborne droplets of infected people when they cough, sneeze, or spit. However, those who are infected, but not ill yet, cannot transmit it. Those who develop TB disease may experience symptoms such as a prolonged cough, chest pain, weakness, fatigue, weight loss, fever, night sweats, and potentially death.²

The TB bacteria was first discovered in 1882, the time at which TB was killing one out of every seven people living in the United States or Europe.³ In 1943, antibiotics were developed to treat the disease. Since then, the spread and deaths caused by tuberculosis have decreased greatly. The recommended antibiotics, as of 2010, are those containing rifampicin, isoniazid, pyrazinamide, and ethambutol.⁴

However, the infectious disease has reemerged over the past two decades, in both industrialized countries due to immigration and in Africa due to the human immunodeficiency virus (HIV)

¹ World Health Organization, "Tuberculosis," World Health Organization (World Health Organization, April 21, 2023), <https://www.who.int/news-room/fact-sheets/detail/tuberculosis>. Accessed 28 Dec.2023.

² ("Tuberculosis" World Health Organisation)

³ CDC.TB. "History." *Centers for Disease Control and Prevention*, 18 Oct. 2023, www.cdc.gov/tb/worldtbdays/history.htm. Accessed 28 Dec. 2023.

⁴ Wikipedia Contributors. "Tuberculosis." *Wikipedia*, Wikimedia Foundation, 27 Dec. 2023, en.wikipedia.org/wiki/Tuberculosis#Treatment. Accessed 28 Dec. 2023.

epidemic.⁵ This is also caused by the strains of TB which are drug resistant, so they are much harder to cure. This is why it is important to determine which antibiotics the TB is sensitive to before treatment.

Major Countries involved:

India

In 2023, India's Prime Minister, Narendra Modi, launched multiple initiatives to end TB in India by 2025. 'TB Mukht Panchayat Abhiyan Initiative' aims to enhance awareness of TB in the remote areas and provide necessary care⁶.

Democratic Republic of Congo

The National Tuberculosis Control Program (PNLT) aims to improve tuberculosis treatment and reach remote areas. In addition, provide individuals with TB prevention awareness by conducting activities⁷.

China

Is providing health education, rigorous screening and directly observed treatment for patients with TB⁸.

Relevant UN Resolutions:

- [A/RES/78/5](#) – Topic of “*Political declaration of the high-level meeting on the fight against tuberculosis*”⁹
- [A/RES/77/274](#) – Topic of “*Scope, modalities, format and organization of the high-level meeting on the fight against tuberculosis*”¹⁰

⁵ M W Borgdorff and D van Soolingen, “The Re-Emergence of Tuberculosis: What Have We Learnt from Molecular Epidemiology?,” *Clinical Microbiology and Infection : The Official Publication of the European Society of Clinical Microbiology and Infectious Diseases* 19, no. 10 (2013): 889–901, <https://doi.org/10.1111/1469-0691.12253>. Accessed 28 Dec.2023

⁶ World. “WHO Applauds Indian Leadership on Ending TB.” *Who.int*, World Health Organization: WHO, 30 Mar. 2023, www.who.int/news/item/30-03-2023-who-applauds-indian-leadership-on-ending-tb. Accessed 26 Dec. 2023.

⁷ *Stoptb.org*, 2021, tbassessment.stoptb.org/drc.html#:~:text=DRC's%20National%20Tuberculosis%20Control%20Program,human%20rights%20and%20sustainability%20in. Accessed 26 Dec. 2023.

⁸ Zhang, Hui, et al. “Guiding Tuberculosis Control through the Healthy China Initiative 2019–2030.” *China CDC Weekly*, vol. 2, no. 49, Jan. 2020, pp. 948–50, <https://doi.org/10.46234/ccdcw2020.236>. Accessed 26 Dec. 2023.

⁹ “A/RES/78/5.” *Undocs.org*, 2023, undocs.org/Home/Mobile?FinalSymbol=A%2FRES%2F78%2F5&Language=E&DeviceType=Desktop&LangRequested=False. Accessed 26 Dec. 2023.

¹⁰ “ODS HOME PAGE.” *Documents-Dds-Ny.un.org*, documents-dds-ny.un.org/doc/UNDOC/GEN/N23/061/99/PDF/N2306199.pdf?OpenElement. Accessed 26 Dec. 2023.

Previous Attempts to Solve the Issue:

In 1921 a vaccine, Bacille Calmette-Guérin (BCG) was introduced. It was licensed to be the only vaccine against TB for almost a century now. However, BCG has many limitations. It provides protection for children up to the age of 15, however, because of this, it is not effective for adults. Consequently, its response varies due to genetics or geographical locations¹¹.

Possible solutions:

In order to successfully counter the emergence of tuberculosis, the following solutions must be followed by countries and organizations:

1. Similar to the practices adopted by many countries, tuberculosis prevention and recovery can be dependent on awareness, rigorous screenings and accessible and effective treatment. Either doctors or health ministers should prioritize visiting rural or remote communities to raise awareness about tuberculosis.
2. Establishing centers that are not only accessible for people living in rural and remote areas but also offer proper medication and screening for those infected with TB. It is crucial that everyone can access information about tuberculosis both digitally and on paper and get the required treatment if needed which is accessible for them.
3. Low-income countries which have high tuberculosis rates and insufficient resources to invest in campaigns or treatment centers could benefit from extra support and aid. Middle to high income countries could provide aid either by financial donations or establishing treatment centers in those countries, helping the tuberculosis rates to decrease.

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