

Social and Family Factors Associated with the Prevalence of Exclusive Breastfeeding in Children Born a Second-Level Institution of the City of Cartagena

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Received: October 21, 2020; **Published:** February 09, 2021

Abstract

Background: Many factors influence the initiation and early abandonment of exclusive breastfeeding; at a general level, they may depend on the mother, the newborn, the culture, the clinic or hospital, the family and social environment. The objective of the study is to establish an association between social and family factors with the prevalence of exclusive breastfeeding in children born in an institution in the city of Cartagena, Colombia.

Methods: An analytical study is carried out, with 179 mothers of children born in a second-level hospital in the city of Cartagena, it was calculated taking into account: a confidence level of 95%, significance level of 5% and a P: 55%. Follow-up was carried out during the first month of the child's life. The information was collected through the National Breastfeeding Survey (ENALMA) and a follow survey that inquired about family characteristics and social support. The sample was selected through a systematic probability sampling.

Results: The main reason for abandoning EBF is the myth that the child is left hungry with 23.46%. Of the mothers surveyed, 43.89% left EBF before the first month of the newborn's life. The study showed that 37.99% included water or juice in the feeding of the newborn, 36.11% included milk formulas. Only marital status (married) was related to this practice OR 3.7143 (95% CI 1.09 - 12.56).

Conclusion: EBF is below international recommendations, married mothers are 3.7 times more likely to breastfeed than single mothers. On the other hand, family support was not associated with the practice of EBF.

Keywords: *Breastfeeding; Prevalence; Social Factors; Family (DesCs)*

Introduction

The World Health Organization (WHO) defines exclusive breastfeeding (EBF) as nourishing the child with breast milk from the mother or another woman, without any other solid or liquid food, which includes water, with the possible exception of vitamin D and iron supply to children with relatively low body mass. The recommendation is to breastfeed with EBF for the child's first six months, and then gradual introduction of complementary food until the child is two years or more if the mother believes that it's necessary. The practice of breastfeeding with breast milk is a technique that has been implemented for a long time, it is considered a very low-cost technique that

allows and provides benefits to both the infant and the mother, favoring the neuropsychological development of children, establishing an affective link between mother and child, preventing the appearance of chronic diseases over the years and likewise protecting the baby from diseases that are prevalent in childhood such as gastrointestinal and respiratory diseases. These benefits are better reflected with the appropriate duration of EBF and complementary breastfeeding [1].

There are multiple benefits reported from the breastfeeding practice for both the mother and her child. However, these have not been enough to prolong its duration. The WHO reported that, out of 94 poor countries, EBF prevails in approximately 35% of them corresponding to children between 0 and 4 months. Similarly, a National Health Survey carried out in Spain in the years 2011 - 2017 and published in the National Institute of Statistics (INE), reports that at six weeks of birth (1.2 months) 73.90% of infants are exclusively breastfed with breast milk; 63.9% at three months; and only 39.00% at six months, which shows that in Spain the prevalence of exclusive breastfeeding is below the indications provided by international organizations [2].

The best rate of breastfeeding in newly born is in Latin America (58%). The overall rate of exclusive breastfeeding is 38%. While in Mexico, only 22% of mothers perform EBF during the first six months of the child's life, and in the Dominican Republic, only 7% of the children are exclusively breastfed. Moreover, Peru has the highest rate in the region with 68.3%, due to efforts made by the WHO/UNICEF that contributed to an increase of around 20% in 1992 [1].

This situation is not strange to Colombia, where only 36.1% of children under six months receive EBF. According to data reported by the National Survey of the Nutritional Situation (ENSIN), exclusive breastfeeding in children under 6 months reached 46.9% in 2005 and decreased reaching 36.1 % in 2015, which shows an increase of 10.8% in non-breastfed children. Figures that indicate that, as the years passed by, Colombian mothers have stopped breastfeeding their children [3].

In the department of Bolívar, Colombia, the duration of EBF is on average 1.3 months. In Cartagena, Díaz C., *et al.* [4] report a prevalence of EBF of 36% with an average duration of 2.4 months, figures that confirm that the prevalence and duration of EBF practice are below the recommendations given by international organizations.

The factors that influence the initiation, maintenance, and continuity of exclusive breastfeeding are multiple; Some of these are related to the nursing mother, others are related to the newborn (NB) or factors associated with the family, sociocultural environment, and even with intra-hospital aspects. In this regard, Niño R [5] points out in a study carried out in Santiago, Chile, that among the social factors that are related to EBF up to six months, are mothers that have previously successfully breastfed (OR 5.4, 95% CI 2.2 - 13.2), gender of the child being female (OR 5.5, CI 2.5 - 12.3), mothers that have low educational level (OR 5.4, CI 2.4 - 11, 7) and belonging to the public health system (OR 2.1, CI 1.0 - 4.5). In this same study the researchers showed that 45.8% of mothers, both from the public and private sectors, maintained EBF for up to 6 months. They also observed that the main causes of weaning had to do with the mother's decision (27.2%), the perception that the child was left hungry (24.1%), aesthetic aspects (17.3%) and illness of the child (13.0%).

