



Childhood asthma: a brazilian perspective

A asma infantil: um panorama brasileiro

Rafaella Thomas

Medical student at the Federal University of Maranhão, São Luís, Maranhão, Brazil

Jonatas Yeshua de Sousa Ferreira

Medical student at the Federal University of Maranhão, São Luís, Maranhão, Brazil

Jilmario Gomes de Santana Junior

Medical student at the Federal University of Maranhão, São Luís, Maranhão, Brazil

Bismarck Ascar Sauaia

Sanitarian Biologist, MSc in Health Sciences and PhD in Biotechnology from UFMA, Research Professor, Semester Coordinator of the Medicine Course at UFMA, São Luís, Maranhão, Brazil

1 INTRODUCTION

Childhood asthma is defined by an inflammatory condition of the airways, which in some cases, evolves to chronic states associated with other clinical manifestations and death (MADEIRA, I.R. OBESITY AND ASMA, 2023).

Globally distributed, in routine medical and pediatric practice, every day hundreds of children are diagnosed with asthma and suffer from a chain of symptoms related to shortness of breath, difficulty breathing, cough, wheezing, febrile state, and chest tightness (MADEIRA, I. D. DE O. et al., 2023).

Although childhood asthma can be controlled with clinical, pharmacological, and physiotherapeutic treatments that alleviate the signs and allow for a healthier lifestyle in the family, at school, and in the asthmatic's social relationships with other children, the lack of access to these treatments or knowledge of the proper management in the clinical picture, especially in the public network, today with overloaded and lacking medical assistance, does not guarantee the control of the disease, and can thus evolve to severe complications and death (RIBEIRO, M. C.; SOARES, A.C.G.M.,2022).

The mortality associated with childhood asthma is a significant public health problem in Brazil and in the world. The understanding by parents, relatives, and caregivers of the risk factors and/or agents that trigger asthma attacks can significantly anticipate the manifestation of the disease, as well as establish more adequate conducts and treatments that will reduce the aggravations and decrease the number of hospitalizations and deaths in children due to asthma (RONCADA, C. et al., 2020).

The scientific knowledge associated with popular knowledge, in the search for new "drugs" especially phytotherapies when properly administered can and should establish alternative assistance and



treatment of low cost and more accessible to the needy populations, in the peripheries of large urban centers, where a significant number of children with asthma are found.(JESUS, P. V. DE.,2018).

The present bibliographical survey demonstrated the medical and pediatric clinical picture of childhood asthma, its evolution to chronicity and death, as well as the precariousness of the assistance networks, despite the numerous therapeutic and pharmacological alternatives available in the controlled management of childhood asthma.

2 OBJECTIVE

The present work of bibliographic research aimed to demonstrate an overview of childhood asthma in Brazil, from the recognition of the main clinical signs, aggravations resulting from the asthma condition, associated factors, pediatric medical care and therapy, hospitalizations and deaths caused by childhood asthma, in Brazil between January 2013 and February 2023.

3 METHODOLOGY

The cross-sectional bibliographic survey study comprised a qualitative and quantitative research approach with a population consisting of children, boys and girls, from 0 to 10 years of age, from January 2013 to February 2023, when twenty-two (22) articles previously selected in the virtual libraries Medline, Scielo, Pubmed, and Google Academic, considering the keywords: asthma, infant, hospitalization, death, all published in nationally and internationally indexed journals, from which fifteen (15) papers were excluded for not specifically contemplating the objectives of the study. The SUS Hospital Information System (SIH/SUS) hosted by DATASUS was also used to collect ancillary data on clinical diagnosis, hospitalizations and evolution to discharge or death. The selected data were mapped in Excel spreadsheet, 2000, then analyzed, and defined the construction of the article, those results that contemplated the outcome of the research.

