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ORIGINAL ARTICLE

Breastfeeding and the anthropometric profile of children with sickle cell anemia receiving follow-up in a newborn screening reference service

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KEYWORDS
Breast-feeding;
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Abstract
Objective: To study the breastfeeding history (BF) and the anthropometric status of children with Sickle Cell Disease (SCD).
Methods: A cross-sectional study of 357 children with SCD aged between 2 and 6 years, regularly followed at a Newborn Screening Reference Service (NSRS) between November 2007 and January 2009. The outcome was anthropometric status and the exposures were: BF pattern, type of hemoglobinopathy and child's age and gender.
Results: The mean (SD) age was 3.7 (1.1) years, 52.9% were boys and 53.5% had SCA (hemoglobin SS). The prevalence of exclusive breastfeeding (EBR) up to six months of age was 31.5%, the median EBR times (p25-p75) was 90.0 (24.0-180.0) days and the median weaning ages (p25-p75) was 360.0 (90.0-720.0) days respectively. Normal W/H children experienced EBR for a mean duration almost four times longer than malnourished children (p=0.01), and were weaned later (p<0.05). Height deficit was found in 5.0% of children, while all the children with severe short stature had had SCA (hemoglobin SS) and were older than 4 years of age.
Conclusions: EBF time and weaning age were greater than that found in the literature, which is a possible effect of the multidisciplinary follow-up. Duration of EBF and later weaning were associated with improved anthropometric indicators.

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PALAVRAS-CHAVE
Aleitamento materno;
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Triagem neonatal

Aleitamento materno e perfil antropométrico de crianças com doença falciforme acompanhadas em serviço de referência em triagem neonatal

Resumo
Objetivo: Descrever a história de aleitamento materno (AM) e estado antropométrico de crianças com Doença Falciforme (DF).
Métodos: Estudo transversal com 357 crianças com hemoglobinopatias SS e SC de 2-6 anos de idade, acompanhadas regularmente num Serviço de Referência em Triagem Neonatal (SRTN) entre novembro de 2007 e janeiro de 2009. O desfecho correspondeu ao estado antropométrico e as exposições foram: padrão do AM, tipo de hemoglobinopatia, faixa etária e sexo da criança.
Resultados: A média (DP) de idade observada foi de 3,7 (1,1) anos, sendo 52,9% meninos e 53,5% com hemoglobinopatia SS. A prevalência de aleitamento materno exclusivo (AME) até o 6° mês foi 31,5% a mediana (p25–p75) do tempo de AME foi de 90,0 (24,0-180,0) dias e a mediana (p25–p75) da idade de desmame foi de 360,0 (90,0-720,0) dias. Crianças eutróficas em relação ao P/A tiveram o tempo de AME, em média, quase quatro vezes maior que os desnutridos (p<0,01), bem como foram desmamadas mais tarde (p<0,05). O déficit de altura foi encontrado em 5,0% das crianças e todas as crianças com baixa estatura grave tinham hemoglobinopatia SS e mais de 4 anos de idade.
Conclusões: O tempo de AME e a idade de desmame foram superiores aos encontrados na literatura, possível efeito do acompanhamento multidisciplinar. A duração do AME e a idade mais tardia de desmame foram associadas a melhores indicadores antropométricos.

Introduction

The protective effect of breast milk (BM) on children's health is a consensus in the literature, and it is considered a universal source of nutrition for young infants, contributing significantly to energy and micronutrient intake in the first year of life.[1] Furthermore, many studies confirm the superiority of breastfeeding (BF) in conferring protection against several diseases[2,3] and reducing the frequency of hospitalizations for pneumonias[4] and diarrhea,[5] pointing to the need for incentive and integrated support.

A study carried out in Latin America found that 13.9% of child deaths, secondary to several causes, could be prevented by the practice of exclusive breastfeeding (EBF) until three months of age and partial breastfeeding throughout the first year of life. Among infants younger than three months, 55% of deaths from diarrheal diseases and respiratory infections would be prevented.[6]

In chronic diseases, protection against preventable infections and nutritional status have considerable impact on the reduction of morbidity and mortality,[7] and considering the benefits of breastfeeding, one may suggest its relevant importance for children with Sickle Cell Disease (SCD), which shows great phenotypic variety and is mainly characterized by vaso-occlusive phenomena, hemolytic anemia and increased risk of infections. It is known that social and environmental conditions, personal care, antibiotic prophylaxis, vaccination, access to health care services, hydration and proper nutrition have a strong influence on the clinical course of the individual with SCD.[8]

In Brazil, SCD is considered a public health problem, and Bahia is the state with the highest occurrence of SCD, with 1:565 live births in 2009.[9] Furthermore, Salvador, the state capital, has a low percentage of EBF, around 9.4% of children younger than six months,[10] a scenario that can contribute to increased morbidity and mortality. Moreover, according to data from the Second National Survey on Breastfeeding Prevalence, carried out in 2008, only 37.0% of children younger than six months from northeastern capital cities benefited from EBF, a lower prevalence than that observed in the North, Central-West, South and Southeast regions, whose prevalence rates were, respectively, 45.9%, 45.0%, 43.9% and 39.4%. Additionally, even with the increase in the median time of BF, which went from 296.0 days in 1999 to 342.0 days in 2008,[11] this period is still much shorter than what is recommended: EBF up to six months (180 days) of life, and complemented BF up to two years or more.[12,13]

Thus, considering the nutritional aspects and the possible impact of BF on the course of SCD, this study aimed to describe the history of BF and anthropometric data of children with SCD, with early diagnosis obtained by neonatal screening, followed at a Neonatal Screening Reference Service (NSRS) in a state with high incidence of hemoglobinopathies.

Method

This is a cross-sectional study carried out between November 2007 and January 2009 in children with Sickle Cell Anemia and Hemoglobin SC disease, regularly monitored at a NSRS in the state of Bahia, aged two to six years and of both genders. The outcome corresponded to the anthropometric status and the assessed exposures were the BF pattern (EBF duration and total time of BF), type of hemoglobinopathy (SS or SC), age and gender of the child.