

Prevalence of morbimortality in the elderly due to respiratory diseases between 2019 and 2021 in Cáceres/MT, Brazil

Prevalência da morbimortalidade em idosos por doenças respiratórias entre 2019 e 2021 em Cáceres/MT, Brasil

Prevalencia de morbimortalidad en ancianos por enfermedades respiratorias entre 2019 y 2021 en Cáceres/mMT, Brasil

RESUMO

Objetivo: Estudar a prevalência da morbimortalidade em idosos por doenças respiratórias no período de 2019 a 2021 em Cáceres-MT. **Método:** Foi realizado um estudo epidemiológico utilizando os dados do DATASUS, fazendo-se uma relação com as queimadas ocorridas nessa região no mesmo período. **Resultado:** Foi observado que o número de internações por causas respiratórias diminuiu, enquanto os óbitos aumentaram no período estudado. Desta forma, com base nas informações analisadas, a diminuição das internações por doenças respiratórias pode ter diminuído devido à pandemia do COVID-19, visto que as instituições de saúde se adaptaram e priorizaram os casos de pacientes com SARS-COV2, suspendendo os atendimentos presenciais de casos eletivos. **Conclusão:** A COVID-19 foi a principal razão destas alterações, e outras causas como as queimadas devem ser investigadas com maior abrangência para estabelecer maiores relações.

DESCRIPTORES: Atenção à Saúde do Idoso; Doenças Respiratórias; Meio ambiente e saúde pública.

ABSTRACT

Objective: To study the prevalence of morbidity and mortality in the elderly due to respiratory diseases from 2019 to 2021 in Cáceres-MT. **Method:** An epidemiological study was carried out using data from DATASUS, making a relationship with the fires that occurred in this region in the same period. **Result:** It was observed that the number of hospitalizations for respiratory causes decreased, while deaths increased during the studied period. Therefore, based on the information analyzed, the decrease in hospitalizations for respiratory diseases may have decreased due to the COVID-19 pandemic, as health institutions adapted and prioritized cases of patients with SARS-COV2, suspending in-person care for elective cases. **Conclusion:** COVID-19 was the main reason for these changes, and other causes such as fires must be investigated more comprehensively to establish greater relationships.

DESCRIPTORS: Health Care for the Elderly; Respiratory diseases; Environment and public health.

RESUMEN

Objetivo: Estudiar la prevalencia de morbimortalidad en ancianos por enfermedades respiratorias de 2019 a 2021 en Cáceres-MT. **Método:** Se realizó un estudio epidemiológico con datos de DATASUS, haciendo una relación con los incendios ocurridos en esta región en el mismo periodo. **Resultados:** Se observó que el número de hospitalizaciones por causas respiratorias disminuyó, mientras que las defunciones aumentaron durante el periodo estudiado. Por lo tanto, con base en la información analizada, la disminución de hospitalizaciones por enfermedades respiratorias puede haber disminuido debido a la pandemia de COVID-19, ya que las instituciones de salud se adaptaron y priorizaron los casos de pacientes con SARS-COV2, suspendiendo la atención presencial de casos electivos. **Conclusiones:** El COVID-19 fue el principal motivo de estos cambios, debiendo investigarse más exhaustivamente otras causas como los incendios para establecer mayores relaciones.

DESCRIPTORES: Asistencia sanitaria a ancianos; Enfermedades respiratorias; Medio ambiente y salud pública.

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INTRODUCTION

Respiratory diseases, especially acute respiratory infections, such as asthma and bronchitis, are related to high levels of air pollution and are common causes of morbidity and mortality. They are the main reason for hospitalization in the elderly, a population considered vulnerable. The respiratory system is the body's system that ages most quickly due to greater exposure to environmental pollutants over the years. ⁽¹⁾

Susceptibility to air pollution in this age group may be exacerbated by physical weakness, low physiological resilience to respiratory diseases and other prevalent illnesses. ⁽²⁾ The changes that occur at this level are clinically relevant, since the deterioration of lung function is associated with an increase in the mortality rate and, in addition, knowledge of them contributes to the detection and prevention of respiratory dysfunctions in the elderly. ⁽¹⁾

The impacts of fires and fires on

human health have been the subject of numerous studies, with sufficient evidence of an increased burden of diseases, hospitalizations and deaths due to exposure to pollutants generated by the burning of biomass, especially in more vulnerable groups such as children and the elderly. In addition to particulate matter, there are many pollutants that can cause physiological changes, resulting, for example, in the exacerbation of respiratory and cardiovascular diseases, the effects of which are well known. ⁽³⁾ Therefore, studies related to respiratory diseases and environmental issues, such as fires, are necessary, with the aim of proposing mitigation actions for the health of the most vulnerable population, such as the elderly.

OBJECTIVES

To analyze the morbidity and mortality rates of elderly people due to respiratory diseases compared to the increase in fires in the period from 2019 to 2021 in Cáceres- MT, Brazil.

METHOD

This is an epidemiological study, based on the rates of hospitalizations and deaths due to respiratory tract diseases, from Chapter X of the Tenth Revision of the International Classification of Diseases ICD-10 in elderly people aged over 60 years old by the ICD reported in the city of Cáceres-MT.

The research municipality chosen was Cáceres/MT, which is located southwest of Mato Grosso, integrating the upper Pantanal microregion and the mesoregion of central-south Mato Grosso. According to the last census in 2010, the population in Cáceres-MT was 87,942 and of these, 8,278 were part of the elderly population.

Data collection on the hospitalization rate was obtained through DATASUS (4), TabNet, in the "Morbidity" selection and then the "General by place of hospitalization – from 2008" option, using the State of Mato Grosso as the scope. When constructing the table, the line was defined by munic-

pality, in the column there is the year of service, which was from 2019 to 2021 and in the content there is the hospitalization rate.

