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INFLUENCING FACTORS OF EARLY WEANING AND ITS IMPLICATIONS IN INFANT HEALTH

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ABSTRACT

Objective: To analyze the factors related to early weaning. **Method**: An analytical research with a cross-sectional design carried out from December 2017 to April 2018 in a Primary Health Care Unit, Fortaleza, Ceará, Brazil. A total of 136 nurses participated, using a semi-structured form, whose data were processed in the Statistical Package for the Social Sciences to perform a descriptive and inferential analysis by association between independent variables and the outcome (early weaning). The Pearson chi-square test was performed with significance level of $p < 0.05$. **Results**: The mean duration of breastfeeding was 100 days. The factors that significantly influenced early weaning were: maternal age ($p = 0.006$), schooling (0.036), out-of-home occupation (0.020), presence of breastfeeding difficulties (0.000), infant birth weight (0.005), and illness frequency (0.033). **Conclusion**: Several factors should be considered in the education and support to mothers, preventing early weaning. **Descriptors:** Weaning, Breastfeeding, Maternal and Child Nursing, Children's Health.

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INTRODUCTION

The World Health Organization (WHO), the United Nations Children's Fund (UNICEF) and the Brazilian Ministry of Health (MH) recommend exclusive breastfeeding in the first six months of life and supplemented up to two years of age or more. However, for adherence of mothers to breastfeeding, it should be started in the delivery room in the first hours of life, depending on the situation of the mother-child binomial (Brasil, 2015). Human milk has many benefits, including nutrients needed for the child's growth and development, proper composition of proteins, fats and carbohydrates, as well as immune protection against allergies, infections, conferring short- and long-term protective effect (Azevedo *et al.*, 2015).

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In this sense, it protects the child from several diseases with the presence of immunoglobulin, immunostimulatory anti-inflammatory factors, preventing or ameliorating diarrhea, necrotizing enterocolitis, allergies and infectious respiratory diseases (Rieth & Coimbra, 2016). Breastfeeding also brings benefits to the mother, protecting her against pathologies such as breast cancer, ovaries and bone fractures due to osteoporosis, promotes uterine involution due to the release of oxytocin, reducing postpartum uterine bleeding (Oliveira *et al.*, 2015). It is observed that despite the campaigns for breastfeeding, early weaning has been occurring frequently. This consists of the introduction of any type of food in the diet of an infant before six months (Amaral *et al.*, 2015). Among the causes mentioned in the literature are women's return to work, breastfeeding myths such as weak milk and little milk, lack of family support, difficulties during breastfeeding, among others (Souza *et al.*, 2016). Thus, breastfeeding should

not be seen only as a biological phenomenon in which the mother produces milk and supply to her child, should be considered by health professionals as a complex phenomenon, which encompasses psychological, behavioral, social, and cultural, among other aspects (Amaral *et al*., 2015). It is necessary, therefore, to know the factors that cause mothers to give up breastfeeding before the sixth month of life, and to consider such information in the care and education of women since prenatal care; support them in the course of breastfeeding, avoiding that external factors favor early weaning of the child. It is believed that the identification of these factors will strengthen strategies for the promotion, protection, support and encouragement of EBF by health professionals. Given the above, the objective of the research was to analyze the factors related to early weaning.

MATERIALS AND METHODS

Analytical research with a cross-sectional design carried out in a Primary Health Care Unit (PHCU), located in Region IV of the Municipality of Fortaleza-Ceará. Held from December 2017 to April 2018 with a population of mothers whose infants were up to one year of age, among these, it was observed how many exclusively breastfed until the six months. For the purpose of the research was considered the average of eight childcare consultations per week, resulting in 32 monthly visits. For the calculation of the sample, the average number of childcare consultations was considered in the five-month period. The finite population calculation was performed using the formula: $n= z^2_{5\%}x\ P\ x\ Q\ x\ N\ /\ e^2\ (N-1) +(z^2_{5\%}x\ P\ x\ Q)$. Considering N=160, $z^2 5\%$=1,98, P=35, Q=65, e^2=5%, resulted in a sample of at least 136 nursing mothers who accompanied their children at the referred visit. The inclusion criteria were: to be in the child care consultation of the child's first year of life, regardless of order and number of children. Cases of contraindication to breastfeeding were excluded and there was no refusal of mothers to participate. Data was obtained through a semi-structured form containing questions regarding maternal socio-demographic characterization, information on exclusive breastfeeding time and factors leading to early weaning. The dependent variable was early weaning and the independent socio-demographic and clinical variables of the nursing mother. The results were processed in the Statistical Package for Social Sciences (SPSS) version 20.0, license No. 10101131007, for descriptive analysis by means of frequency, percentage, mean and standard deviation, together with the inferential analysis of the data through the association between independent variables (socio-demographic data and clinical variables) and the outcome (early weaning). The outcome variable was tested for normality by the Kolmogorov-Smirnov test, which led to the definition of the chi-square test, with an established level of significance of $p < 0.05$. All ethical aspects involving research with human beings were respected, the Project approved with approval number under opinion No. 1485625 and CAAE: 54673216.6.0000.5534.