4 DEVELOPMENT

In this study, it was observed that the Northeast region leads the ranking of the Brazilian regions with the most cases of hospitalization of children due to asthma in the last 10 years, with 221,672 hospitalizations. In second place, the Southeast region presented 189,908 cases of hospitalization for asthma in the same period. These numbers represent separately, more than the sum of the other three regions of Brazil, being the number of hospitalizations in each region: North (58,633), South (85,570), and Center-West (37,415). Similarly, the number of childhood deaths from asthma follows the hospitalization indicators, with 130 deaths in the Northeast, 114 in the Southeast, 21 in the North, 43 in the South, and 14 in the Center-West. The causes of this difference in hospitalization and mortality rates remain unclear; however, there are



bibliographic reports that relate the seasonal climate, environmental pollution, and socioeconomic conditions, together with a poor health system (RONCADA, C. et al., 2020 & RIBEIRO, M. C.; SOARES, A.C.G.M., 2022). External factors allied to obesity, sometimes essential for the development of signs and symptoms that manifest asthma in children, are related to environmental pollution of large urban centers, the climate and population size of the region and the obesity conditions (MADEIRA, I. D. DE O. et al., 2020).

The inclusion of better medical assistance in the public health system, implementation of alternative therapies in the treatment of children with asthma, as well as educational and prophylactic measures of basic attention to pediatric health, in the communities and family nuclei, with active search of cases and orientation in child health, to relieve the burden on hospitals and clinics, reduce costs with medication treatment and hospitalizations to minimize the number of cases and crises with the result, in the medium term, of a decrease in the number of hospitalizations and child deaths due to the disease (RIBEIRO, M. C.; SOARES, A.C.G.M., 2022; MS - DATASUS, 2023).

5 FINAL CONSIDERATIONS

Childhood asthma is an important public health problem, and the number of Brazilian children with asthma is disproportionately distributed among the regions of the country. The increasing number of hospitalizations and deaths due to the disease, especially in the Northeast and Southeast regions, can be related to other triggering factors of asthma, such as climate extremes and irregular seasonality of rain and drought. Furthermore, external factors such as pollution, lifestyle, and family economic conditions can and should influence the manifestation of the disease.



REFERENCES

JESUS, P. V. DE. Obesidade e Asma: Caracterização Clínica e Laboratorial de uma Associação Frequente. **Jornal Brasileiro de Pneumonia**. Sociedade Brasileira de Pneumonia e Tisiologia. n. 3, v. 44, 2018.

MADEIRA, I. D. DE O. et al., **Relações entre Asma e Obesidade: Análise de Múltiplos Fatores**. Universidade Estadual do Rio de Janeiro, Rio de Janeiro, RJ, Brasil, 2020. <http://dx.doi.org/10.1590/1984-0462/2021/39/2019405>. Acesso em: 23/03/2023.

MADEIRA, I.R. OBESIDADE E ASMA: Doenças Inflamatórias associadas. **Revista de Pediatria – SOPERJ**. Sociedade de Pediatria do Estado do Rio de Janeiro. n. 16, v. 2, junho/2016.RJ,2023.

MINISTÉRIO DA SAÚDE-SISTEMA DE INFORMAÇÕES HOSPITALARES DO SUS (SIH – SUS). Tabnet.datasus.gov.br. Base de Dados Nacional. Acesso em 21/03/2023.

MINISTÉRIO DA SAÚDE. SECRETARIA DE ATENÇÃO ESPECIALIZADA À SAÚDE. SECRETARIA DE CIÊNCIA, TECNOLOGIA E INSUMOS ESTRATÉGICOS EM SAÚDE – Protocolo Clínico e Diretrizes Terapêuticas da Asma. <https://www.gov.br/pt-br/assuntos/protocolos-clinicos-e-diretrizes-terapeuticas-pcdt>. Acesso: 20/03/2023.

RIBEIRO, M. C.; SOARES, A.C.G.M. Internamento por asma em pacientes pediátricos no Estado de Sergipe: Análise de banco de dados governamentais extraídos da Plataforma DATASUS e repercussão socioeconômica. **Research Society and Development**. v. 11, n. 8, 2022. <http://dx.doi.org/10.33448/rsd-v11n8.30962>. Acesso: 19/03/2023.

RONCADA, C. et al., Asma Pediátrica: Impacto da Doença em Crianças em Acompanhamento Ambulatorial no Sul do Brasil. **Revista Paulista de Pediatria**, n. 38. São Paulo, SP, 2020.