

## **A OCORRÊNCIA DE TUBERCULOSE EM IDOSOS - O caso do Mato Grosso do Sul, Brasil**

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### **RESUMO**

Objetivos: Este trabalho teve como objetivo identificar a ocorrência da TB por sexo e por tipo e identificar os casos e óbitos por faixa etária. Método: O estudo foi desenvolvido a partir dos dados disponíveis pelo Departamento de Informações do Sistema Único de Saúde (DATASUS). Foram usados dados entre os anos de 2001 e 2016. Os dados foram tabulados e analisados. Resultados e discussão: A quantidade total de casos registrados pelo DATASUS foi de 15.226 diagnósticos de TB confirmados. Os dados encontrados permitiram observar que no período selecionado, a maior ocorrência de TB foi em homens. Este fato pode justificar-se pela maior suscetibilidade para o adoecimento dos homens. Também foi possível constatar que as maiores incidências são sobre os idosos com idade entre 60 e 64 anos. A maioria absoluta dos casos verificados foram do tipo Pulmonar. Conclusões: It was observed in this study a high occurrence of tuberculosis in the elderly population and as a consequence, deaths due to TB. Sendo necessário a adoção de estratégias especiais de acompanhamento dessa população, buscando reduzir essas taxas.

Palavras-chave: Tuberculose; Idoso; Assistência a Idosos.

## **THE OCCURRENCE OF TUBERCULOSIS IN THE ELDERLY - The case of Mato Grosso do Sul, Brazil.**

### **ABSTRACT**

Objectives: This study aimed to identify the occurrence of TB by sex and by type and identify cases and deaths by age group. Method: The study was developed based on data available by the Department of Information of the National Health System (DATASUS). Data were used between 2001 and 2016. Data were tabulated and analyzed. Results and discussion: The total number of cases recorded by DATASUS was 15,226 confirmed TB diagnoses. The data found allowed to observe that in the selected period, the highest occurrence of TB was in men. This fact can be justified by the greater susceptibility to the illness of men. It was also possible to verify that the highest incidences are on the elderly with age between 60 and 64 years. The absolute majority of cases were Pulmonary. Conclusions: It was observed in this study the high occurrence of tuberculosis in the elderly population and as a consequence, deaths due to TB. It is necessary to adopt special strategies to accompany this population, seeking to reduce these rates.

Key Words: Tuberculosis; Aged; Old Age Assistance.

## **LA OCURRENCIA DE TUBERCULOSIS EN IDOSOS - El caso de Mato Grosso do Sul, Brasil**

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## RESUMEM

Objetivos: Este trabajo tuvo como objetivo identificar la ocurrencia de la TB por sexo y por tipo e identificar los casos y óbitos por grupo de edad. Método: El estudio fue desarrollado a partir de los datos disponibles por el Departamento de Información del Sistema Único de Salud (DATASUS). Se utilizaron datos entre los años 2001 y 2016. Los datos fueron tabulados y analizados. Resultados y discusión: La cantidad total de casos registrados por DATASUS fue de 15.226 diagnósticos de TB confirmados. Los datos encontrados permitieron observar que en el período seleccionado, la mayor ocurrencia de TB fue en hombres. Este hecho puede justificarse por la mayor susceptibilidad para la enfermedad de los hombres. También fue posible constatar que las mayores incidencias son sobre los ancianos con edad entre 60 y 64 años. La mayoría absoluta de los casos comprobados fueron del tipo Pulmonar. Conclusiones: Se observó en este estudio la alta presencia de tuberculosis en la población de la población y la consecuencia, debido a TB. Siendo necesario la adopción de estrategias especiales de acompañamiento de esa población, buscando reducir esas tasas.

Palabras clave: Tuberculosis; Anciano; Asistencia a los Ancianos.

## 1 INTRODUCTION

Tuberculosis (TB) has accompanied man throughout his history. The first TB lesions in humans date back to 7000 years BC. Since in 1993 the World Health Organization (WHO) declared the disease as a worldwide emergency<sup>1</sup>.

About 2 billion people are infected with *M. tuberculosis*, 16 million are sick, approximately 9 million new cases are identified each year, and about 1.7 million deaths each year make TB the leading cause of death by infectious disease curable<sup>9</sup>. In 2012, 8.6 million new cases of tuberculosis worldwide were recorded, placing Brazil in the 16th position in a group of 22 countries<sup>2</sup>.

Considered a public health case in Brazil, every year 70,000 new cases are registered, with almost 5,000 deaths due to the disease. In the State of Mato Grosso do Sul, only in 2015 almost a thousand cases were registered, of which more than ten percent were in the elderly<sup>3</sup>.