RESULTS

A total of 136 nursing mothers and their children participated and the mean maternal age was 26 years (SD ± 6.3), minimum age of 14 and maximum of 42 years. With regard to the companion, the majority (67%) presented married civil status or consensual union. As for the number of children, 50% had only one child and 50% more than one child. Regarding the years of study, the mean was nine years (SD ± 2.85), with a minimum of zero (illiterate) and a maximum of 15 years (higher education). The information received about breastfeeding during the prenatal consultations, the majority (97%) mentioned having received information, of which 75% were provided at the Primary Care Unit. Despite the guidelines, 54 nursing mothers (40%) reported difficulties in breastfeeding, among the main ones: pain (28%), fissures (26%), nipple bleeding (12%), flat nipple or inverted nipple. It should be remembered that some nursing mothers had more than one difficulty. It was identified that 69% of the participants performed early weaning. A mean of 100 days (SD ± 68.6) was observed for the duration of the EBF. The duration of EBF was 21% between 0 and 29 days, 20% between 30 and 89 days, 28% between 90 and 150 days and 31% between 151 and 180 days. Table 1 shows the frequency and association between the variables of the mothers and early weaning.

Table 1. Distribution of the variables of the mothers related to early weaning, Fortaleza (CE), Brazil, 2018

Variables	Early weaning		P
	Yes	No	
Age (years)			0.006*
14-19	14	02	
20-34	67	27	
35-42	06	10	
Marital status			0.414
Single	31	11	
Married/stable union	56	28	
Education			0.036*
Illiterate	0	1	
Incomplete elementary school	14	6	
Complete elementary school	18	17	
Complete Highschool	47	13	
Complete Higher Education	08	2	
Number of living children			0.335
Up to 1	46	17	
2 or more	41	22	
Occupation away from home			0.020*
Yes	39	9	
No	48	30	
Orientation on BF in Prenatal care			0.241
Yes	84	39	
No	3	0	
Had difficulty breastfeeding			0.000*
Yes	47	8	
No	40	31	

*statistically significant

According to table 1, it is possible to infer that the factors that significantly influence early weaning are: maternal age, in which women between 14 and 34 years old had a higher weaning rate; the schooling that in this research showed the higher the schooling level the higher the frequency of early weaning; women who work outside the home, do not breast-feed until the 6th month, besides the presence of difficulties in breastfeeding. Of the 136 nursing mothers, 55 (40%) had difficulties to offer the EBF until six months, to mention: insufficient milk (9.5%) work outside the home or study (8.7%), early food introduction (7, 1%), malocclusion (6.3%), mastitis (2.4%), maternal illness (1%), tongue prey (ankyloglossia) of the newborn (1%). Regarding the characterization of the children, the age ranged from 3 to 365 days, with a mean age of 195 days (SD ± 126), most of them male (55%). The birth weight was between 1645 and 5000g with a mean of 3262g (SD ± 611). Table 2 shows the distribution of infant variables and their relation to early weaning.

Table 2. Distribution of infant variables related to early weaning, Fortaleza (CE), Brazil, 2018

Variables	Early Weaning		P
	Yes	No	
Weight at birth			0.005*
1645-2499	6	4	
2500-4000	79	28	
4001-5000	2	7	
Sex			0.207
Male	55	20	
Female	32	19	
Get sick frequently			0.033*
Yes	16	14	
No	71	25	
Vaccination in days			0.340
Yes	85	39	
No	2	0	

*statistically significant

When analyzing the variables related to the infant, it is noticed that the weight and illness affect significantly in the weaning. Children who were born with low weight and with adequate weight had a higher frequency of weaning than children who were born overweight. Another significant variable associated with weaning was illness. It was observed that 30 (22%) children had frequent illnesses up to one year of age. It is important to note that most of them had updated vaccination schedule, 124 (98.4%), and this variable was not significant for the occurrence of weaning. Among the main diseases affecting children between 3 and 365 days were: influenza (35%), allergies (5.6%), dermatitis (1.6%), rhinitis (1.6%), sinusitis %), otitis (0.8%) and intestinal infection (0.8%). It should be noted that some children presented with more than one health problem.

