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Epidemiological profile of patients admitted to pediatrics with complicated pneumonia

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INTRODUCTION

Acute respiratory infections (ARI) are diseases that affect any segment of the respiratory tract within a period of up to 7 days. They are responsible for 25% of all diseases and deaths among children in developing countries. On average, children in urban areas have 4 to 6 ARIs per year. Approximately 2-3% of acute respiratory infections (ARI) progress to an infection of the lung parenchyma, of which 10-20% progress to death. Community-acquired pneumonia (CAP) is the main AKI of the lung parenchyma. CAP is characterized as the presence of signs and symptoms of pneumonia in a previously healthy child, due to infection contracted outside the hospital. Complicated pneumonia is one that progresses with extensive consolidation, abscess, pleural effusion, pneumatocele, and atelectasis1

Pneumococcal infection is a prevalent cause worldwide, being responsible for significant morbidity and mortality rates2, which is evidenced by 800 thousand deaths in 2017, resulting in 15% of all deaths of children under 5 years of age in developing countries. In the context of Brazil, this disease is the leading cause of preventable death in childhood. According to data from the Unified Health System, in 2017, pneumonia was the second cause of hospitalization in 2017, accounting for 14% of all hospitalizations.[1.2]

Thus, the present study aims to carry out an epidemiological mapping outlining the number of children hospitalized for complicated pneumonia, with the objective of highlighting the epidemiological, individual, physical, socioeconomic and sanitary characteristics in each individual, intervening more effectively to avoid negative outcomes of this disease, which is still a serious public health problem in developing countries.[2.3]

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OBJECTIVE

The main objective of this study is to carry out an epidemiological mapping outlining the number of children hospitalized for complicated pneumonia, with the purpose of highlighting the epidemiological, individual, physical, socioeconomic and sanitary characteristics of each individual, intervening more effectively to avoid negative outcomes of this disease, which is still a serious public health problem in developing countries.

METHODOLOGY

This was a retrospective, observational, individual, controlled, analytical study of the epidemiological type. It will be based on the review of medical records of children who were hospitalized in pediatrics with complicated pneumonia in the period from January 2022 to January 2023.

The study will be carried out at the Hospital das Clínicas Samuel Libânio (HCSL) in the municipality of Pouso Alegre, Minas Gerais, through the analysis of medical records referring to patients admitted to pediatrics with complicated pneumonia between January 2022 and January 2023 at the Hospital das Clínicas Samuel Libânio (HCSL), in Pouso Alegre, Minas Gerais.

The sample will consist of 30 patients who were hospitalized in the pediatric ward of HCSL.

The inclusion criteria are: hospitalized patients with complicated pneumonia (presence of extensive consolidation, pneumatocele, pleural effusion, or atelectasis; patients under 12 years of age; patients without comorbidities (diabetes, kidney disease, encephalopathies, COVID). The exclusion criteria are: patients with uncomplicated pneumonia; patients over 14 years of age; patients with comorbidities (diabetes, kidney disease, encephalopathies, COVID).

Risks: This work offers risks to the participants, which are those inherent to the confidentiality of the information contained in the medical records and database of the Tasy software. We ensure their confidentiality and privacy. Benefits: Recognize the possible risk factors related to severe pneumonia.

The materials evaluated were the medical records and the Tasy software database referring to Hospitalizations for Complicated Pneumonia in Pediatrics that occurred between January 2022 and January 2023. The total number of hospital admissions will be analyzed by , related to sex (male and female) and age group (1 to 4 years, 5 to 9 years, 10 to 14 years).

The data will be tabulated in Microsoft Excel® and submitted to statistical analysis to obtain results in graphs and tables. Measures of central tendency for quantitative variables and absolute and relative frequency for categorical variables will also be used.

This research follows the determinations of Resolution No. 466, of December 12, 2012, of the National Health Council (CNS), which defines the ethical procedures for research on human beings. The work will only begin after approval by the Research Ethics Committee.

DEVELOPMENT

Considering that in the early 2000s, Brazil concentrated a large part of the world's CAP cases in children under 5 years of age and in 2017 pneumococcal infection was responsible for 14% of all hospitalizations in the Unified Health System hospitalization in 2017, the importance and relevance in the public health scenario is noted. face this issue more effectively. Thus, an epidemiological mapping outlining the number of children hospitalized for complicated pneumonia , with the objective of highlighting the epidemiological, individual, physical, socioeconomic and sanitary characteristics of each individual.

The diversity of etiologic agents of CAP, with a significant emphasis on Streptococcus pneumoniae, and the predominance of viral infections in children under two years of age, underscore the need for accurate diagnoses and targeted treatments. Timely detection of pathogens is crucial for effective CAP management, especially in complicated cases where inadequate treatment can lead to severe complications. Thus, the importance of well-informed public health policies, supported by sound epidemiological data and efficient surveillance systems, is crucial for reducing the burden of the CAP on vulnerable populations.

FINAL CONSIDERATIONS

The study aims to present a proposal for standardization of initial treatment of pneumonia based on clinical severity, highlighting the importance of improved and integrated epidemiological surveillance of the disease worldwide. Systems for measuring the effectiveness of vaccines are crucial to support public health policies, especially in a post-pandemic scenario, where the circulation of respiratory viruses and changes in the profile of susceptibility to antimicrobials represent new challenges.

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