

Article

Mothers' Breastfeeding Satisfaction: Key to Environmental Sustainability

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Abstract: Breastfeeding is the natural way to feed a baby in the first months of life. It is an option with a low environmental impact, as it is a natural and renewable food that does not pollute. It is the optimal food for the infant, with nutritional and immunological advantages that reduce the prevalence of pregnancy disorders and provide benefits for the infant, the mother, and the environment. Its premature abandonment may have medium- and long-term consequences, as the use of formula milk is much more polluting. A descriptive, observational, cross-sectional study was carried out between December 2020 and January 2021, involving 96 breastfeeding women. Sociodemographic and obstetric variables were collected. A validated Spanish version of the Breastfeeding Self-efficacy Scale-Short Form (BSES-SF) was used. Factors that may lead to the early cessation of breastfeeding among the mothers that were studied are a high level of education, a lack of preparation for childbirth, a lack of security, a lack of confidence in preparation for childbirth, a lack of self-confidence, discomfort with breastfeeding in the presence of others, and a low level of maternal satisfaction. Married women and women whose partners support breastfeeding are significantly more satisfied with exclusive breastfeeding than single and divorced women. Adequate and protocolised care must be provided. Education and support for parents to allow for optimal breastfeeding and reduce the environmental impact of formula feeding is essential.

Keywords: nursing; lactation; breastfeeding; formula feeding; environmental impact



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1. Introduction

Breastfeeding is the most effective natural way to feed a baby in the first months of life [1]. For millennia, breast milk has been the sole source of nourishment for newborns (NBs). It is the optimal food for infants, providing them with many nutritional and immunological benefits [2]. Breast milk also reduces the prevalence of digestive disorders, bacteraemia, and pneumonia, among others [3]. In addition, breastfeeding provides psychological benefits for both the infant and the mother [4]. The premature abandonment of breastfeeding can lead to serious medium- to long-term consequences for the infant such as hypertriglyceridaemia and malnutrition [5].

Human milk has come to be considered “the first vaccine” a child receives, as it has the ability to protect the child from the frequent infections that can occur in the first year of life. The importance of breast milk in the first year of life is critical, as this is the period of the most rapid growth and development in human life [6].

Vila Candel et al. [6] stated the importance of supporting breastfeeding mothers and their environment to ensure the maintenance of exclusive breastfeeding (EBF), as the prevalence of this is low in our country (Spain) compared to other European countries. Nurses play a key role in promoting EBF until at least 6 months and in complying with the World Health Organisation's (WHO) maintenance recommendations. To do this, we need to raise awareness in society [7–9].

1.1. Breastfeeding

BF is the natural way to feed a baby. Breastmilk is a fluid adapted that is to the baby's nutritional and immunological needs as he or she grows [8]. During the first six months of life, healthy newborns do not need to take any additional supplements. It is from the age of 6 months that the WHO recommends the gradual incorporation of other foods [10] and EBF is recommended during the first 6 months of life due to all the benefits of this practice. More and more cases are observed where mothers abandon BF before this time [11]. The early abandonment of breastfeeding leads to personal, social, and health difficulties [12]. One of the factors involved in the abandonment of BF are the sociological changes that occurred throughout the 19th and 20th century, including the incorporation of women into salaried work. Another factor that may interfere with the abandonment is the advances in chemical sciences, which modify cow's milk, making it acceptable, and thus causing it to substitute natural milk [13].

Currently, BF is offered to the baby *ad libitum*. It is therefore recommended to offer breastfeeding when the baby asks for it, bearing in mind that crying is a late sign of hunger, and for as long as the baby wants, until it spontaneously releases the mother's nipple [14]. According to Mangesi et al. [15], milk production is regulated according to the baby's needs, the composition of milk at the beginning and end of the feeding is different, and the baby feeds until good emptying of the breast is achieved. This avoids the excessive accumulation of milk, which can cause engorgement and mastitis [16].

The Spanish Association of Paediatrics (AEP) states that many babies, in addition to nourishment, seek comfort at the breast. Delayed feeding has a negative effect on the baby and the mother [17].

1.2. Sustainability of Breast Milk

In addition to all the analysed advantages, BF is undoubtedly an option with a high environmental impact, as it is a natural and renewable food that requires no fuel, no water for cleaning, and no waste.

As it requires no production, packaging, or transport, it leaves no carbon footprint on the environment. A UK study [18] showed that breastfeeding for six months saves 95–153 kg of CO₂ per baby compared to formula feeding, which is equivalent to taking 50,000–77,500 cars off the road each year.

Another study showed that, in the USA alone, more than 32 million kW of energy is used annually to process, package, and transport infant formula, and 550 million cans, 86,000 tonnes of metal, and 364,000 kg of paper are sent to the landfill each year [19]. Formula milk contributes to environmental degradation and climate change, so promoting breastfeeding is essential for the environment [20].

