EPIDEMIOLOGICAL ANALYSIS OF LEISHMANIASIS IN BRAZIL FROM 2018 TO 2023

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João Victor Barros Araújo[1], Pedro Henrique Menezes de Freitas[2], Diogo dos Santos Rocha[3], Anelyse Soares Chagas[4], Marlon Maia da Silva[5], Maycon Maia da Silva[6], Luciano de Castro Resende Araújo Teixeira[7], Janaína Tavares Marins[8], Pitágoras Farah Magalhães Filho[9], Guilherme de Moura Batz[10], Fabrício Ferreira da Silva[11] and Thaís Arce Natividade[12].

ABSTRACT

Introduction: Leishmaniasis is an infectious disease caused by protozoa of the genus *Leishmania*, transmitted by the bite of infected sandflies, popularly known as sandflies. Thus, the relevance of understanding the epidemiological profile of leishmaniasis is evident. **Objective:** To define the epidemiological profile of leishmaniasis in Brazil. **Methods:** This is a retrospective horizontal epidemiological profile that uses data from datasus for the years

[1] University of Gurupi (UNIRG)
Medicine Student
E-mail: joao.v.b.araujo@unirg.edu.br
[2] University of Gurupi (UNIRG)
Medicine Student
E-mail: pedro.h.m.freitas@unirg.edu.br
[3] University of Gurupi (UNIRG)
Medicine Student
E-mail: diogo.s.rocha@unirg.edu.br
[4] University of Gurupi (UNIRG)
Medicine Student
E-mail: anelyse.s.chagas@unirg.edu.br
[5] University of Gurupi (UNIRG)
Medicine Student
E-mail: marlon.m.silva@unirg.edu.br
[6] University of Gurupi (UNIRG)
Medicine Student
Email: maycon.m.silva@unirg.edu.br
[7] University of Gurupi (UNIRG)
Medicine Student
Email: luciano.teixeira@unirg.edu.br
[8] Ceuma Imperatriz
Medicine Student
Email: nina_tml@hotmail.com
[9] UNIFACS (Salvador University)
Graduated in Medicine
E-mail: pitagorasfarah@gmail.com
[10] University of Gurupi (UNIRG)
Medicine Student
Email: Guilhermembatz@unirg.edu.br
[11] University of Gurupi (UNIRG)
Medicine Student
E-mail: fabricio.f.silva@unirg.edu.br
[12] University of Gurupi (UNIRG)
Medicine Student
E-mail: thais.a.natividade@unirg.edu.br

2018 to 2023. **Result:** 1,615,589 total cases were recorded in the 2018-2023 period. As a result, more cases were observed in the age group from 0 to 24 years old, in which 628,658 total cases were reported. **Discussion:** The year 2020 had 270,952 cases, which represents a drop in the number of notifications compared to 2019 with 267,454 total cases. When comparing the pandemic period with the post-pandemic period, an increase in the number of notifications was observed. There was possibly underreporting due to the overcrowding of hospitals during the pandemic period. **Conclusion:** In this sense, it is evident that the overcrowding of hospitals during the pandemic period was a determining factor for the decrease in reported cases as well as hospitalizations for leishmaniasis. The present study aims to inspire future public policies in the fight against leishmaniasis.

Keywords: Notifications. Overcrowding. Pandemic.

INTRODUCTION

Leishmaniasis is an important public health problem in Brazil and in the world, being a zoonosis considered a global public health problem, being one of the seven

priority endemic diseases for the World Health Organization (WHO) (Negreiros, 2024).

In Brazil, about 96% of the cases in South America are concentrated; distributed throughout the country, VL is present in 21 of the 27 Federative Units, demonstrating a large concentration of the number of cases of the disease in Brazil, largely due to factors associated with the climate in addition to socioeconomic factors, as well as the performance of the health system, given that Leishmaniasis is observed mainly in the poorest population (Silva, 2021).

