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Secular trends in breastfeeding in Brazil

ABSTRACT

The objective of this study was to document the secular trend in breastfeeding in Brazil. Data bases from seven national surveys conducted from 1975 to 2008 were reanalyzed. To obtain compatible data from the different surveys, children in the same age group and the same indicators were analyzed, using the same statistical techniques. The median duration of breastfeeding increased from 2.5 to 11.3 months, and the prevalence of exclusive breastfeeding in infants under six months of age increased from 3.1% to 41.0% in the period. The results indicate important challenges in accelerating the rhythm at which this practice in Brazil moves towards meeting international recommendations.

DESCRIPTORS: Breast Feeding. Epidemiology. Population Surveys.

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INTRODUCTION

Studies on the evolution of breastfeeding (BF) indicators in Brazil, based on estimates produced by nationwide probabilistic surveys carried out between 1975 and 1989,⁴ in 1986,^a 1996^b and 2006^c and in 1999³ and 2008,⁵ indicate systematic increases in the frequency of this practice in all of the periods analyzed. However, the use of different age groups, indicators and methods of estimating used make it difficult to describe with accuracy what the secular trends in breastfeeding in Brazil have been in the last four decades and, in particular, what the speed of change has been in each decade. This latter aspect is relevant in evaluating the success of various actions promoting BF developed in Brazil and to eventually make projections on the evolution of future indicators.

The aim of this study was to document secular trends in breastfeeding in Brazil.

METHODS

Databases from seven studies investigating feeding of Brazilian children less than 12 months of age were reanalyzed.

Of the studies analyzed, the oldest was the National Survey of Household Expenditure (ENDEF), conducted by the Brazilian Institute of Geography and Statistics (IBGE) in 1974-1975. As the ENDEF sought to evaluate household food intake, there was no mention of breast milk intake or not in the questionnaire. However, all of the women reported whether they were breastfeeding or not, which enabled data on breastfeeding status of infants under one year old to be extracted. These data were analyzed by Venancio & Monteiro⁴ (1998), comparing them with data from the 1989 National Health and Nutrition Survey (PNSN), in which children's actual breastfeeding condition was verified using a food questionnaire.

Three other studies were developed as part of the MEASURE DHS (Demographic and Health Survey) project, a global investigation conducted with the support of the United States Agency for International Development (USAID), with the aim of providing health and nutrition data on women and children in developing countries. In all of these studies, it was asked whether, in the preceding 24 hours, the infant had

received breast milk and other food items commonly eaten in childhood.^c

The final two surveys were conducted in 1999 and 2008 with probabilistic samples of a population of children less than 12 months of age who attended national vaccination campaigns in the 26 state capitals and the Federal District. This was the strategy adopted by the Brazilian Ministry of Health to monitor infant feeding practices by enabling representative data to be obtained (due to the high population coverage of the campaigns) over a short period of time and at relatively low cost. In these studies, a questionnaire similar to that used in the National Health and Demographics Study (PNDS) was employed, gathering information on the child's food intake in the preceding 24 hours.⁵

The indicator "median duration of breastfeeding" was calculated, and for those from 1986, 1999, 2006 and 2008 the indicator "prevalence of exclusive breastfeeding (EBF) in infants under six months" was also calculated, both being proposed by the World Health Organization (WHO) for population studies of breastfeeding practices.^d The latter indicator could not be calculated for the 1996 study, due to an adaptation made in the DHS survey, which meant data on consumption of other foods in addition to breast milk could not be obtained for all children.¹

Specific procedures for analyzing surveys with complex samples were used, applying weighting factors with the help of the SPSS 16.0 statistics package. The median duration of BF (age at which half the population no longer received breast milk) was obtained using logit analysis, in which statistical modeling is used to estimate the probability of an event according to age.⁵ Estimates of the prevalence of EBF, in other words, the proportion of infants aged under six months who received breast milk and no other type of food, including water, tea and juice,^d considering standard error, were determined by the study design and the respective 95% confidence intervals.

RESULTS

As regards the median duration of BF, a significant increase was observed over the period: in the 1970 study, half of Brazilian children had stopped receiving

^a Sociedade Civil Bem-Estar Familiar no Brasil. Pesquisa Nacional sobre saúde materno-infantil e planejamento familiar-PNSMIPF-Brasil, 1986. [cited 2013 Dec 14]. Available from: <http://www.measuredhs.com/pubs/pdf/SR160/SR160.pdf>

^b Sociedade Civil Bem-Estar Familiar no Brasil. Pesquisa Nacional sobre Demografia e Saúde - 1996. Amamentação e Situação Nutricional das Mães e Crianças. Rio de Janeiro: BEMFAM; 1997. p. 125-38.

^c Ministério da Saúde; Centro Brasileiro de Análise e Planejamento. Pesquisa Nacional de Demografia e Saúde da Criança e da Mulher - PNDS 2006: dimensões do processo reprodutivo e da saúde da criança. Brasília (DF); 2009. (Série G. Estatística e Informações em Saúde). [cited 2012 Nov 14]. Available from: http://bvsmis.saude.gov.br/bvs/publicacoes/pnds_crianca_mulher.pdf

^d World Health Organization. Indicators for assessing infant and young child feeding practices: conclusions of a consensus meeting held 6-8 November 2007 in Washington DC, USA. Geneva; 2008 [cited 14 Nov 2012]. Available from: <http://www.who.int/nutrition/publications/infantfeeding/9789241596664/en/>

breast milk before the age of three months, whereas in the latest studies, from the year 2000, the duration of BF was almost a year; in raw figures, the increase was of practically nine months.