Regarding the causes of early abandonment of EBF associated with the educational level of mothers in Colombia, studies reported that among the most important causes of suspension, are problems with milk production stated by all mothers, especially in those mothers who presented a low educational level (primary). For mothers with a high educational level (university, technologists), the main reasons were related to going back to their careers and tasks, which increase as the educational level rises [6]. In the same way, Roig identifies that the mother's low level of is related to the suspension of exclusive breastfeeding before six months (HR = 2.0; 95% CI (1.27 - 3.15) [7].

In Colombia, Piñeros and Camacho established in their study that the lower the level of schooling, the higher the percentage of mothers who incorrectly breastfeed their children: 34.1% of mothers who did not breastfeed their children adequately had completed high school, 42.3% had not completed high school, 7.1% had completed elementary school and 7.1% were professionals. They also found that of the mothers who did not perform BF properly, 14% had married marital status, while 38% were single [8,9].

Concerning family support, a study carried out in Brazil reported that mothers who had the help of their families had a lower risk of giving milk formulas to their children [OR = 0.49, 95% CI (0.29 to 0.84)] [8].

Materials and Methods

Type of study

We carry out an analytical study where an instrument is applied to mothers of children born in a social clinic of the state, which is specialized in obstetrics and gynecology in the city of Cartagena, to estimate the prevalence of EBF and its association with social and family factors.

Population

The population is made up of approximately 356 children born monthly in a second-level state social enterprise (SSE) in the city of Cartagena. The population was calculated based on the boys/girls born monthly during 2016.

Sample

It consisted of 179 mothers of boys and girls born in the SSE, a sample found through a formula for cross-sectional studies with a confidence level of 95%, a significance level of 5%, and a P: 55%.

Sampling

The sample was selected through a systematic probability sampling.

Inclusion criteria

The selected sample had to meet the following characteristics: Nursing mothers with children under six months, willing to participate in the study, who have any educational level and are mentally competent.

Exclusion criteria

Mothers with HIV and neurological disorders.

Process

After having permission from the institution's directives, we requested informed consent from each mother of the newborns in the SSE. We then explained the objectives of the study before carrying out with the instruments.

Instruments

The National Breastfeeding Survey, which consists of structured questions that must be carried out by a health professional to mothers or caregivers of children under two years' old who attend routine health control. This form presents a series of questions that evaluate five aspects: 1. General data of the survey, 2. Data of the mother, 3. Data of the child, 4. Data of the Birth, 5. Information on Lactation, summing a total of 36 questions. The survey was evaluated by the National Child Health Program with the advice of (CONALMA); obtaining a level of significance of 5%.

The second instrument used was a card containing nine questions related to assessing the sociodemographic and family variables of the participating mothers, which was subjected to face recognition validity. Subsequently, a pilot test of the instruments used was carried out to determine the application time, as well as the understanding of the questions.

Statistical analysis

From the data obtained previously, frequencies, percentages, as well as measures of central tendency and dispersion statistics were obtained. Consecutively, we performed a bivariate analysis that establishes the association between the factors and family support with the prevalence of exclusive breastfeeding. To determine the association, Ods ratios were obtained accompanied by their confidence intervals.

Results

Sociodemographic indicators show that 26.11% of mothers are adolescents between the ages of 13 and 18 years. 73.89% are multiparous mothers with 2 or more children. Furthermore, we found that 75.56% are mothers from social stratum level 1, followed by 18.33% by mothers from social stratum level 2. Of these mothers, a greater proportion 67.22% come from urban areas. Of the mothers surveyed, only 46.67% completed secondary school and 32.78% completed primary school. Concerning occupation, it was found that 83.89% of mothers are "housewives" (Table 1).

