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Which women breastfeed for 2 years or more?

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Abstract

Objective: To identify factors associated with continuation of breastfeeding for 2 years or more.

Methods: This was a cohort study that followed 151 children recruited at the Hospital de Clínicas in Porto Alegre, Brazil, from birth until ages ranging from 3 to 5 years. Mothers were interviewed in person in the maternity unit, at 7 and 30 days after delivery, and when their children were from 3 to 5 years old. Interviews were also conducted at 60, 120 and 180 days, by telephone when possible, or during a home visit otherwise. Associations between the outcome (breastfeeding for 2 years or more) and explanatory variables were investigated using Poisson regression within a hierarchical model.

Results: The following variables had positive associations with the outcome: mother staying at home with her child for the first 6 months [relative risk (RR) = 2.13; 95% confidence interval (95%CI) 1.12-4.05]; not using a pacifier (RR = 2.45; 95%CI 1.58-3.81); and later introduction of water and/or teas and of other milks. Each extra day that these liquids were not introduced was associated with 0.5% and 0.1% greater probability of the child being breastfed beyond 2 years, respectively. Cohabitation with the child's father had a negative association with the outcome (RR = 0.61; 95%CI 0.37-0.99).

Conclusions: Mothers staying at home with their children for the first 6 months of their lives, not cohabiting with a partner, not giving their children pacifiers and delaying introduction of water and/or teas and of other milks are characteristics and behaviors associated with continuation of breastfeeding for 2 years or more.

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Introduction

On the basis of scientific evidence, the World Health Organization (WHO) recommends breastfeeding (BF) for 2 years or more and recommends exclusive BF for the first 6 months.[1]

It is known that many of the benefits attributed to BF are dose-dependent, i.e. the greater the frequency and duration of breastfeeding, the greater the benefits. Many child deaths are prevented by BF during the second year of life,[2] and many cases of overweight/obesity in preschool children could be avoided if breastfeeding was continued for 2 years or more.[3] It is also possible that longer duration BF is associated with better cognitive performance.[4] For the mother it is estimated that each year of breastfeeding is associated with a 4.3% reduction in breast cancer risk[5] and 15% reduction in diabetes risk,[6] while each month of breastfeeding reduces the risk of ovarian cancer by 2%.[7]

Despite this knowledge, in general breastfeeding duration is low, particularly in Western countries. Around half of the world's children are breastfed for 2 years or more;[8] in Brazil, less than half are breastfed to at least 12 months

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of age, and just 1/4 are still breastfed between 18 and 23 months.[9]

There have been many investigations into the determinants of early BF interruption and socioeconomic, cultural, demographic and biological factors have been identified.[10-12] In contrast, there have been few studies of BF in older children and little is known about the factors involved in continuation of breastfeeding for 2 years or more, as recommended by the WHO.[1] In view of this situation, this study was conducted with the objective of investigating factors associated with continuation of breastfeeding for 2 years or more, in order to identify some of the characteristics and behaviors of women who follow current recommendations on BF duration.

Methods

This study followed a cohort of mothers and their children from birth up to ages ranging from 3 to 5 years. The sample was recruited between June and November of 2003 at the Hospital de Clínicas in Porto Alegre, RS, Brazil. This is a university general hospital that cares for a low socioeconomic status population, deals with around 3,500 deliveries per year and has been certified as a Baby Friendly Hospital since 1997.