In this context, the population's access to health care emerges as a crucial factor in this performance, since Leishmaniasis is a disease of the poor, occurring mainly in remote rural villages with precarious housing and little or no access to modern health care facilities. In endemic areas, the diagnosis of any form of leishmaniasis places enormous financial pressure on an already scarce financial resource, both at the individual and community levels. Most of the time, families need to sell their assets (land and livestock) or borrow from informal financial institutions with high interest rates to pay for the diagnosis and treatment of leishmaniasis (Alvar, 2012).

Leishmania infection in the macrophage occurs due to a series of events that will precede the entry of the infecting metacyclic promastigote form into the host cell, which will play a major role in the success or failure of the infection. In relation to the clinical spectrum of the disease, Leishmaniasis can remain asymptomatic in naturally resistant individuals, with an innate immune response capable of controlling the progression of the infection or, as in individuals with immunological susceptibility, result in a spectrum of clinical manifestations in the skin and/or nasopharyngeal mucous membranes, these events demonstrate the risks associated with the disease that is endemic, especially in South America, especially in Brazil. (SILVEIRA, 2008)

In Brazil, several factors have contributed to the appearance of new foci and new endemic areas of VL, among them, environmental transformations, growing urbanization and rural emptying. Despite this, over the years, the largest number of cases was maintained in the Northeast, in males and children, so it is evident how the profile of the disease is closely related to the socioeconomic conditions of Brazil, making it necessary to implement broad public policies in this context. (COUTO, 2018)

For all the above, the article aims to explore the particularities that involve inequality in the effects of preventive care for Leishmaniasis in Brazil, evaluating socioeconomic factors and temporality in relation to the pandemic.

METHODOLOGY

The present study is a retrospective, observational, and descriptive epidemiological analysis, evaluating the cases of leishmaniasis in the geographic coverage of Brazil, in the period described between 2018 and 2023.

Annual data were conducted to obtain annual data from the Information System of the Outpatient Information System of the SUS (Sia/Sus) of the Department of Information and Informatics of the SUS (DataSus). In aid of the theoretical foundation, scientific articles in Portuguese were used, extracted from the Scielo, PubMed and Scopus platforms.

To better direct the research, the following variables, clinical and diagnostic, were considered for analysis: , age group (0 to 80 years), total cases in the years 2018 to 2022, temporal situation in relation to the Covid-19 pandemic (pre-pandemic period from 2018 to 2019, pandemic from 2020 to 2021, post-pandemic year 2022).

RESULTS

Leishmaniasis is an inflammatory parasitic infectious disease that affects from the most superficial tissues (integumentary and mucosa) to the bloodstream and visceral organs (da Silva, 2024, p. 3), leishmaniasis in terms of its geographical distribution, constitutes "a health problem in tropical and subtropical countries, distributed on four continents (Americas, Europe, Africa and Asia), with an annual record of 0.7 to 1.3 million new cases, however, it is more frequent in South American countries, especially in Brazil (da Silva, 2024, p. 4) . Thus, particularities related to the quality of health services, application of control programs, low knowledge of the population about their prophylaxis associated with the low socioeconomic status of the region contribute significantly to these disparities.

In addition, regarding Leishmaniasis, an average of 1,615,589 cases were registered on the DataSus platform in the 2018-2023 period. The highest occurrence of cases was observed in the age group of 0-24 years, which had 628 thousand cases in the analyzed period, representing 39% of the total cases. Compared to the other age groups studied, 25-60 years (36%) and 60-80 years (25%).

It is important to highlight the variation in relation to the number of cases reported in the periods: pre-Covid 19 pandemic (2018-2019), during the pandemic (2020-2021) and

post-pandemic (2022, 2023). In this context, 365 thousand total cases were registered in 2018, but there was a significant reduction in the number of cases in 2020 compared to the previous two years, with 270 thousand cases, which represents a drop in the number of notifications of 27%. When comparing the pandemic period with the post-pandemic period, a growth in the number of notifications of morbidity of the disease was observed, in 2022 278 thousand cases were registered, indicating an increase of 3%.

