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TUBERCULOSIS TREND IN NIGERIA: A REVIEW OF IT

Introduction

Tuberculosis (TB) is an infectious disease usually caused by Mycobacterium tuberculosis (MTB) bacteria. Tuberculosis generally affects the lungs, but can also affect other parts of the body [1] [2]. Most infections show no symptoms in which case it is known as latent tuberculosis. About 10% of latent infections progress to active disease which, if left untreated, kills about half of those affected [1]. The classic symptoms of active TB are a chronic cough with blood-containing mucus, fever, and night sweats. It was historically called consumption cough due to weight loss. Infection of other organs causes a wide range of symptoms.

In 2023, an estimated 10.8 million people fell ill with TB worldwide, including 6.0 million men, 3.6 million women and 1.3 million children and young adolescents. TB is present in all countries and age groups. In 2023, the 30 high TB burden countries accounted for 87% of new TB cases. Eight countries account for two thirds of the total and Nigeria is one of them [3].

The risk factors include: HIV Co-Infection with about 1.9 million people living with the virus in Nigeria [4]. Another one is poor nutrition with approximately 30% of Nigerian children stunted thus compromising their immune response and increasing vulnerability to TB; crowded living conditions (urbanization causing overcrowding) is another major factor [5]. Others include limited access to healthcare, stigma and lack of awareness further contribute to the problem, socioeconomic factors like poverty, unemployment, and lack of education are also related to TB prevalence [4].

Goal

To assess and give more details on the recent national TB surveillance and vital registration systems, with specific attention to their capacity to measure the level of and trends in TB disease incidence and mortality through the implementation of a checklist of TB surveillance, survey and other available data.

To check the progress from the last epidemiological review and compare the efficacy of treatments over the years.

Material and methods of research

I made this research work using a data from sources available to me during my internship in Nigeria and recently updated information about this topic entailing its definition, etiology, pathogenesis, pathomorphological changes, diagnosis, clinic laboratory and treatment. I also included other reliable materials which provided me with vital and wide range information (see references below).

The analysis of the statistics and data were carried out in the "Microsoft Office Excel" 2024 program.

The results of the research and their discussion

The number of notified new and relapse TB cases in Nigeria increased from 88,589 in 2009 to 103,921 in 2018, however, relative to population the notification rate per 100,000 population remained almost stable, and even slightly declined from 57.4 per 100,000 to

53.1 in the same period [5]. Between 2014 and 2018 pulmonary laboratory confirmed TB notification rate increased on average 4.1% per year, while clinically diagnosed pulmonary TB and extrapulmonary TB notification rates over the same period decreased annually on average by – 10.9% and – 7.2% respectively [5].

According to my research, the proportion of bacteriologically confirmed TB cases at national level has increased from 54.4% in 2009 to 76.8% in 2018 [5].

