



REVIEW ARTICLE

Association between gestational age and birth weight on the language development of Brazilian children: a systematic review[☆]



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KEYWORDS

Infant prematurity;
Low birth weight;
Child;
Language;
Language development disorders;
Language development

Abstract

Objective: To review the literature that addresses the relationship between prematurity, birth weight, and development of language in Brazilian children.

Sources: A systematic review of studies published between 2003 and 2012 in English and Portuguese and indexed in PubMed, LILACS, and SciELO. The following key words were used in the searches: Prematuro, Prematuridade, Linguagem, Prematurity, Language, Speech-Language Pathology. Fifty-seven articles were retrieved, 13 of which were included in the systematic review.

Summary of the findings: The results showed an association between prematurity, low birth weight, and language development. In studies that made comparisons between preterm and term infants, there was evidence that preterm infants had poorer performance on indicators of language. It was also observed that children born with lower birth weight had a poorer performance on measures of language when compared to children with higher weight and closer to 37 weeks of gestational age. Regarding the type of language assessed, expression proved to be more impaired than reception. Higher parental education and family income were indicated as protective factors for the development of language. Conversely, lower birth weight and higher degree of prematurity emerged as risk factors.

Conclusions: Preterm birth and low birth weight poses risks for the language development of children, especially in the first years of life. Therefore, it is essential that pediatricians are aware of the language development of these children to ensure proper treatment.

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PALAVRAS-CHAVE

Prematuridade;
Baixo peso ao
nascimento;
Criança;
Linguagem;
Atraso de
desenvolvimento de
linguagem;
Desenvolvimento de
linguagem

Associação entre idade gestacional e peso ao nascimento no desenvolvimento linguístico de crianças brasileiras: revisão sistemática

Resumo

Objetivo: Revisar a literatura que aborda a relação entre prematuridade, peso ao nascimento e desenvolvimento de linguagem de crianças brasileiras.

Fontes dos dados: Revisão sistemática de estudos publicados entre 2003 e 2012, nos idiomas inglês e português, e indexados nas bases de dados PubMed, LILACS e SciELO. Nas buscas foram utilizadas as palavras-chave: Prematuro, Prematuridade, Linguagem, Prematurity, Language, Speech-Language Pathology. Foram identificados 57 artigos, dos quais 13 foram incluídos na revisão sistemática.

Síntese dos dados: Os resultados apontaram uma associação entre prematuridade, baixo peso ao nascer e desenvolvimento de linguagem. Nos estudos que realizaram comparações entre crianças nascidas pré-termo e crianças nascidas a termo, houve evidências de que os prematuros apresentaram pior desempenho nos indicadores de linguagem. Também foi observado que as crianças nascidas com menor peso ao nascer obtiveram pior desempenho nas avaliações de linguagem quando comparadas às crianças com maior peso e idade gestacional mais próxima à 37 semanas. Em relação ao tipo de linguagem avaliado, a expressiva mostrou-se mais prejudicada que a receptiva. Como fatores de proteção ao desenvolvimento de linguagem foram apontadas a maior escolaridade dos pais e maior renda familiar. E em contrapartida, o menor peso ao nascimento e o maior grau de prematuridade surgiram como fatores de risco.

Conclusões: A prematuridade e o baixo peso ao nascer representam riscos para o desenvolvimento linguístico das crianças, especialmente nos primeiros anos de vida. Sendo assim, torna-se fundamental que os pediatras estejam atentos ao desenvolvimento da linguagem destas crianças para tratamento adequado.

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Introduction

In Brazil, in 2011, 285,592 infants were born preterm and 248,217 had low birth weight, corresponding to 9.80% and 8.52% of total births (2,913,160), respectively.¹ Gestational age (GA) and birth weight (BW) have been identified as important biological risk factors for alterations in children's language development.²⁻⁴

The literature in the area of neonatology indicates that although technological and scientific developments have contributed significantly to the decrease in mortality among preterm infants, prematurity and low BW still appear as causes of neonatal mortality and morbidity, showing a strong clinical and epidemiological impact.⁵ Therefore, the follow-up of this group is important to health promotion.

Studies have shown that the lower the GA and the BW, the greater is the risk of developmental disorders.⁶ The risks of developmental alterations in these children are higher not only because they are more susceptible to diseases, but also because they are exposed to iatrogenic factors, such time away from the mother, prolonged time in the incubator, drug effects, mechanical ventilation, and stress due to long-term manipulation.⁷ Thus, newborns who resist perinatal complications become prone to manifest alterations in their development and may have neurological, sensory, and language deficits.⁸

The literature has shown a significant delay in language development of children born preterm and with low BW,⁹ and the early recognition of developmental disorders can

help to include these children in specific intervention programs, thus minimizing the risk of irreversible dysfunctions and improving their quality of life.^{7,10} Therefore, this study aimed to systematically review research on the association between prematurity, low BW, and language development in Brazilian children.

Methods**Research strategy**

A systematic review was carried out in the PubMed, LILACS, and SciELO databases, using combinations of the following keywords: prematuro linguagem, prematuridade linguagem, prematurity language, speech-language pathology (always including the word AND). The keywords were selected by researching MeSH (PubMed) and DeCS terms (LILACS and SciELO).

Selection criteria

The criteria used for study inclusion were: original articles that established an association between GA, BW, and language development in Brazilian children; studies published in the last ten years (January/2003 to December/2012) in Portuguese and English, and that used the cohort, case-control, longitudinal, cross-sectional, descriptive analytical, and retrospective methods.

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