



## Days Of Hospitalization Due To Childhood Malnutrition In The Years 2011 Through 2022 In Brazil - Epidemiological Review

  <https://doi.org/10.56238/colleinternhealthscienv1-115>

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### **ABSTRACT**

This epidemiological review aims to show that malnutrition, with emphasis on childhood malnutrition, is a global issue that has numerous consequences for the child population that presents this condition, seeing the complexity and dimension that this clinical picture has, this study highlights the number of days of hospitalization that patients under one year to nineteen years, i.e., children and adolescents, stay due to worsening malnutrition. Thus, due to the facts indicated, this work described the five Brazilian regions and the number of days of hospitalization that each one had, showing that the region with the highest number of days of hospitalization was the Northeast region and the one with the lowest number was the North region.

**Keywords:** Malnutrition, Hospitalizations, Children.

## **1 INTRODUCTION**

It is known that child malnutrition, according to the World Health Organization (WHO), is due to a clinical condition that results from the deficiency, whether relative or absolute, of one or more nutrients that are declared as essential for human nutrition, citing for example sodium and potassium. It is also observed that human malnutrition is related to some factors, such as early weaning, since in children aged 0 to 2 years only induced feeding is insufficient, and it is also linked to socioeconomic issues, since low-

income children tend to have a higher risk of having a food deficiency; and cultural factors and even the amount of nutritious food available will influence. Therefore, malnutrition is a clinical picture of global scales, being possible to observe in developed countries and even in the poorest countries, thus, due to the enormous importance that this situation needs, since this picture accompanies bad alterations in the nervous system; bone system; heart system; kidney system and even psychic alterations, it was seen the need to establish the days of permanence that children, under one year to nineteen years old, are hospitalized due to malnutrition pictures in Brazil in the last twelve years, to have a greater notion of the malignant capacity of this picture in the Brazilian child population.

## **2 OBJECTIVES**

This work was developed with the purpose of making an epidemiological study about the number of days of hospitalization that children under one year to nineteen years of age stay in hospitals, especially hospitals of the Single Health System (SUS) in Brazil, from 2011 to November 2022, in order to have knowledge of the number of days that these children are hospitalized due to cases of malnutrition in Brazil.

## **3 METHODOLOGY**

An observational study was conducted using data that were obtained from the public platform DATASUS, from January 2011 to November 2022, in which the days of stay in hospitalizations, in the last twelve years, due to malnutrition in Brazilian children was taken into consideration, being considered an age range of less than one year old to nineteen years old, due to malnutrition located in Brazil and its other regions and their corresponding states.

## **4 RESULTS AND DISCUSSION**

During the period analyzed, twelve years, had a total of 623,895 days of stay in hospitalization children due to malnutrition, and within this time limit the Brazilian region that had more hospitalizations was the Northeast, with 241. Within this timeframe, the Brazilian region that had the most hospitalizations was the Northeast, with 241,056 days, followed by the Southeast, which had 176,626 days, followed by the South, with 78,994 days, the Midwest, with 63,774 days, and finally the North, with 63,445 days of hospitalization. Focusing more on the regions and talking about their states, the state in the North region that had the most days of hospitalization stay was Para, 29,123 days, followed by Amazonas, 12,047 days that the patients stayed hospitalized, and the year that had the most days was 2022. Thus, according to the studies done about the Northeast region, the state that had the most days of hospitalization was Bahia, with 91,434 days, followed by the state of Maranhão with, approximately, 51,000 days in hospitalization stay, and observing the year that had the most days of hospitalizations was the year 2019. Therefore, when analyzing the Southeast region, it can be concluded that the state with the most days in hospitalization was São Paulo, 65,624 days, followed by the state of Minas Gerais with 57,333 days, and analyzing the year

with the most days in hospitalization was 2016. However, in the South region the state that had the most days of hospitalization was Rio Grande do Sul, 34,122 days, while the next state had 22,921 days which was the state of Paraná, and the year that had the most days of hospitalization accounted for was the year 2014. Finally, the Midwest region had the state with the most days of hospitalizations due to child malnutrition was Mato Grosso do Sul, with 28,375 days, and soon after was the state of Mato Grosso, with 13,862 days, noting that the year that had the most days of hospitalizations was 2013. Analyzing the states of the 5 Brazilian regions with the fewest days of stay in hospitalizations, it is noted that in the North region the state with the fewest days was Amapá, with 2007 days, and in the Northeast region the state with the fewest days was Rio Grande do Norte, with 6.844 days, in the Southeast region the state was Espírito Santo, with 19,459 days, and in the South region the state with the fewest days was Santa Catarina, with 21,951 days, and lastly in the Center-West region the state with the fewest days of hospitalization was Goiás, with 8,764 days.

## 5 CONCLUSION

It can be concluded that the states and regions with the highest number of days of hospitalization for malnourished patients are, consequently, the states or regions where there is probably the highest prevalence of cases of a possible worsening of malnutrition within the age group of children under one year of age to adolescents of nineteen years of age. Another issue that can be evidenced in these data extracted from DATASUS is that, in the regions with the highest incidence of days of hospitalization, these are states where more practices and public policies are needed to prevent the population, especially children, from having a bad diet, by adding a nutritious diet, rich in good nutrients, before reaching the most severe cases, such as those that need hospitalization. In order to have fewer days of hospitalization, it is necessary that factors that stimulate malnutrition are discouraged, such as, for example, that the Brazilian public health organizations encourage breastfeeding until the age that the WHO recommends, two years old. Another practice that these organizations can develop is a diet rich in nutrients in the meals of public schools, aiming to keep malnutrition away from the country. And unlike these regions, where there was a higher number of days of hospitalization, the regions that had the lowest number of hospitalizations are regions that have fewer hospitalizations, that is, a lower number of children and adolescents who needed to be hospitalized because of child malnutrition, and therefore are states where the number of cases of malnutrition and its worsening are probably lower, and we do not know why, but probably the food of these children and adolescents are richer and more nutritious, preventing malnutrition in the region and its consequences, such as major muscle loss; slowed growth; hair loss and loss of skin tone; bone malformation; anemia and finally depression and apathy.

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