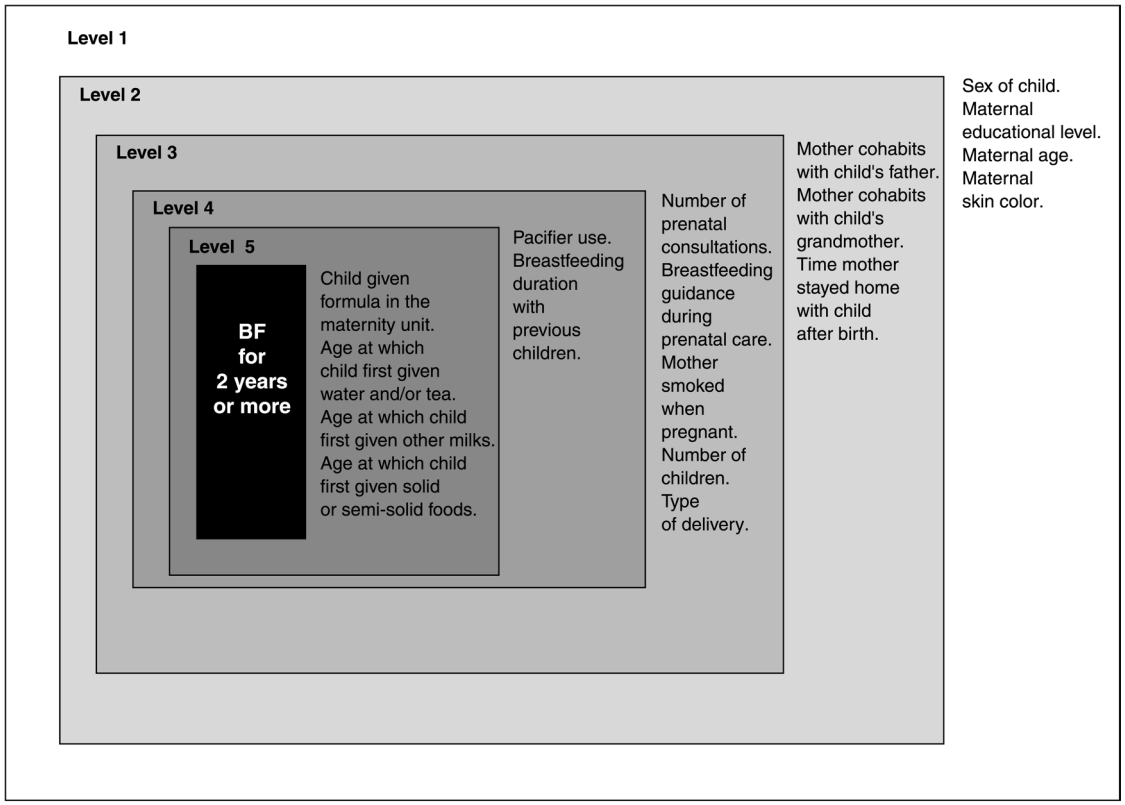
Every day, including weekends, two mother-baby pairs were chosen by lots from all those in rooming-in wards who met the following inclusion criteria: mothers resident in the city of Porto Alegre who had started breastfeeding healthy singleton newborn infants with birth weight greater than or equal to 2,500 g. In the event that mother and baby had to be separated because of problems with either, the pair was excluded from the study.

Data collection took place in three stages. The first stage took place at the maternity unit after the mothers had signed free and informed consent forms and consisted of interviews conducted on the second or third day postpartum. A questionnaire was used to collect sociodemographic data and variables related to prenatal care, delivery and previous breastfeeding experience. The second stage consisted of interviews on days 7, 30, 60, 120 and 180, conducted by telephone, or home visit when attempts at telephone contact were not successful or possible. Data collected during these interviews covered infant feeding practices and other relevant information, such as pacifier use and whether the mother was working outside of the home. This stage employed a rapid-administration questionnaire (around 15 minutes' duration). In the third stage, which took place when the children were from 3 to 5 years old, information was collected during interviews with mothers arranged by appointment in advance. These interviews took place in a location provided by another researcher, who is the author of a different study based on the same sample.[13] When mothers were unable to attend at the chosen location, interviews were conducted at their homes. All interviews were conducted by the lead author using a standardized questionnaire. These interviews lasted approximately 1 hour and were primarily focused on the mothers' experience of breastfeeding and the weaning process. The children were assessed at this age (3 to 5 years) because complete deciduous dentition was a condition investigated in the other study of the same cohort.[13]