1.3. Factors That Determine Breastfeeding Success

Several psychosocial factors can affect the success or failure of breastfeeding. These include advice and experiences during pregnancy and childbirth, acceptance of community or family norms, physical difficulties, or problems at work [17]. The early initiation of breastfeeding increases the success of breastfeeding. In the first hour after birth, the infant has very sensitive reflexes and tactile areola stimulation (sensitive period) [21]. For this reason, it is recommended that the baby is placed on the mother's abdomen within half an hour of birth to ensure uninterrupted skin-to-skin contact [22]. A strong affectionate

bond develops between the two, and the newborn's metabolic capacity develops through this type of contact and postnatal breastfeeding.

The most common reason for breastfeeding failure among mothers is a drop in milk production. This is often due to the mother's subjective thinking, which is mistakenly attributed to the baby's hunger, or a loss of motivation to breastfeed, which she tries to justify with a lack of secretion [11].

During pregnancy, attendance at breastfeeding counselling and support from health care providers are the most important factors in initiating breastfeeding [11]. The decision to breastfeed is usually made in the first trimester of pregnancy. However, many mothers decide to breastfeed late in pregnancy or after giving birth [17,21]. Sayres and Visentin [23] show that the rate of breastfeeding doubles if the mother has received advice from the midwife during pregnancy, so it is important to address issues such as nipple care, the benefits of breastfeeding, and correct maternal feeding [21].

The characteristics of women in society, such as their cultural environment, education, social class, and work, influence the decision to breastfeed [23]. The role of the partner is very important in this decision. If the partner is not supportive, breastfeeding will not even be considered, or weaning will occur prematurely.

Despite the multiple benefits of breastfeeding for both mother and child, as well as for the environment, many mothers decide not to breastfeed or to stop breastfeeding before their newborns are 6 months old. Therefore, the aim of this study was to analyse the levels of self-efficacy in breastfeeding and the factors that cause early abandonment, determining the degree of mothers' satisfaction with exclusive breastfeeding, and analysing the reasons for abandonment and the socio-cultural characteristics associated with the duration of breastfeeding.

2. Materials and Methods

A descriptive, observational, and retrospective self-report survey study was carried out using an accidental sample of all breastfeeding women attending the nursing consultation (midwife) of different Primary Health Care services or the paediatric telephone consultation during the study period who consented to participate by signing the informed consent form. The centres where the study was carried out included the Algemés Health Center of the La Ribera Health Department (Valencia), the Xiprerets, Manises, Quart de Poblet and Mislata Health Centers, and the maternity and delivery ward of the Manises Hospital of the Manises Health Department (Valencia) and the Gandía Health Department (Valencia).

Inclusion criteria were women over 18 years of age who started breastfeeding after childbirth, who could speak and read Spanish without difficulty, and whose infants were aged between 6 and 24 months. Exclusion criteria included breastfeeding women with preterm infants, multiple births, mothers with mental disabilities, or mothers or children with medical problems that prevent or seriously hinder breastfeeding.

During the data collection period, the average number of births in the study centres was 1620 per year. The sample of 96 breastfeeding women in this study therefore represents 5.93% of the annual average. The sample size was calculated using the G*Power software v.3.1.9.6 [24]. Thus, for between-participant comparisons, a minimum sample size of 54 is suggested to ensure a large effect in nonparametric comparisons, or 52 if a parametric approach is chosen, both with 80% statistical power.

Data collection took place between December 2020 and January 2021. Information was collected by personal or telephone interview in view of the pandemic situation during the study.

2.1. Variables

Sociodemographic and obstetric variables were collected (age, nationality, marital status, whether she has a stable partner, whether her partner supports exclusive breastfeeding, level of education, profession, current occupation, number of children, order of children, whether she had previous children who were breastfed and for how long,

type of delivery, birth preparation assistance, whether she was given information at her health centre about breastfeeding during pregnancy). In addition, a validated Spanish version of the Breastfeeding Self-efficacy Scale-Short Form (BSES-SF) was used [25]. This is a self-administered instrument that measures breastfeeding self-efficacy. It has 14 items that are rated on a 5-point Likert scale, so the total score ranges from 14 to 70. The 14 questions are divided into two distinct domains: intrapersonal thoughts (Q1, Q2, Q3, Q4, Q9 and Q14) and breastfeeding techniques (Q5, Q6, Q7, Q8, Q10, Q11, Q12 and Q13). A higher score corresponds to better breastfeeding self-efficacy. The timing of BSES measurement varies in the literature, including antenatal, hospital, and up to several months postpartum. Responses were the retrospective view of the respondent of the first six months after birth. In this study, the internal consistency of the BSES-SF was confirmed by Cronbach's alpha 0.86.