DISCUSSION

However, an integrative review by (Alvar, 2012) was able to demonstrate that sociodemographic and economic factors are the most preponderant for the population to have knowledge about Leishmaniasis, with a direct relationship between unfavorable sociodemographic conditions and lack of knowledge about the disease. The literature also proposes a relationship that allows inferring for the North region and the state of Tocantins, since the incidence of poverty has a strong regional component, which is more evident in the North and Northeast, as analyzed by (COUTO, 2018).

In general, difficulties in relation to the prevention, diagnosis and treatment of Leishmaniasis markedly include aspects related to public management and professional practice, which coexist with economic and demographic disparities that condition early screening, in order to have repercussions on screening coverage. This was demonstrated by (Barcelos, 2024) , in an investigation that allowed us to conclude that the greatest deficits in procedures were found in the North, Midwest and Northeast regions, which share the highest incidence and mortality rates from Leishmaniasis, as well as the worst socioeconomic conditions and the greatest barriers to care. It should be considered that these conditions have greatly hindered the control of leishmaniasis in Brazil.

However, it is important to emphasize that there are multiple limiting factors in the practical application of Leishmaniasis care in Brazil in a broad and comprehensive way. In the study by (da Silva, 2024), obstacles related to the failure to implement the guidelines for early detection of Leishmaniasis among the regions of Brazil were listed. For the North of the country, the following were specified, respectively: low adherence of professionals, little organizational tradition in the use of guidelines, conflict with medical societies, disorganization of services, scarce financial resources and inappropriate demand from the population. From this, the complexity of the demand for improvements in health care in this region is evident, especially Leishmaniasis, due to its epidemiological relevance and accentuated morbidity and mortality.

(Von Zuben, 2016) It also demonstrated limiting factors of access to health services of a subjective-cultural dimension in the prevention of Leishmaniasis, highlighting fear, financial condition, lack of time due to work and care for the family.

Among the variables considered, it should be noted that the temporality common to a global phenomenon such as the COVID-19 pandemic suggests clear interferences in recent years, resulting in substantial delays in Leishmaniasis screening between 2020 and 2021. The reduction in the number of tests, added to the drop in subsequent records, may express underreporting, and the lack of clarity in these numbers brings the need to reinforce attention to the care of advanced cases. It is noteworthy that health agencies, during the period of the Sars-Cov-2 pandemic, would have advised citizens, in view of the urgency to control the public health scenario triggered by this infectious virus, that consultations, exams and surgeries that were not of an urgent nature should be postponed, adding the screening of Leishmaniasis being postponed, suggesting an underreporting resulting from this phenomenon.

A positive point is that the numbers of tests in the post-pandemic period demonstrated in this study exceeded those that were performed before the pandemic, which may demonstrate a population's search for screening in awareness of assessing health in a preventive way.

Thus, it can be inferred that important regional aspects of the incidence of Leishmaniasis in Brazil are projected, which urgently needs an individualized and efficient administration.

CONCLUSION

The records of diagnosed cases of Leishmaniasis in Brazil demonstrate a need for greater coverage by the government. As a consequence, there was a decrease in the number of diagnosed cases of Leishmaniasis, reflecting a reality of screening that is still insufficient, despite the slight increase in tests carried out in the post-Pandemic period in Brazil.

In addition, it was not possible to establish a relationship between education and the number of screening tests performed, due to the lack of numerical data on the level of education of citizens in Brazil.

It is concluded that the possible failures in the early screening of Leishmaniasis are linked to local organizational and sociocultural issues. Therefore, it is essential to review public policies to combat Leishmaniasis to address the obstacles that prevent more effective screening in the country, in addition to increasing the dissemination of information

on the definition, causes, and prevention of Leishmaniasis as this can significantly impact the number of early diagnoses and the success of treatment.

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