Children were defined as on BF if they were fed breastmilk, irrespective of other foods, and were defined as on exclusive BF if they were fed only breastmilk, with no other foods including water or teas.[14]

Statistical analyses were performed using SPSS, version 17.0. The tests used for bivariate statistical analysis were Student's *t* test for continuous variables with symmetrical distribution, or the Mann-Whitney test for continuous variables with asymmetrical distribution, and Pearson's chi-square test for categorical variables. The outcome (BF for 2 years or more) and explanatory variables were subjected to Poisson regression using a hierarchical model in which the variables were grouped into five levels. This analytical model emphasizes the importance of variables that are indicative of the socioeconomic and family context, which are higher in the hierarchy than all other variables, which, in turn, were gradually added to the model, following the hierarchy. Thus, the first analysis was to test for associations between the outcome and the variables in the first level. The next step was to add the variables in the second level to the model, retaining variables that had attained a significance level of $p < 0.10$ in the previous analysis, and so on for the remaining levels. All variables that were entered as a result of having attained a significance level of $p < 0.10$ were retained in the model until the end, on the basis that they were possibly confounding variables. The final model only included those variables associated with the outcome, with their respective relative risks (RR) observed in the phase of the analysis at which they entered the model. The level of significance was set at $p < 0.05$. The choice of variables in each level was based on accumulated knowledge described in the literature (Figure 1). The majority of variables in the model were categorical. The ages at which the child was given water and/or teas, non-breastmilk and solid/semisolid foods were retained as continuous variables, to provide increased detail on the influence that these explanatory variables had on the outcome. The degree of association between different variables and the outcome was estimated using RR and its respective 95% confidence intervals (95%CI).

The initial sample size calculation was based on the outcome prevalence of exclusive BF during the first 6 months of the children's lives, which was the subject of a different study.[15] The minimum sample estimate varied from 128 to 210 subjects, depending on the prevalence of the exposure variable tested (20 to 70%), on the basis of a statistical



BF = breastfeeding.

Figure 1 - Theoretical hierarchical model used to identify factors associated with breastfeeding for 2 years or more

power of 80% to detect differences of at least 30% and a prevalence of the outcome (exclusive BF in children under 6 months) of 30%. The sample available offered a minimum of 80% power for the outcome BF for 2 years or more to detect a RR of 2 for all of the associations tested with the exception of the variable "given formula in the maternity unit," which would have needed a larger sample.

This study was approved by the Healthcare Research Ethics Committee at the Porto Alegre Hospital de Clínicas.

Results

One hundred and fifty-one (69%) of the 220 mother-baby pairs recruited to the cohort concluded the study. Therefore, there were 69 losses during the study: 23 pairs were lost during the second stage of data collection (follow-up to 6 months) and 46 were lost between the second and third stages (after 6 months). Losses were the result of failures to locate the family (63), relocation to other cities (three) and refusal to take part in later stages of the study (three). Comparison of pairs that were followed to the end of the study and those that were lost during follow-up showed that the two groups were similar in terms of their principal characteristics, with the exception of mothers' skin color, with a greater proportion of white-skinned mothers among the pairs lost to the sample (80% vs. 66.2%). This variable was not, however, associated with BF for 2 years or more (p = 0, 985).

The median age of children when the final interview was conducted was 49 months, with a range of 40 to 64 months. The principal variables relating to the sample that completed the study are listed in Table 1. Around 1/3 of the children (n = 49, 32.5%; 95%CI 25.3-40.2) were breastfed for 2 years or more. Median BF duration was 11.5 months (95%CI 7.4-15.6). Nine children (6%) were still being breastfed when their mothers were interviewed.