2.2. Statistical Analysis

For the presentation of descriptive data, central tendency and dispersion statistics are used for continuous variables. Qualitative variables are expressed as case values and percentages. Data from the BSES-SF scale are presented as a percentile. The normality of the distributions was analysed using the Shapiro–Wilk test. The Mann–Whitney test was used to compare two independent samples and the Kruskal–Wallis test was used to compare three or more. A logistic regression model was performed to analyse the probability of early breastfeeding cessation using socio-demographic variables as predictors. For this purpose, the early cessation of breastfeeding was dichotomised by setting the cut-off point at 4 months, since, in Spain, maternity leave after childbirth lasts 16 weeks. The Nagelkerke R-squared was used as a measure of overall predictive performance. Calibration was assessed using the Hosmer–Lemeshow goodness-of-fit test. The area under the ROC curve (AUC) reflects the discrimination of the resulting model. All socio-demographic variables that were significant in the univariate analysis were added to the model. The categories used as a reference were those that the literature review indicates to be a protective factor for exclusive breastfeeding. A significance level of 0.05 was used for all tests.

2.3. Ethical Approval and Consent to Participate

The study was conducted in accordance with the principles set out in the Declaration of Helsinki. Approval was obtained from the Ethics Committee of the Hospital de la Fe (approval code 2018/0091, dated 11 April 2018), and informed consent was obtained from all participants.

3. Results

The final analysed sample comprised 96 lactating women. The mean age was 33.0 years (SD = 4.49), with a range between 19 and 43 years. Table 1 describes the socio-demographic characteristics of the sample.

Table 1. Socio-demographic characteristics of the sample.

Variable	n (%)
Age	
18–25 years	6 (6.3)
26–30 years	17 (17.7)
31–35 years old	41 (42.7)
36–40 years	26 (27.1)
>40 years	6 (6.3)
Nationality	
Spanish	80 (83.3)
Not Spanish	16 (16.7)

Table 1. Cont.

Variable	n (%)
Marital status	
Single	28 (29.2)
Divorced	6 (6.3)
Married	59 (61.5)
Other	3 (3.1)
Stable partner	
Yes	77 (80.2)
No	19 (19.8)
Partner supports breastfeeding	
Yes	90 (93.8)
No	6 (6.3)
Completed studies	
None	2 (2.1)
Primary	15 (15.6)
Secondary	33 (34.4)
Baccalaureate	25 (26.0)
University studies	21 (21.9)
Occupation	
Unemployed	21 (21.9)
Working away from home	56 (58.3)
Housewife	14 (14.6)
Other	5 (5.2)
No. of children	
Primiparous	58 (60.4)
Multiparous	38 (39.6)
Type of delivery	
Normal	63 (65.6)
Instrumental	15 (15.6)
Caesarean section	18 (18.8)
Preparing for childbirth	
Yes	72 (75.0)
No	24 (25.0)
She was given information in the Health Centre on BF	
Yes	80 (83.3)
no	16 (16.7)

The mean duration of breastfeeding is 69.56 days (SD = 54.28) and 50% of women breastfeed less than 60 days. We observed a lot of variability, with a maximum reported value of 180 days and a minimum of 1 day. The Shapiro–Wilk test allows us to state that the distribution of duration does not conform to the normal distribution ($p < 0.05$). Table 2 shows the analysis of the duration of breastfeeding in the first 6 months of life of the newborn according to the different socio-demographic variables.

Table 2. Duration of breastfeeding according to sociodemographic variables.

Duration of Breastfeeding (Days)		Md	1st Q	3rd Q	p-Value
Maternal age range	18–25 years	28.0	8.5	45.0	0.326 +
	26–30 years	60.0	18.0	120.0	
	31–35 years old	60.0	12.5	105.0	
	36–40 years	60.0	30.0	142.5	
	>40 years	47.5	10.8	67.5	

Table 2. Cont.

Duration of Breastfeeding (Days)		Md	1st Q	3rd Q	p-Value
Nationality	Spanish	60.0	30.0	90.0	0.359 ^
	Not Spanish	45.0	7.0	120.0	
Marital Status	Single	90.0	60.0	147.5	0.004 +
	Divorced	60.0	14.0	90.0	
	Married	105.0	19.3	180.0	
	Other	2.0	2.0	-	
Stable partner	No	30.0	7.0	60.0	0.025 ^
	Yes	60.0	30.0	120.0	
Partner supports breastfeeding	No	60.0	16.5	90.0	0.026 ^
	Yes	135.0	26.3	180.0	
Completed studies	None	16.0	2.0	29.0	0.029 +
	Primary	60.0	7.0	60.0	
	Secondary	90.0	60.5	120.0	
	Baccalaureate	90.0	42.0	180.0	
	University studies	60.0	12.0	90.0	
Occupation	Unemployed	30.0	5.0	127.5	0.450 +
	Working away from home	60.0	30.0	120.0	
	Housewife	60.0	26.3	97.5	
	Other	57.0	24.0	60.0	
No. of children	Primiparous	60.0	15.0	120.0	0.809 +
	Multiparous	60.0	27.3	97.5	
Type of delivery	normal	90.0	30.0	120.0	0.048 +
	instrumental	60.0	28.0	120.0	
	caesarean section	60.0	8.75	60.0	
Preparing for childbirth	No	60.0	15.0	90.0	0.000 ^
	Yes	180.0	75.0	180.0	
She was informed about breastfeeding at the Heath Centre	No	60.0	11.0	135.0	0.789 ^
	Yes	60.0	28.5	90.0	

