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Tuberculosis and HIV: Analysis of the Sociodemographic and Clinical Profile in Brazil from 2016 to 2020

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Abstract: ***Tuberculosis (TB) is a chronic infectious disease that mainly affects the pulmonary and extrapulmonary regions. Furthermore, the transmission route is through the release of droplets suspended in the environment. In addition, this pathology may be associated with co-infection with the HIV virus, which ends up worsening the clinical condition of individuals, resulting in the potentialization of TB. The objective of this work is to describe the epidemiological profile of registered cases of Tuberculosis-HIV co-infection between 2016 and 2020 in Brazil. This is a cross-sectional, quantitative and descriptive research based on secondary data extracted from the Notifiable Diseases Information System (SINAN), made available by DATASUS. Based on this study, the importance of understanding the analysis of the Brazilian sociodemographic profile to improve public health strategies both for diagnosis and for the quality of life of the patient was confirmed.***

Keywords: TB-HIV Coinfection, Epidemiology, Sociodemographic Profile

1.Introduction

Tuberculosis (TB) is a chronic infectious disease that mainly affects the pulmonary and extra pulmonary regions, such as lymph nodes, pleura, genitourinary tract, bones, joints, meninges, eyes, larynx, peritoneum and pericardium. Furthermore, the transmission route is through the inhalation of aerosols containing bacifers released into the environment. Its origin is undetermined, but it is believed to have emerged in Africa about 70, 000 years ago with an evolution close to the process of formation of population clusters. It is caused by Mycobacterium tuberculosis, also called Koch's Bacillus, in honor of the German pathologist Heinrich Hermann Robert Koch, who in the 19th century, based on studies for cadaver dissection and microscopic analysis, identified for the first time the bacillary-forming bacterium in his necropsies. . Despite his recent discovery, the German doctor was unable to define its forms of transmission and explain its origin. Only a century later, more specifically in 1913, the French immunologists Albert Calmette and Camille Guerin from the Pasteur Institute were able to isolate and study the bacillus in more detail, contributing an important step towards the prevention of Tuberculosis. The disease remained incurable until the mid-1940s, when streptomycin was discovered. From then on, it became possible to use anti-bacillary drugs that, when associated with this substance, allowed the cure of almost all cases. The evolution in the treatment of tuberculosis was positive until the 80s, when it suffered a setback and aroused the concern of the whole world, studies proved the existence of a co-infection with the recently discovered HIV virus responsible for an extremely harmful immune suppression to individuals, which implies a potentiation of the signs and symptoms of TB. Faced with this worsening, the World Health Organization (WHO) ended up declaring the disease a world emergency in 1993. Currently, with scientific and technological advances in the field of Medicine, combined with the existence of a vaccine and an effective treatment, it has become if possible to control the disease. However, tuberculosis-HIV co-infection remains a serious public health problem worldwide, it is estimated that 10 million people became ill with TB in 2019 in the world, of which 8.2% live with both diseases. Morbimortality is also high since approximately 20% of these individuals die. In Brazil, according to the epidemiological bulletin of the secretary of health surveillance of the Ministry of Health in 2017, an increasing rate of 11.4% of individuals with TB-HIV co-infection was observed. In the post-contemporaneity period, the greatest concern is in the cases of multidrug-resistant bacilli that have spread rapidly from East Asia and in the increase in HIV rates among young and adult populations around the world, factors that favor the increase in incidence of coinfection, especially in Brazil, a country that still deals with the precariousness of public policy strategies and actions to combat these diseases. Due to the high prevalence and mortality in the number of cases of co-infection between tuberculosis and HIV in Brazil, further studies are essential to clarify the standardization of these diseases living together. Thus, the following issue was raised: “What is the epidemiological profile and how do the pathogenic factors of individuals with TB and HIV co-infection occur?”.

2.Methodology

This is a cross-sectional, quantitative and descriptive research with analysis of the base on secondary data extracted from the Notifiable Diseases Information System (SINAN) between 2016 and 2020 of cases of tuberculosis-HIV co-infection in Brazil, aiming at a study of the sociodemographic and clinical aspects provided by DATASUS. Furthermore, the study complied with the ethical criteria of resolution 466/2012 and was developed after approval by the CEP under opinion 4, 838, 856.