Table 2 contains the results of the analysis of associations between the outcome and the explanatory variables. None of the four variables in the first level or the five variables in the third level were kept in the model since they had no

Table 1 - Data on mothers and children in the sample (n = 151)

Variables	n (%)
Female child	81 (53.6)
First child	75 (49.7)
Age of mother ≥ 20 (when child born)	113 (74.8)
White-skinned mother	100 (66.2)
Mother's educational level ≥ 8 years	96 (63.6)
Vaginal delivery	107 (70.9)
Mother breastfed previous children for average of ≥ 6 months	41 (27.2)
Mother cohabits with child's father	121 (80.1)
Mother lives with own mother and/or mother-in-law	81 (53.6)
Number of prenatal consultations ≥ 6	118 (78.1)
Mother received breastfeeding guidance during prenatal care	56 (37.1)
Mother smoked when pregnant	31 (20.5)
Child given formula in the maternity unit	18 (11.9)
Mother stayed at home with child for first 6 months	42 (27.8)
Age at which child first given water and/or tea (days), median (P25-P75)	80 (15-125)
Age at which child first given other milks (days), median (P25-P75)	115 (45-240)
Age at which child first given solid or semi-solid foods (days), median (P25-P75)	150 (120-180)
Child sometimes given pacifier	111 (73.5)

P = percentile.

significant associations with the outcome. Two of the three variables in the second level (mother cohabits with child's father and mother stayed at home with child for first 6 months) remained in the model. The same was true for the variable did not use a pacifier, from the fourth level, and the variables age at which child first given other milks and age at which child first given water and/or tea, from the fifth level. The final hierarchical model demonstrated that BF continuation for 2 years or more was 2.1 and 2.4 times more frequent respectively among mothers who stayed at home with the child for the first 6 months and those whose children did not use a pacifier. Delaying introduction of water and/or teas and of other milks increased the probability that the child would be breastfed for 2 years or more. The probability of a child being breastfed for 2 years or more increased by 0.5% and 0.1% respectively for each extra day that these liquids were not introduced. In contrast, the mother cohabiting with a partner was negatively associated with the outcome, i.e., when the mother and father were cohabiting, the probability of breastfeeding for 2 years or more was 39% lower.

Discussion

This study can claim the merit of being one of the first studies to explore factors associated with continuation of BF for 2 years or more, as recommended by the WHO. Just five of the variables tested here proved to be associated with this outcome: cohabitation of parents, mother staying at home with her child for the first 6 months, pacifier use and child's ages at introduction of other milks and at introduction of teas and/or water.

There is practically full consensus that the husband/partner is one of the people with the greatest influence over the mother with relation to BF,[16] especially when they are cohabiting[17] and when the father is the main provider in the family.[18] Fathers very often support starting and continuing BF,[19] but it has also been detected that they can have a negative influence if they are not in favor of BF[20] or are ambivalent.[21] In a study conducted in the Caribbean, absent fathers were associated with early weaning,[22] but, in the present study, not cohabiting with the partner/child's father had a positive association with continuation of BF for 2 years or more. Comparison of the results of this study with those of other studies is restricted since the majority deal with the influence of fathers on early weaning and not on continuation of BF for prolonged periods. It is possible that fathers were encouraging breastfeeding at the outset, but, as a result of not knowing that the recommended duration of BF is 2 years or more or not being aware of the importance of fulfilling this recommendation, they then discouraged

Table 2 - Results of multivariate analysis (Poisson regression, with hierarchical model) to test for associations between maintenance of breastfeeding for 2 years or more and selected variables