DISCUSSION

The research shows that the age of the mothers had an average of 26 years and this variable was an important factor for early weaning. A similar study had a similar average age, around 26 years, characterizing them as a young group, and this factor is strongly related to early weaning (Rocci&Fernandes, 2014), because it is observed that the younger the mothers, the sooner they wean the children.(Silva *et al*., 2017). In addition to maternal youth, another relevant factor for weaning is the absence of stable union (Frota*et al*., 2016), but in this study, the majority had a fixed companion and even though weaning happened. Low maternal schooling and high numbers of children may contribute significantly to early weaning (Silva *et al*., 2017). This fact was not observed in this study, since women with high schooling weaned more frequently and the number of children did not statistically influence the occurrence of early weaning, which is associated with other variables, such as work outside of home. This study showed that the mean duration of EBF was three months (100 days), in agreement with another study that shows introduction of other foods around the 3rd or 4th month. Commonly, this occurs by the return of the woman to work, end of maternity leave and because of the little gain of weight of the baby, sometimes medical advice occurs (Lima, Nascimento, &Martins, 2018).

The maternal return to work should be oriented so that both the woman and the family are prepared to continue nursing the baby. The guidelines given by nurses should be related to the alternatives for mothers to maintain EBF, showing the milking and possibility of freezing breastmilk as an option for their continuation (Monteschio, Gaíva, & Moreira, 2015). When thinking about the maternal experience in breastfeeding and the factors that can contribute to early weaning, it is possible to evaluate that most of the time this information is sometimes transmitted in a "fractional and reductionist"(Oliveira *et al.*, 2015). In the research, although the majority of mothers received guidance during prenatal consultations, it is emphasized that sometimes these guidelines do not contemplate the correct technique of breastfeeding and other situations that aid the act of breastfeeding, and ensure continuity of the BF for the first six months. (Oliveira*et al.*, 2015). The more information that is offered during prenatal care, such as the preparation of the pregnant woman for BF, the lower the chances of early weaning.

Prenatal care is considered an excellent moment for educational guidelines aimed at encouraging the practice of BF not only for the woman, but also for those who accompany her. (Silva *et al*., 2017). In this context, many women report as reasons for the introduction of artificial milk not only the lack of information, but also mammillary problems, such as pain in the nipples or injured nipples (Monteschio*et al*., 2015). Similar data were obtained in these results, since the women demonstrated that this nipple discomfort conditioned to early weaning. These difficulties in the lactation process are often due to inverted nipples or not and usually when there is no adequate handle causing nipple fissures, breast engorgement, and even mastitis. This prevents the baby from breastfeeding. However, if conducted correctly, helping the mother, one can prevent complications and even early weaning (Oliveira *et al.*, 2015). There are also difficulties with the baby's health conditions such as ankyloglossia (or prey tongue), which consists of a congenital abnormality in which the lingual frenulum is short and thick (or even thin) (Fujinaga*et al.*, 2017).In this aspect, the main variables influencing weaning were: breastfeeding or not wanting to breastfeed (12.8%), sickness / hospitalization (7.7%) and low birth weight (7.7%) (Alvarenga*et al.*, 2017). While in this research, the main influencers were weight and frequent illness. It should be noted that children who have undergone pre-weaning are predisposed to illness, especially respiratory diseases, responsible for the greater number of hospital admissions among children under five years of age (Breigeiron*et al.*, 2015).

The introduction of non-human milk, such as cow's milk, into the infant's diet makes it more vulnerable to the development of obesity and the emergence of other chronic diseases in childhood, as well as infectious diseases (Carvalho *et al.*, 2017). The results show that in spite of the high frequency of pre-weaned children, few have become ill, and this factor can be related to maternal care, prevention means such as the updated immunization schedule of children up to one year of age. By associating breastfeeding and the appropriate immunological schedule, it is known that there is reinforcement in protection against diseases typical of childhood. Those children who were not lactating were 61 times more likely to go through hospitalizations compared to children who received EBF for six months. Thus, the six-month EBF relationship and adequate immunization schedule may confer immunity to the child, reducing hospitalizations due to preventable causes (Silva *et al.*, 2018). In view of the above, it is necessary to consider the multiplicity and complexity of the factors that make it difficult to perform the EBF until six months, so that the nursing care to this public is

based on the experiences and needs of the nursing mothers, reducing the difficulties and high frequency of early weaning.

Conclusion

The findings of this study show that the causes of early weaning are multifactorial, such as maternal age, schooling, work away from home, difficulties in breastfeeding, baby's birth weight and infancy. However, these are situations that can be reversed with help and professional support, especially nurses and pediatricians with experiences in breastfeeding management. Although most of the mothers received guidance during prenatal consultations, these were not enough, confirming the various reasons for discontinuation of the EBF until six months. It is believed, therefore, that observing these analyzed factors that interfere with the occurrence of early weaning can guide actions that consider the subjective and technical aspects for the adequate management of the adverse conditions, strengthening strategies of promotion to the EBF.

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