The clinical manifestations of tuberculosis are widely reported in the literature, but in the elderly it presents different characteristics. The time for diagnosis is longer because the symptoms given are not given due importance, and because the doctor considers the possibility of TB to be less. The association with diabetes, cardiovascular diseases and pulmonary diseases is greater. Dyspnoea and weight loss are more prevalent, adverse events associated with anti-TB drugs are more intense, cure rates are lower, and mortality is significant<sup>4</sup>.

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As in the young, TB in the elderly is most often located in the lungs<sup>5,6</sup>. In general, senile TB is more insidious and hardly announces itself loudly. Respiratory symptoms are minimal and symptoms are general, swept away. Some patients do not present the most known clinical characteristics of the disease, such as coughing and productive fever, evening fever, chest pain, night sweats, weight loss and hemoptysics. On the other hand, they may present difficulties in activities of daily living, chronic fatigue, progressive anorexia, cognitive impairment or unexplained low fever, which may lead to death<sup>6</sup>.

In this way it is clear that the tuber in this population still presents a great incidence, difficult diagnosis and serious clinical consequences. For a better control of the disease, it is necessary to understand the occurrence of the disease and its clinical correlations for a better control. However, up to the present moment, a study describing the occurrence of tuberculosis in the elderly in Mato Grosso do Sul has not been carried out.

In view of the above, the objective of this study was to describe the occurrence of tuberculosis cases in the elderly in the State of Mato Grosso do Sul. It was necessary (I) to identify the occurrence of the disease by sex and by type; (II) identify cases and deaths by age group.

## **2 MATERIAL AND METHODS**

This is a descriptive epidemiological study with a quantitative approach. Data were collected from DATASUS, aiming to obtain information about TB cases in the period 2001-2016 in the state of Mato Grosso do Sul in elderly patients, aged 60 years, according to certain characteristics such as sex, age and epidemiological classification.

The information regarding the variables is presented in the form of tables, from the calculation of absolute values and, later, confronted with the pertinent literature. Tabwin programs, version 3.6b, were used for Windows for data collection, and the Microsoft Excel® program for building charts and tables. The research complied with Resolution 196/96 of the National Health Council on research involving human beings.

## **3 RESULTS AND DISCUSSION**

The total number of cases recorded by DATASUS in the period of the study was 15,226 confirmed diagnoses of tuberculosis, of which 7.84% (1,194 cases) were elderly in long-term institutions.

Tuberculosis in the elderly tends to have a high incidence because the elderly are more prone to illness due to biological factors inherent to aging. With regard to the elderly in long-term intuitions, it is believed that institutionalization contributes to the aggravation of some diseases, among them tuberculosis, due to some factors, such as: family abandonment, loneliness, maltreatment and low qualification of health professionals<sup>7</sup>.

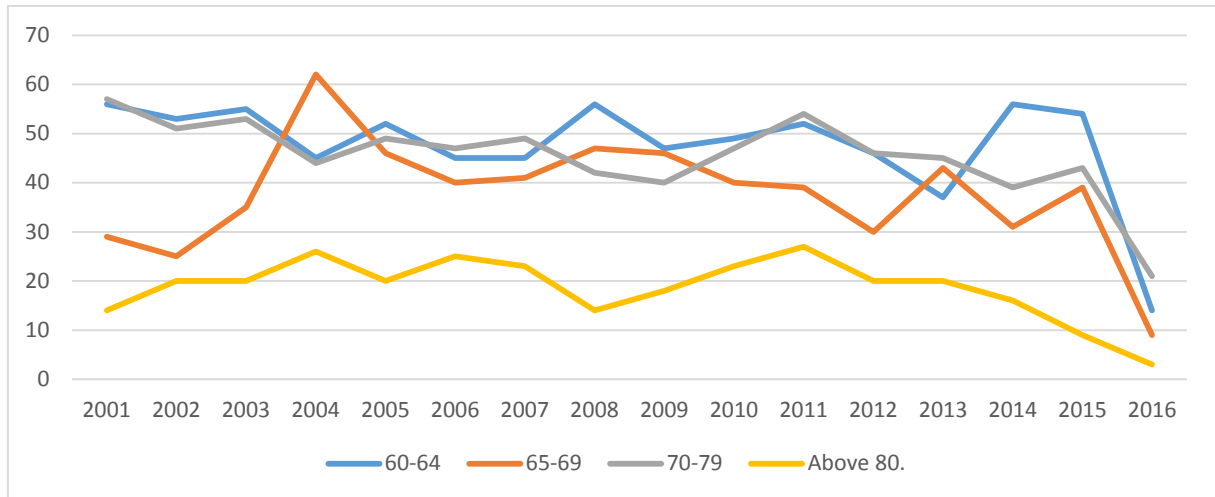
The data found allowed us to observe that in the selected period, 2001-2016, the highest occurrence of tuberculosis was in men (about 70%), whereas in women, the cases accounted for approximately 30% (table 1). This fact can be justified by the greater susceptibility to the illness of men, as a result of the life habits adopted by men, which interferes with the demand for health services and self-care practices, different from what happens with women<sup>2</sup>.