Male to Female ratio for Nigeria was 1.6:1 and this was comparatively lower than the male to female ratio for bacteriologically positive pulmonary TB in adults (15 years and older) of 2.4 males per 1 female case in the last few years. The elderly population suffer more from this disease followed by those aged 35–54 years; children <5 years and those aged 5–14 have a similar ratio of cases [5]. It is difficult to establish a definitive diagnosis of TB in children because it is rarely laboratory confirmed. Evidence suggests that in the low- and middle-income countries like Nigeria, the expected proportion of children should be around 5 to 15%. Between 2013 and 2016 the proportion of children among all new and relapse TB cases was relatively stable ranging between 5.3 and 5.8% [5]. Between 2016 and 2018 there was an observed rapid increase in child TB notification. Absolute number of children increased from 5244 in 2016 to 8171 in 2018, (equal to increase from 5.4% to 7.9%) [5]. In 2018 the percent of children in 13 states were below 5%, suggesting relative under–detection/notification of child TB cases compared to adults [5]. In addition, in Cross-River and Katsina the proportion of child TB was unusually high relative to adults [5]. There was no clear trend in proportion of child TB across the states in 2018 compared to 2014: Some states have seen marked increases in child TB notification (e.g. Benue, Bomo, Zamfara, Jigawa, Yobe, Cross River, Katsina), while others have observed significant decreases (e.g. Lagos, Oyo, Ogun, Ebonyi), and others have remained relatively level [5]. As of 2023, over 361 000 cases of TB have been reported in Nigeria, with 9% of those cases occurring in children [6]. Compared with 2022, this represents a 26% increase in cases. However, the significant risk of transmission is increasing due to the under–reporting of TB cases. One missed case is thought to have the potential to infect 15 people annually with TB [6]. WHO estimates TB incidence rate over the last 20 years remained stable at the level of 219 per 100,000 populations (range: 143–311). Notification of new and relapsed TB cases in 2018 was 53.1 per 100,000, resulting in 24.2% treatment coverage. Over the last 10 years TB notification rate remained almost stable varying between 49.0 and 57.4% without a clear trend over the time. According to WHO estimates, TB mortality (excluding TB/HIV deaths) in Nigeria remained largely stable since 2000 equaling 64 (range 37–98) per 100,000 in 2018 [6]. The estimated TB/HIV mortality starting from 2011 has declined 8.7% annually equaling 16 (range 10–24) in 2018 [5]. However, the treatment success rate varied markedly among states (ranging from 59% in Bayelsa to 98% in Sokoto) [5]. States with the low treatment success rate are those with higher prevalence of HIV, indicating a correlation between TB/HIV co-infection and adverse treatment outcomes.

In 2022, out of 467 000 people who fell ill with TB, 57% were men, and 29% were women, indicating a higher prevalence of TB among men [3]. However, in 2023, the country reported over 360 000 TB cases provisionally, reaching roughly 70% of its cumulative target and approximately 90% of the 2022 target, owing to the efforts of the NTBLCP and its partners [7]. The Federal Ministry of Health reports that efforts to end the TB epidemic in Nigeria have led to the expansion of GeneXpert analyzer. In addition, a robust specimen referral network was established using a hub-and-spoke model, which transported over 2.4 million samples for TB testing in 2023. These initiatives, along with other creative interventions and targeted actions, aim to address TB threat [7].

Table 1 – Graph of TB cases in last few years in Nigeria

Year	Number of cases
2019	120,266
2022	285,561
2023	361,000

Table 2 – Prevalence of TB cases over the years in Nigeria

Category (TB cases)	Statistic	Year	Conclusion
New and relapse	88,589 – 103,921	2009 – 2018	Increased by 17%
Notification rate/100,000	57.4 – 53.1	2009 –2018	Decreased by 7.5%
Bacteriologically confirmed	54.4% – 76.8%	2009 – 2018	Increased by 22.4%
Clinically diagnosed	–10.9%	2014 – 2018	Annual decrease
Pulmonary rate	+4.1% annualy	2014 – 2018	Annual increase
Extrapulmonary rate	–7.2% annualy	2014 – 2018	Annual decrease
Child cases	5,244(5.4%)– 8,171(7.9%)	2016 – 2018	Increase
By gender	57%(men); 29%(women)	2022	High male prevalence
Increase cases compared to 2022	+26%	2023	High increase
Total cases reported	361,000	2023	Significant increase
By age group	Elderly>children	2023	Elderly more prevalence

Conclusions

As can be seen from table 2, the increased number of tuberculosis cases in Nigeria in 2023 may be related to the problems of insufficient diagnosis in 2019–2022 is due to corona virus pandemic and people were scared to go to the hospital; another reason is due to the insufficiency of doctors and a lot of workloads for the available ones. TB is a worldwide issue that requires early detection and diagnosis so treatments can be started accordingly and effectively. Also, there should be more frequent checkups for HIV due to its relation to TB. More effective and specific diagnostic methods should be employed so latent TB can be detected and treated immediately.

LITERATURE

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