Levels	Variables	RR (95%CI)	p
1	Female child	0.84 (0.53-1.33)	0.458
	Maternal educational level ≥ 8 years	0.96 (0.59-1.57)	0.864
	Mother's age ≥ 20 years	1.15 (0.65-2.04)	0.622
	White-skinned mother	1.01 (0.62-1.67)	0.960
2	Mother cohabits with child's father	0.61 (0.37-0.99)	0.047
	Mother lives with own mother and/or mother-in-law	0.93 (0.59-1.47)	0.769
	Mother stayed at home with child for first 6 months	2.13 (1.12-4, 05)	0.021
3	Number of prenatal consultations ≥ 6	0.78 (0.47-1.28)	0.320
	Mother received breastfeeding guidance during prenatal care	0.95 (0.57-1.57)	0.830
	Mother did not smoke when pregnant	0.84 (0.50-1.43)	0.520
	Mother not primiparous	1.08 (0.65-1.75)	0.782
	Vaginal delivery	1.64 (0.88-3.08)	0.122
4	Did not use pacifier	2.45 (1.58-3.81)	< 0.001
	Mother breastfed previous children for average of $\geq$ 6 months	1.08 (0.66-1.7)	0.762
5	Child not given formula in the maternity unit	1.06 (0.60-1.74)	0.853
	Age at which child first given water and/or tea (days)	1.005 (1.001-1.009)	0.009
	Age at which child first given other milks (days)	1.001 (1.001-1.002)	< 0.001
	Age at which child first given solid or semi-solid foods (days)	0.994 (0.985-1.003)	0.183

95%CI = 95% confidence interval; RR = relative risk.

mothers from continuing to breastfeed after a certain point. Sharma and Petosa[23] have published a list of reasons that fathers give for encouraging women to discontinue breastfeeding: it isn't good for breasts, it interferes in the relationship between the father and the child, it interferes in the couple's relationship, including sexual relations, and because it causes feelings of exclusion, being undervalued and jealousy, among others. The design of this study does not provide explanations for the association detected between parents not cohabiting and maintenance of BF for 2 years or more. It is possible that one or more of the reasons described by Sharma and Petosa[23] are involved. It is also possible that cohabiting with husband/partner puts greater demand on the mother, particularly if he does not share in domestic chores. More studies are needed, particularly with qualitative methodologies, in order to elucidate which maternal, paternal and family factors are involved in the association between cohabiting with a partner and shorter duration of BF.

It is already known that maternal employment makes BF less likely, particularly exclusive BF.[24] However, this is the first study to demonstrate that the chance for the mother to remain at home for the first 6 months of her child's life can have a positive influence on continuation of breastfeeding for 2 years or more. The mother remaining at home with her child during this period provides opportunities for a longer duration of exclusive breastfeeding and, consequently, longer duration of BF.[25] Furthermore, spending more time with the child may strengthen the mother-child bond, also facilitating continuation of BF. This finding could make a contribution to arguments in favor of increasing maternity leave from 4 to 6 months for all working women in Brazil, which is a measure currently under discussion.

A recent meta-analysis confirmed that pacifier usage is associated with shorter duration of BF and of exclusive BF.[26] This study has shown that this habit can also have a negative effect on continuation of BF for 2 years or more. It is possible that children who are given pacifiers demand the breast less often, leading to earlier weaning. It is also possible that mothers who comply with the recommendation to not give their children pacifiers despite pressures to do so are better informed and more alert to good practices related to child health, including the recommendation to breastfeed for 2 years or more. In Porto Alegre, RS, Brazil, almost 60% of children less than 1 year old were using pacifiers;[27] in the sample studied here 73.5% of the children were given a pacifier at some point in their lives.

The ages at which water and/or teas and at which other milks were introduced were associated with continuation of BF for 2 years or more. The later the child is first

given these liquids the greater the chance of being breastfed for a minimum of 2 years. In the same cohort, introduction of other milks in the first month of life has previously been shown to increase the likelihood of BF cessation during the first 6 months, although the same was not true for introduction of water and/or teas in the same time frame.[25] This suggests that the association between later introduction of water and/or teas and BF for 2 years or more is more likely due to the mother/carer not complying with some of the general recommendations on BF (such as, for example, not giving water and/or teas in the first 6 months) than because of some type of biological factor interfering with milk production. The time at which complementary foods are introduced had no association with the outcome.