**Table 1 - Cases confirmed by sex and age group of 2001-2016.**

Sex	Age group			
	60-64	65-69	70-79	Above 80
<b>Male</b>	554	432	508	191
<b>Female</b>	207	170	218	106
<b>Total</b>	<b>762</b>	<b>602</b>	<b>727</b>	<b>298</b>

It was also possible to verify that the highest incidences are on the elderly with ages between 60 and 64, and between 70 and 79, with, respectively, 31.90% and 30.43% of the cases. In this study, it was also observed that the year 2004 was the year in which more cases of tuberculosis among the elderly over 60 years were recorded; totaling 177 cases (figure 1).

**Graph 1 - Cases confirmed by diagnosis year and age group of 2001-2016.**



Of the data recorded by DATASUS regarding tuberculosis types, the absolute majority of cases (approximately 86%) were pulmonary type, which can lead to symptoms such as fever, night sweats, and coughs, shortness of breath and tiredness, chest pain, weight loss, among other symptoms. There is a relative consensus in the literature that endogenous infection is the main pathogenic mechanism in the overwhelming majority of cases of pulmonary TB in the elderly<sup>76</sup>. The extrapulmonary and extrapulmonary pulmonary types were 12.47% and 2.01%, respectively.

With aging, structural and functional alterations of the respiratory system develop, which determine greater susceptibility of the elderly population to the various stimuli and aggressions, such as pulmonary tuberculosis. Respiratory function deteriorates with age and is still hampered by exposure to oxidizing agents, of which tobacco represents the main risk factor, leading to local inflammation associated with several respiratory and / or systemic clinical conditions<sup>8</sup>. In addition, respiratory muscle efficacy decreases in the elderly, chest stiffness increases, hampering cough reflex, an important defense mechanism for a competent clearance of the airways, which is also impaired by loss of support structure of the pulmonary parenchyma, leading to increased symptoms when this population is contaminated by tuberculosis<sup>9</sup>.

For the construction of this work, the number of deaths due to the disease in the third age was also verified, and it was possible to conclude that the elderly with age between 60-69 years represent the highest occurrence of deaths due to tuberculosis (43.24%), followed elderly people aged between 70 and 79 years (34.32%) and those over 80 (22.43%). The year with the

highest number of deaths was 2010, with 33 cases registered, followed by the year 2005, with 30 cases and 2004, with 29 cases counted (table 2).

**Table 2 - Occurrence of deaths per year and age group from 2001 to 2015.**

Year	Age Group			Total
	60-69	70-79	Above 80	
<b>2001</b>	10	12	5	27
<b>2002</b>	12	12	3	27
<b>2003</b>	9	6	5	20
<b>2004</b>	12	13	4	29
<b>2005</b>	15	6	9	30
<b>2006</b>	13	8	7	28
<b>2007</b>	11	7	3	21
<b>2008</b>	5	13	5	23
<b>2009</b>	11	5	7	23
<b>2010</b>	15	9	3	33
<b>2011</b>	13	9	3	25
<b>2012</b>	5	7	6	18
<b>2013</b>	9	8	4	21
<b>2014</b>	9	7	9	25
<b>2015</b>	11	5	4	20
<b>Total</b>	<b>160</b>	<b>127</b>	<b>83</b>	<b>370</b>

<sup>10</sup>Report that the situation of vulnerability in which the elderly are found is a predictive factor for TB involvement and consequently for increased mortality. The vulnerability of the elderly is related to the low income that conditions inadequate housing and often housing in unhealthy areas, as well as factors such as poor access to health services and immunological changes related to aging.

#### 4 CONCLUSION

It was observed in this study a high occurrence of tuberculosis in the elderly population and as a consequence, deaths due to TB. It is necessary to adopt special strategies to accompany this population, seeking to reduce these rates.

One of the difficulties found in this study refers to the lack of information and inconsistencies of the data; however, the results allowed a diagnosis of the tuberculosis situation in the elderly in the State of Mato Grosso do Sul. The managers can consider such results in the planning of actions in health.

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