Association between pacifier use and bottle-feeding and unfavorable behaviors during breastfeeding

Christyann L.C. Batista a,*, Valdinar S. Ribeiro b, Maria do Desterro S.B. Nascimento c, Vandalson P. Rodrigues d

a Universidade Federal do Maranhão (UFMA), Hospital Universitário, São Luís, MA, Brazil
b Universidade Federal do Maranhão (UFMA), Department of Medicine III, São Luís, MA, Brazil
c Universidade Federal do Maranhão (UFMA), Postgraduate Program in Adult and Child Health (PPGSAC), São Luís, MA, Brazil
d Universidade Federal do Maranhão (UFMA), Postgraduate Program in Dentistry (PPGO), São Luís, MA, Brazil

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KEYWORDS
Breastfeeding; Pacifiers; Bottle-feeding

Abstract
Objective: To investigate the association between pacifier use and bottle-feeding and unfavorable behaviors during breastfeeding.

Method: A cross-sectional study was conducted with 427 babies/mothers. Socio-demographic, perinatal data, and information about the use of artificial nipples (pacifier and/or bottle) were collected through a questionnaire. The breastfeeding aspects regarding position, affectivity, sucking behavior, baby responses, and breast anatomy were evaluated through observation during breastfeeding. The chi-squared test and the multiple linear regression analysis were used to investigate the association between the variables.

Results: The aspects of breastfeeding that showed higher percentages of the category “poor” were sucking behavior (22.5%) and position (22.2%). The group of infants who used pacifiers and/or bottle showed higher percentages in the poor and fair categories when compared with the good category for all five breastfeeding aspects evaluated (p < 0.001). The linear regression analysis revealed that the increase in the number of unfavorable behaviors regarding position, affectivity, sucking behavior, and baby responses were independently associated with both pacifier and bottle use (β positive, p < 0.05), while breast anatomy was independently associated only with bottle use.

Conclusion: The findings suggest that the use of pacifiers and/or bottle-feeding may be associated with unfavorable behaviors during breastfeeding, especially the use of bottle-feeding.

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* Study carried out at Universidade Federal do Maranhão (UFMA), Postgraduate Program in Dentistry (PPGO), São Luís, MA, Brazil.

* Corresponding author.
E-mail: christyann.batista@huufma.br (C.L. Batista).

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PALAVRAS-CHAVE
Amamentação; Chupetas; Uso de mamadeira

Associação entre uso de chupeta e mamadeira e comportamentos desfavoráveis à amamentação durante as mamadas

Resumo
Objetivo: Investigar a associação entre uso de chupeta e mamadeira e comportamentos desfavoráveis à amamentação durante as mamadas.

Métodos: Um estudo transversal foi conduzido com 427 bebês/mães. Foram coletados dados sócio demográficos, perinatais e sobre o uso de bicos artificiais (chupeta e/ou mamadeira) através de questionário. Os aspectos de amamentação referentes à posição, afetividade, adequação da sucção, respostas do bebê e anatomia das mães, foram avaliados através da observação durante a mamada. O teste qui-quadrado e a análise de regressão linear múltipla foram utilizados para investigar associação entre as variáveis.

Resultados: Os aspectos de amamentação que apresentaram percentuais mais elevados da categoria ruim foram a adequação da sucção (22,5%) e posição (22,2%). O grupo de bebês que utilizavam chupeta e/ou mamadeira apresentaram percentuais mais elevados nas categorias ruim e regular quando comparados a categoria bom para todos os cinco aspectos da amamentação avaliados (p < 0,001). A análise de regressão linear revelou que o incremento do número de comportamentos desfavoráveis referentes à posição, afetividade, adequação da sucção e respostas do bebê estavam associados de forma independente tanto ao uso de chupeta quanto ao uso de mamadeira (β positivo, p < 0,05), enquanto que anatomia das mães estava associado de forma independente apenas com o uso de mamadeira.

Conclusão: Os achados sugerem que o uso de chupeta e/ou mamadeira podem estar associados a comportamentos desfavoráveis durante amamentação, em especial, o uso de mamadeira.

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Introduction

Breastfeeding (BF) is recognized as the ideal strategy for infant feeding, particularly in the first six months of life, during which exclusive breastfeeding is recommended. In addition to the nutritional advantages, BF enhances the immune response, reducing the incidence of infections and other childhood morbidities. For the nursing mother, this practice is associated with a lower risk for the development of type 2 diabetes mellitus, breast cancer, and ovarian cancer.

Estimates indicate a modest increase in the prevalence of exclusive breastfeeding (EBF) among infants aged under 6 months in developed countries, from 33% in 1995 to 39% in 2010. In Brazil, this prevalence was 41% in all Brazilian capitals in 2008, showing a very heterogeneous behavior among the different regions. According to the parameters of the World Health Organization (WHO), EBF prevalence rates below 50% are considered poor.

Several factors are associated with poor adherence to BF, including: family characteristics, factors related to prenatal and postnatal care, offer of alternative artificial formulas, return to work/study, and lack of legal protection for breastfeeding. In addition to the aforementioned factors, the use of pacifiers and bottles has also been considered a strong risk factor for early weaning. The biological plausibility of this association is based on the dysfunction of muscle dynamics caused by the use of these devices, leading the baby to inadequate sucking behaviors.

In turn, some systematic reviews indicated that the pacifier use does not interfere with BF; however, both studies analyzed only the duration and exclusiveness of the outcome. Moreover, the American Association of Pediatrics started to suggest the use of pacifiers as a form of prevention of sudden death syndrome in childhood, contrary to the recommendations made by the WHO and the United Nations Children’s Fund (UNICEF), which expressly recommend not using these devices in breastfed infants, aiming to achieve BF success.

Considering the lack of consensus on the effects of pacifier use and/or bottle-feeding on BF practice, the aim of the present study was to investigate the association between the use of these artificial devices and the presence of unfavorable BF behaviors.

Methods

A cross-sectional observational study was carried out in the city of São Luís, MA, Brazil, between February and October 2016. The study was approved by the Research Ethics Committee of Universidade Federal do Maranhão, under Opinion No. 1,412,752. All mothers were informed about the study objectives and procedures and signed the free and informed consent form.

The representative sample was calculated considering the following parameters: the number of live births in the Health District of São Luís (22,669 in 2015), the prevalence rate of bottle feeding in the city of São Luís (42.7%), a sample error of 5%, confidence level of 95%, and a loss rate of 15%. Thus, the required size comprised 427 babies/mothers.

Infants born at full term, aged between 5 and 120 days, treated for the first time at a Childcare Service at Hos-
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