Number of Children	Frequency	Percentage	Accumulated Percentage
1	86	47,78%	47,78%
2	47	26,11%	73,89%
3	32	17,78%	91,67%
4	9	5%	96,67%
5	6	3,33%	100%
Mother's Age	Frequency	Percentage	Accumulated Percentage
13 - 18 Years Old	47	26,11%	26,11%
19 - 29 Years Old	109	60,50%	86,61%
31 - 43 Years Old	24	13,39%	100%
Socio-Economic Level	Frequency	Percentage	Accumulated Percentage
1	136	75,56%	75,56%
2	33	18,33%	93,89%
3	10	5,56%	99,44%
4	1	0,56%	100,00%
Marital Status	Frequency	Percentage	Accumulated Percentage
Married	13	7,22%	7,22%
Separated	1	0,56%	7,78%
Single	32	17,78%	25,56%
Free Union	133	73,89%	99,44%
Widow	1	0,56%	100%
Educational Level	Frequency	Percentage	Accumulated Percentage
Primary	59	32,78%	32,78%
Secondary	84	46,67%	79,44%
Technical Degree	22	12,22%	91,67%
Technology Degree	9	5%	96,67%
University	6	3,33%	100%
Profession	Frequency	Percentage	Accumulated Percentage
Stay at Home Mom	151	83,89%	83,89%
Student	23	12,78%	96,67%
Other	1	0,56%	97,22%
Worker in General	5	2,78%	100%
Provenance	Frequency	Percentage	Accumulated Percentage
Rural	59	32,78%	32,78%
Urban	121	67,22%	100%
Newborn's Gender	Frequency	Percentage	Accumulated Percentage
Female	88	48,89%	48,89%
Male	92	51,11%	100%

Table 1: Sociodemographic characteristics of the surveyed mothers at a level two Hospital in the city of Cartagena de India's 2018.

The main reason for abandoning EBF is the myth that the child is left hungry with 23.46% continuing with “the child’s illness” with 17.86%, and to a lesser extent with 0.56% going back to work or studies (Table 2).

Of the mothers who abandoned EBF, we found that 37.99% included water or juice in the infant’s food, 8.38% included solid food and 36.11% included milk formulas. Of the mothers surveyed, 43, 89% abandoned EBF before the first month of the newborn’s life and 15.56% never breastfed (Table 2).

Reason for Abandonment	Frequency	Percentage	Accumulated Percentage
Child Illness	32	17,88%	17,88%
Child refused	12	6,70%	24,58%
Child is still hungry	42	23,46%	48,04%
Breast-Nipple Problem	7	3,91%	51,96%
Newborn Weight Maintenance	3	1,68%	53,63%
Back to Study or Work	1	0,56%	54,19%
Other	10	5,59%	59,78%
N/A	72	40,22%	100,00%
Water or Juice	Frequency	Percentage	Accumulated Percentage
No	111	62,01%	62,01%
Yes	68	37,99%	100,00%
Solid Food	Frequency	Percentage	Accumulated Percentage
No	164	91,62%	91,62%
Yes	15	8,38%	100,00%
Artificial Milk	Frequency	Percentage	Accumulated Percentage
No	114	63,89%	63,89%
Yes	65	36,11%	100,00%
Duration of EBF	Frequency	Percentage	Accumulated Percentage
Never breastfed	28	15,56%	16,11%
Less than a Month	79	43,89%	60,00%
EBF Continues	73	40,56%	100,00%

Table 2: Duration of EBF in newborns in a level two institution in the city of Cartagena de India’s 2018.
Source: Social and Family Characteristics survey.

Regarding the relationship between social variables with exclusive breastfeeding, it was found that only marital status was related to this practice (married) OR 3.7143 (95% CI 1.09 - 12.56) data suggesting that being married increased 3.7 times the probability of EBF than being single (Table 3).

Variable	OR	IC	P
Newborn’s Gender	0,6765	0,3712 - 1,2330	0.10
Urban Origen	0,8638	0,4588 - 1,6262	0.38
Marital Status/Married	3,7143	1,0980 - 12,5643	0.02*
Mothers with 1 or 2 children	1,4091	0,7035 - 2,8224	0,16
Mother’s Age/Adult	0,6805	0,3591 - 1,2895	0,12
Socio-Economic Level	0,8487	0,2392 - 3,0113	0,41
Level of Education/Higher Education	1,0287	0,4924 - 2,1491	0,46
Working/No	0,4789	0,2146 - 1,0690	0,03*

Table 3: Social factors associated with exclusive breastfeeding in newborn in a level two hospital in the city of Cartagena 2018.

*P > 0.05.

Source: Social and Family Characteristics survey, 2016.

The results also indicate that there is no association between family support and the prevalence of exclusive breastfeeding OR 0.4258 (95% CI 0.16 - 1.12) (Table 4).

Variable	OR	IC		P
Family support	0,4258	0,1612	1,1250	0,04*

Table 4: Family support associated with breastfeeding in newborns in a level two hospital in the city of Cartagena 2018.

*P > 0.05.

Source: Social and Family Characteristics survey.