3.Results and Discussions

After the research, it is possible to infer that there is a high number of cases of tuberculosis-HIV co-infection in the years 2016 to 2020, with a total of 43, 381 notifications made, it is worth mentioning that the most affected age group were individuals aged 20-39 years 23, 349 cases (53%) and between 40-59 years 16, 996 (39%) cases. There was a predominance in men with 31, 132 cases (71%), the most affected schooling were people who had incomplete 5th to 8th grade of elementary school 7, 787 cases (18%), the most predominant races were brown individuals 20, 282 cases (47) %) and whites 13, 095 cases (30%), of the total cases 38, 940 (90%) were not individuals deprived of liberty, the Brazilian region that most notified cases was the Southeast with 17, 262 cases (40%), the Brazilian states that most reported were São Paulo with 8, 822 cases (20%), Rio Grande do Sul 6, 360 (15%) and Rio de Janeiro 6, 035 cases (14%), the area of residence with the most cases was the urban area with 31, 543 cases (73%)., among the capitals that appear with the most cases, São Paulo with 4, 190 cases (10%) and Rio de Janeiro 3, 352 cases (7.8%), most of the cases did not live in street situations 37, 673 cases (87%), 29, 329 cases (67%) reported were people who did not consume alcoholic beverages, it was observed that 28, 413 cases (65%) did not use any type of illicit drugs, 38, 659 cases (89%) had no mental illness, 28, 395 cases (65%) were not smokers, 23, 030 cases (53%) had no other type of illness other than coinfection, 40, 122 cases (92%) were not healthcare professionals. health, 39, 324 cases (91%) individuals did not have diabetes, 15, 966 cases (37%) did not have a DOT follow-up performed, 40, 741 cases (94%) were not immigrants, 24, 053 cases (55%) did not receive government benefits, in relation to the type of entry, 29, 215 are new cases (67%), 6, 849 cases (18%) are treatment abandonment, relapses are 4, 487 cases (10%), most individuals are treated with antiretrovirals, with 23, 038 cases (53 %), while 8, 552 cases (20%) do not use antiretroviral drugs, the most predominant forms are pulmonary with 30, 107 cases (69%) and extrapulmonary with 8, 702 cases (20%), especially lymph node extra pulmonary with 3, 717 cases (8.5 %) and Miliary with 2, 615 cases (6%), 22, 726 cases (52%) with laboratory confirmation of the diagnosis stico and 20, 655 without laboratory confirmation (48%), 1 sputum smear was positive in 15, 142 cases (35%), sputum culture was not performed in 27, 280 cases (63%), rapid TB test was not performed in 25, 090 cases (58%), the sensitivity test was not performed in 13, 523 cases (31%), the clinical outcome showed: cure in 17, 523 cases (40%), abandonment in 7, 466 cases (17%), deaths from other causes 7, 019 (16%), transfer 4, 055 cases (9%), drug resistance 676 cases (1.5%) and change of treatment 757 cases (1.7%).

4.Final Considerations

In summary, there is a need for better clinical management in order to develop prevention actions and the promotion of public health policies in an attempt to reduce morbidity and mortality, thus improving the patient's quality of life. From the analysis of the sociodemographic profile, it was noted that statistically the population most affected by the TB-HIV co-infection were individuals aged 20-39 years, men, who had incomplete 5th to 8th grade of Elementary School, mixed race, most of them not were deprived of liberty, from the Southeast region, were not alcoholics, diabetics, smokers, drug users or mental illness. They were not health professionals, immigrants, did not receive government assistance, most do not follow DOT, do not use retroviral drugs, the type of entry is the emergence of new cases and treatment abandonment, the most common clinical form of Tuberculosis in The co-infection is the pulmonary and the extrapulmonary would be the lymph node, the clinical outcome shows that there was cure in 17, 523 cases (40%), abandonment in 7, 466 cases (17%) and drug resistance in 676 cases (1.5%). Thus, it is essential to analyze the sociodemographic profile in the search for the improvement of public health strategies both for diagnosis and for the patient's quality of life, in addition, it is expected that the results of this study provide reflections among health managers public awareness and social awareness about this important issue in contemporary Brazilian society.

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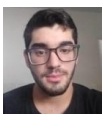

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