Regarding data on the incidence of fires, these were collected from the website "Map Biomas" (5), using the territorial cut by municipality, delimiting it to Cáceres and then selecting the desired time series, years 2019 to 2021.

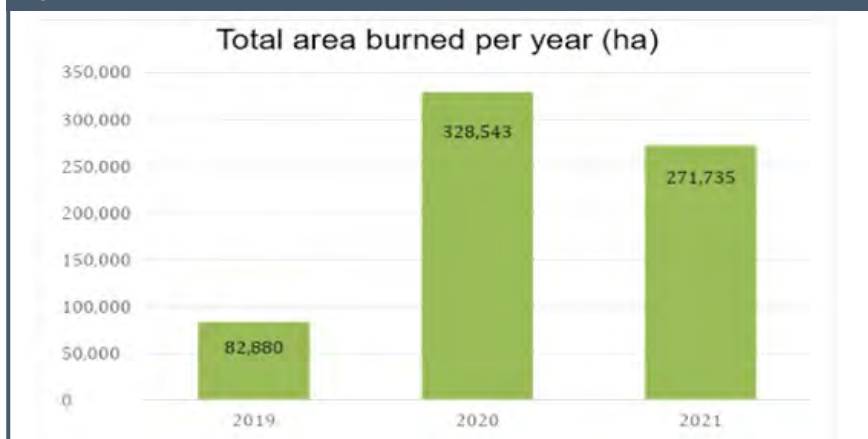
After all data collection and construction of tables, the prevalence rate for hospitalization of elderly people was calculated using the formula below:

$$\frac{\text{Number of elderly people hospitalized in year } x}{\text{Total number of elderly people in the municipality of Cáceres in year } x} \times 100$$

Table 1 – Rate of hospitalizations of elderly people due to respiratory diseases between 2019 and 2021, in the city of Cáceres – MT, Brazil.

	2019	2020	2021
No. of hospitalizations	382	281	118
Population of elderly residents in the municipality	12.150	12.679	13.151
TM (%)	3,144033	2,216263	0,89727

Figure 1 - Total area of fires in the municipality of Cáceres from 2019 to 2022.



Source: MapBiomas

RESULTS

It is observed, in table 1, that the rate of hospitalizations for respiratory diseases in the elderly population suffered a gradual reduction in the years 2020 and 2021, it was noted that the number of hospitalized people decreased and the number of elderly people increased, showing a reduction in the proportion of elderly people hospitalized per general elderly population.

When checking the rate of fires in the municipality, it can be seen in

figure 1 that the total area burned increased by almost 500% from 2019 to 2020, demonstrating a huge increase, which according to Garcia (6), Among the potential factors responsible for the increase in fires in the Pantanal are severe drought, the formation of Pantanal areas in pasture, such situations contribute to the reduction of rainfall and water levels in the area, rising temperatures, heat waves and recent landscape changes. Climate and land use changes will further increase the frequency of extreme events, mainly affecting vulnerable populations, such as children, the elderly, people in poverty and riverside dwellers.

Thus, in the same period it was observed that the rate of deaths from respiratory diseases was high, as shown in table 2.

DISCUSSIONS

From this perspective, looking at the data, the reduction in hospitalizations can probably be explained by the effects of the COVID-19 pandemic experienced since 2020. To Silva, Moroço and Carneiro⁽²⁾, by following the contagion prevention measures and guidelines implemented by political bodies, and having to provide care to patients affected by COVID-19, health institutions, public and private, adapted and prioritized cases of patients with Covid, suspending in-person care for elective cases. The growing increase in the number of elderly people is related to the current Brazilian population situation, which has seen an inversion of the age pyramid, where the number of births has decreased, starting a continuous process of narrowing the base of the age pyramid - population aging.⁽⁶⁾

On the other hand, in the period analyzed we observed that there was an increase in the death rate among the elderly in the municipality of Cáceres, which may also be related to the pandemic caused by SARS-CoV2, however, other causes such as fires must be

Table 2 – Rate of deaths of elderly people due to respiratory diseases in the city of Cáceres-MT, between 2019 and 2021.

	2019	2020	2021
Deaths from respiratory diseases	48	70	33
Total deaths	372	545	573
TM (%)	12,90323	12,84404	5,759162

considered. According to Garcia et al ⁽⁶⁾, in the Brazilian Pantanal, the occurrence of forest fires increased, reaching record levels of more than 40,000 km² in 2020. ⁽⁷⁾ Thus, the inhalation of toxic gases and excessive heat may have helped with complications during the pandemic, causing serious consequences for the body, including leading to a deterioration in health and worsening of pre-existing respiratory diseases among the elderly.

In work carried out by Silva ⁽²⁾, no association was observed between exposure to particulate materials and hospitalization for respiratory disease in the elderly. Particularly in this segment of

the population, in addition to the respiratory damage caused by pollutants from fires, there are associated comorbidities, which may have contributed to this lack of association. Thus, the number of hospitalizations and deaths caused by other existing pathologies, which is extremely common in this age group, may have interfered with the results of the association of Particulate Material and the rate of hospital admissions.

CONCLUSIONS

We can conclude that during the period studied there was a decrease in hospitalizations for respiratory diseases

and an increase in the death rate among the elderly population in the city of Cáceres-MT. As the COVID-19 pandemic is the main cause of these changes, other causes such as fires must be studied more comprehensively as these can have numerous harmful effects on the health of the general population and especially the elderly. For this reason, we recommend carrying out more studies in this regard, so that measures can be taken to improve air quality and, therefore, public health.

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