It is important that certain limitations of this study be discussed. The rate of losses to follow-up was high, but this is a common problem in cohort studies, particularly in highly mobile populations, as is the case with this study population. Nevertheless, we believe that selection bias was not a relevant problem in this study, taking into account the similarity in terms of the primary characteristics of the population lost to follow-up and the population that completed the study. The possibility of memory bias should be considered, since there was a long gap in follow-up after the initial 6 months. However, BF cessation tends to be a memorable event in a woman's life, meaning that they tend to recall the date with relative precision. A study conducted at the United States found that there was no significant difference in BF duration reported after 6 months and at 1 to 3.5 years.[28] Furthermore, the fact that the outcome is not based on a specific date, but on a period (2 years or more), undoubtedly reduces any memory bias. The date of introduction of other foods tends to be more affected by memory bias. However, for this study these data were collected prospectively over the first 6 months. As is the case with any study that investigates subject-reported outcomes, the possibility of measurement bias cannot be ruled out. In the case of this study, this would take the form of reporting a longer BF duration than was really the case, since the population was aware of the general breastfeeding recommendations. Since this was not a prevalence study, we believe that this possible limitation will not have had a significant effect on the results.

We believe that the results of this study can be generalized for populations with similar degrees of exposure to the various variables investigated, as would be the case in Brazilian populations with low socioeconomic status living in large urban centers. Since BF duration is strongly influenced by socioeconomic and cultural factors,[29] it is probable that different factors would be associated with continuation of BF for 2 years or more in populations with different characteristics to the population studied here.

Finally, we consider it to be relevant that the factors generally associated with early BF cessation or with duration of exclusive breastfeeding are not necessarily the same factors that are involved in maintenance of breastfeeding for 2 years or more. For example, in the same cohort, factors associated with cessation of exclusive breastfeeding before 6 months of age included low maternal age (under 20) and insufficient number of prenatal consultations,[15] which were not associated with continuation of breastfeeding for 2 years or more. This is an important finding, since it could have implications for planning actions to encourage BF. Therefore, if the goal is to increase the number of women who comply with the WHO recommendation of BF for 2 years or more then, in the case of the population studied here, in addition to discouraging pacifier use and early introduction of teas and/or water and other milks, it would also be important to include fathers in the interventions and treat women who are unable to stay with their children for the first 6 months differently.

References

1. World Health Organization. Global strategy for infant and young child feeding. Fifty-Fourth World Health Assembly. Geneva: World Health Organization; 2003.
2. World Health Organization Collaborative Study Team on the Role of Breastfeeding on the Prevention of Infant Mortality. How much does breastfeeding protect against infant and child mortality due to infectious diseases? A pooled analysis of six studies from less developed countries. Lancet. 2000;355:451-5.
3. Simon VG, Souza JM, Souza SB. Aleitamento materno, alimentação complementar, sobrepeso e obesidade em pré-escolares. Rev Saude Publica. 2009;43:60-9.
4. Kramer MS, Aboud F, Mironova E, Vanilovich I, Platt RW, Matush L, et al. Breastfeeding and cognitive development: new evidence from a large randomized trial. Arch Gen Psychiatry. 2008;65:578-84.
5. Collaborative Group Hormonal Factors in Breast Cancer. Breast cancer and breastfeeding: collaborative reanalysis of individual data from 47 epidemiological studies in 30 countries, including 50.302 women with breast cancer and 96.973 women without the disease. Lancet. 2002;360:187-95.
6. Stuebe AM, Rich-Edwards JW, Willett WC, Manson JE, Michels KB. Duration of lactation and incidence of type 2 diabetes. JAMA. 2005;294:2601-10.
7. Danforth KN, Tworoger SS, Hecht JL, Rosner BA, Colditz GA, Hankinson SE. Breastfeeding and risk of ovarian cancer in two prospective cohorts. Cancer Causes Control. 2007;18:517-23.
8. Fundo das Nações Unidas para a Infância (UNICEF). Situação mundial da infância, 2011. www.unicef.org/sowc2011. Access: 19/11/2010.
9. Brasil. Ministério da Saúde. Pesquisa Nacional de Demografia e Saúde da Criança e da Mulher - PNDS 2006: dimensões do processo reprodutivo e da saúde da criança. Brasília: Ministério da Saúde; 2009.
10. Whalen B, Cramton R. Overcoming barriers to breastfeeding continuation and exclusivity. Curr Opin Pediatr. 2010;22: 655-63.
11. Wijndaele K, Lakshman R, Landsbaugh JR, Ong KK, Ogilvie D. Determinants of early weaning and use of unmodified cow's milk in infants: a systematic review. J Am Diet Assoc. 2009;109:2017-28.