Discussion

When analyzing the information, we determined that, of the social and family factors that were analyzed only one showed an association with the practice of BF, it is the social factor Marital status (married) OR 3.7143 (95% CI 1.09 - 12, 56), similar to that was reported by Avalos where it was evidenced that the highest proportion of mothers who breastfed appropriately (6 months or more) belong to the group of mothers who had a socially constituted partner (37.9%) and married women (22.2%); while only 1.9% corresponded to single mothers, data that corroborates that mothers who have a stable marital status have better indicators regarding breastfeeding than single or divorced ones [11], in the same way Alfonso, L and Gorrita R [12] reported in their study that the highest percentage of women who did not abandon breastfeeding were married (35.9%) and (28.2%) lived in a free union marital status, while women who are divorced (33.3%) and single (25.9%) were predominant in leaving BF. Divorced women had a significant relative risk (RR) 1.44 for abandoning breastfeeding. Conversely, other studies report no association between these variables [13,14].

Despite the fact that, in the present study, the educational level did not show an association with the practice of EBF, authors such as Heck., *et al.* in California, and Rius in Spain, highlight the significant association between these variables, reporting that, the higher educational, the higher the prevalence of breastfeeding [15,16].

Another aspect associated with the practice of EBF is maternal age, in this study a high percentage of adolescent mothers was found 26.11%. Consequently, due to their physical and psycho-emotional immaturity, these females are poorly prepared to assume the role of mothers and caregivers for their children, thus, an early abandonment of EBF. However, this factor did not show an association; Still, Prendes MC reports that adolescent mothers stopped EBF more frequently during the first month (38.1%) [17].

Regarding family support, studies report that the greater the family support, the longer the EBF lasts. This support can be represented in the help of the family members with house activities and tasks, or simply in the affection, companionship and maternal advice. Furthermore, Losa., *et al.* [18] in an investigation carried out in the United States indicated that 86% of breastfeeding mothers acknowledged their family as the main source of support for breastfeeding, a percentage that was well above achieved by health professionals who achieved a scant 14%. On the same matter, Gamboa [19] found that mothers who reported a positive attitude of their husbands towards BF, felt encouraged to carry out this practice 60.4%. Similarly, studies show that the positive opinion of the father is a main factor associated with EBF duration (HR = 1.26; 95% CI: 1.01 - 1.57) [14]. However, in this study this variable did not show an association.

Another aspect reported by the study consisted of the onset and duration of EBF in the surveyed mothers. We observed that 43.89% abandoned EBF before the baby’s first month, and 15.56% never breastfed, worrying figures since children are deprived of the benefits that breastfeeding provides for their healthy growth and development, leaving them vulnerable to infectious and chronic diseases. Similar results are reported by other studies [12,20].

The main reason for abandoning EBF is the myth that the child is left hungry 23.46%, followed by the child's illness with 17.86%, and to a lesser extent with 0.56 % the mother going back to work or to study. Behavior similar to that found by Niño R [5] who reports that the main reasons for abandoning breastfeeding by mothers were "their own decision" and their perception that the child was left hungry. Regarding the motives of mothers to abandon exclusive breastfeeding early, López B points out, the low production of breast milk, rejection by the baby, activities such as study, work, raising other children, among others, and the health status of the mother or baby [6]. Similarly, Acosta Silva M states that the main cause for leaving EBF is going back to school and/or work [21]. Other studies point to the mother's occupation, the supply of milk formulas, and breastfeeding discomfort as important factors disturbing the duration of exclusive breastfeeding [22].

Conclusion

When analyzing the results, we observe that the prevalence of EBF is below international recommendations, the aforementioned myths constitute an obstacle to this practice, directly affecting the health and quality of life of minors. Other results are the relationship observed between marital status (married) and adherence to EBF by these mothers, where we evidenced that married mothers are 3.7 times more likely to breastfeed than single mothers. On the other hand, family support did not show an association with the practice of EBF in this study.

The aforementioned aspects indicate the importance of proposing health promotion strategies that allow better support to mothers during pregnancy and after childbirth, in such a way that these women can be empowered to develop this practice and guarantee them. During this accompaniment, not only the construction of knowledge that allows them to understand the impact of breastfeeding on the health and life of their children, but also to develop skills and successfully carry out this practice, whose impact goes beyond the stage of childhood. In the same way, the results indicate the need for additional support that must be provided to those mothers who do not have a partner, and thus, are at higher risk of abandoning EBF.

Although, family support did not show any association with the practice of EBF, various studies indicate the importance of family ties at the beginning of motherhood and maintaining this practice throughout the process, whether it's feeding and caring for the newborn, or taking advantage of the prenatal control consultations to better understand the matter. Thus, having that not only the woman as the main role responsible for breastfeeding but the whole family, managing not only to call to the nursing mother but to assign the title of nursing family.

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Volume 3 Issue 3 March 2021

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