However, given the similarities from a methodological point of view, better comparisons can be obtained between the DHS studies and those carried out as part of the vaccination campaigns. As for the pace of the increase in this indicator, comparison between the 1986 National survey on maternal and child health and family planning (PNSMIPF/86)^a and the PNDS/96^b shows an increase of half a month in 10 years, while comparison between the PNDS/96 and 2006^c shows an increase of 4.6 months in the same amount of time. In the comparison between the studies conducted in the state capitals and the Federal District, there was an increase of a little over a month and a half in the median duration of BF in nine years.

Advances were also observed in the prevalence of EBF in Brazil: whereas only 3.1% of children less than six months of age were exclusively breastfed in the 1980s, this percentage increased by a factor of ten, climbing to 38.6% in 2006; in this period, there was an increase of 1.7% per year. The analysis on the pace of the increase of this indicator by decade, using comparisons between the DHS surveys, was limited due to the lack of information on EBF in the PNDS/96.^b Using the surveys in the state capitals as a base, it was verified that there was a 14.3% increase between 1999 and 2008, with a mean increase of 1.6%/year in this period (Table).

DISCUSSION

As well as reaffirming the increasing trends of BF in Brazil, the re-analysis of the main national probabilistic surveys containing data on BF allowed us to obtain comparable results from the different surveys, as they analyzed children in the same age groups and used the

same indicators and statistical techniques. Based on this standard, it was also possible to advance analysis of the pace at which these indicators increased in Brazil.

With regards the duration of BF, comparison between the ENDEF and the PNSN showed an increase of three months in 15 years. A negligible increase in this indicator was noted when comparing the PNSMIPF/86^a and the PNDS/96.^b Between 1996 and 2006^c an acceleration in the increase in the duration of breastfeeding, of approximately half a month per year, was noted. Comparison between the surveys in the state capitals showed a less rapid increase, although comparisons between these surveys and those of the DHS should be treated with caution, as the former covered predominantly urban populations, whereas the DHS surveys also include rural areas. It is known that breastfeeding profiles differ between urban and rural areas, with it tending to be more prolonged in rural areas.⁴ EBF expanded considerably from the 1980s onwards and the comparison between the surveys suggests that the speed of the increase has been stable.

There are various factors which may have contributed to the changes identified. Campaigns promoting breastfeeding began in Brazil in 1981 with the National BF Promotion Program.² The 1980s was marked by significant advances in legal protection for BF, with the approval of the Brazilian Code of Marketing of Breast Milk Substitutes and the inclusion of the right to 120 days maternity leave in the Constitution. The Baby-Friendly Hospital Initiative was adopted in 1992, and now has 335 accredited hospitals. In the 1990s, the expansion of the Brazilian Network of Human Milk Banks was noteworthy, it now being the largest such network in the world, with 270 units, as well as the intense social mobilization encouraged by celebrating World Breastfeeding week. Moreover, new policies are being implemented, with the creation of the Brazilian Feeding and Breastfeeding Strategy, for promoting breastfeeding

Table. Median duration of breastfeeding (months) and prevalence of exclusive breastfeeding in children less than six months of age, in seven national surveys in Brazil, 1974-2008.

Year	Coverage	Sample (0-12 months)	Median duration of BF (in months)	95%CI	Sample (0-6 months)	Prevalence of EBF (%)	95%CI
1974-1975	Brazil	7,591	2.5	2.1;2.8	–	–	–
1986	Brazil	631	6.8	5.7;8.2	268	3.1	1.2;7.9
1989	Brazil	1,431	5.5	3.6;8.9	–	–	–
1996	Brazil	1,035	7.3	6.5;8.2	–	–	–
1999	State capitals and FD	48,845	9.9	9.6;10.1	24,810	26.7	26.2;27.3
2006	Brazil	981	11.9	10.1;15.6	495	38.6	32.0;48.1
2008	State capitals and FD	34,366	11.3	10.3;12.7	18,929	41.0	39.7;42.4

BF: Breastfeeding; EBF: Exclusive breastfeeding

and complementary feeding in primary care and the installation of breastfeeding rooms in companies.⁵

According to the WHO, BF above 20 months and the prevalence of EBF above 50.0% in children less than 6 months of age characterize a country which has reached a satisfactory situation with regards breastfeeding, as shown by Venancio et al.⁵ This study enables it to be estimated that, maintaining the 15 days/year

increase in the median duration of BF and 1.5%/year increase in the prevalence of EBF, Brazil will reach the target of adequate duration of breastfeeding in 12 years and it will take six years to reach reasonable values for the prevalence of EBF. In conclusion, the analyses carried out confirm the trend for breastfeeding in Brazil to increase, although there are significant challenges to be made for accelerating the rhythm of growth in this practice in order to meet the recommendations.

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