12. Venancio SI, Escuder MM, Kitoko P, Rea MF, Monteiro CA. Frequency and determinants of breastfeeding in the state of São Paulo, Brazil. Rev Saude Publica. 2002;36:313-8.

13. Silva FC. Contribuição do aleitamento materno prolongado para a prevenção da distoclusão na dentição decídua [dissertação]. Porto Alegre: Universidade Federal do Rio Grande do Sul; 2010.

14. World Health Organization. Indicators for assessing infant and young child feeding practices: conclusions of a consensus meeting held 6-8 November 2007 in Washington D.C., USA. Geneva: World Health Organization; 2008.

15. Santo LC, de Oliveira LD, Giugliani ER. Factors associated with low incidence of exclusive breastfeeding for the first 6 months. Birth. 2007;34:212-9.

16. Clifford J, McIntyre E. Who supports breastfeeding? Breastfeed Rev. 2008;16:9-19.

17. Hoyer S, Pokorn D. The influence of various factors on breast-feeding in Slovenia. J Adv Nurs. 1998;27:1250-6.

18. Chatman LM, Salihu HM, Roofe ME, Wheatle P, Henry D, Jolly PE. Influence of knowledge and attitudes on exclusive breastfeeding practice among rural Jamaican mothers. Birth. 2004;31:265-71.

19. Bar-Yam NB, Darby L. Fathers and breastfeeding: a review of the literature. J Hum Lact. 1997;13:45-50.

20. Arora S, McJunkin C, Wehrer J, Kuhn P. Major factors influencing breastfeeding rates: mother's perception of father's attitude and milk supply. Pediatrics. 2000;106:E67.

21. Scott JA, Landers MC, Hughes RM, Binns CW. Psychosocial factors associated with the abandonment of breastfeeding prior to hospital discharge. J Hum Lact. 2001;17:24-30.

22. Quinlan RJ, Quinlan MB, Flinn MV. Parental investment and age at weaning in a Caribbean village. Evol Hum Behav. 2003;24:1-16.

23. Sharma M, Petosa R. Impact of expectant fathers in breast-feeding decisions. J Am Diet Assoc. 1997;97:1311-3.

24. Vianna RP, Rea MF, Venancio SI, Escuder MM. A prática de amamentar entre mulheres que exercem trabalho remunerado na Paraíba, Brasil: um estudo transversal. Cad Saude Publica. 2007;23:2403-9.

25. Giugliani ER, do Espírito Santo LC, de Oliveira LD, Aerts D. Intake of water, herbal teas and non-breast milks during the first month of life: associated factors and impact on breastfeeding duration. Early Hum Dev. 2008;84:305-10.

26. Karabulut E, Yalçin SS, Ozdemir-Geyik P, Karaağaoğlu E. Effect of pacifier use on exclusive and any breastfeeding: a meta-analysis. Turk J Pediatr. 2009;51:35-43.

27. Brasil. Ministério da Saúde. II Pesquisa de Prevalência de Aleitamento Materno nas Capitais e Distrito Federal. Brasília: Ministério da Saúde; 2009.

28. Gillespie B, d'Arcy H, Schwartz K, Bobo JK, Foxman B. Recall of age of weaning and other breastfeeding variables. Int Breastfeed J. 2006;1:4

29. Almeida JA. Amamentação: um híbrido natureza-cultura. Rio de Janeiro: FIOCRUZ; 1999.

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