+: Kruskal—Wallis test; ^: Mann—Whitney Test. Bold p-values indicate statistical significance.

We found statistically significant relationships in the duration of breastfeeding according to marital status, stable partner, partner support, educational attainment, type of delivery, and attendance at antenatal classes. We see that married women breastfeed longer than divorced or single women. Women who have a stable partner and are supported by their partner breastfeed longer. Mothers with a tertiary education have a shorter duration than those with an intermediate education. Those who had their babies by normal birth have a longer duration of breastfeeding than those who had their babies through a dictocic birth or caesarean section, and finally, those who attended antenatal classes have a much longer duration of breastfeeding than those who did not.

The median score of the BSES-SF Scale was 60.0, with an Interquartile Range (IQR) between 16.5 and 112.5. Table 3 shows the analysis of maternal satisfaction according to socio-demographic variables:

Table 3. BSES-SF score according to sociodemographic variables.

BSES-SF Scale Score		Md	1st Q	3rd Q	p-Value
Maternal age range	18–25 years	58.0	48.5	59.5	0.068 +
	26–30 years	59.0	52.5	63.0	
	31–35 years old	61.0	54.0	63.5	
	36–40 years	62.0	57.0	65.0	
	>40 years	55.0	52.0	60.5	

Table 3. Cont.

BSES-SF Scale Score		Md	1st Q	3rd Q	p-Value
Nationality	Spanish	60.0	54.0	63.8	0.519 ^
	Not Spanish	58.5	56.3	62.8	
Marital Status	Single	59.0	52.3	63.8	0.223 +
	Divorced	57.0	43.8	62.3	
	Married	61.0	57.0	63.0	
	Other	57.0	43.0	62.0	
Stable partner	No	59.0	52.0	62.0	0.173 ^
	Yes	60.0	54.0	63.5	
Partner supports breastfeeding	No	60.0	54.0	63.0	0.222 ^
	Yes	65.5	52.0	67.0	
Completed studies	None	58.5	54.0	59.5	0.705 +
	Primary	59.0	57.0	60.0	
	Secondary	60.0	53.0	63.0	
	Baccalaureate	62.0	53.0	64.0	
	University studies	61.0	55.0	65.5	
Occupation	Unemployed	60.0	55.5	63.3	0.513 +
	Working away from home	61.0	54.0	63.0	
	Housewife	58.5	56.3	63.3	
	Other	56.0	52.3	59.0	
No. of children	Primiparous	59.5	53.0	63.0	0.189 +
	Multiparous	61.0	56.8	63.3	
Type of delivery	normal	64.0	57.0	66.0	0.014 +
	instrumental	60.0	56.0	63.0	
	caesarean section	53.5	51.8	62.0	
Preparing for childbirth	No	60.0	54.0	63.0	0.268 ^
	Yes	63.0	49.0	67.0	
She was informed about breastfeeding at the Heath Centre	No	60.0	54.0	63.0	0.759 ^
	Yes	62.0	58.5	63.0	

+: Kruskal—Wallis test; ^: Mann—Whitney Test. Bold *p*-values indicate statistical significance.

We found no statistically significant differences between the questionnaire scores and the analysed variables, except for the type of delivery. Mothers with natural or instrumental delivery were significantly more satisfied with breastfeeding than those who delivered by caesarean section.

Table 4 analyses the association between all the answers to the questionnaire and the duration of breastfeeding to detect possible reasons for abandonment.

Table 4. Association between responses to the BSES-SF questionnaire and breastfeeding duration.

BSES-SF Questionnaire	Breastfeeding Time						<i>p</i> -Value *
	Low Duration			Duration > 4 Months			
	Md	1st Q	3rd Q	Md	1st Q	3rd Q	
Q1: I always know my baby is getting enough milk.	4.0	4.0	5.0	4.0	3.0	4.5	0.363
Q2: I always cope well with breastfeeding, as with other challenges in my life.	4.0	3.0	4.0	5.0	4.0	5.0	<0.001
Q3: I can always breastfeed my baby without using formula or powdered milk as a supplement.	5.0	4.0	5.0	5.0	5.0	5.0	0.440
Q4: I am always sure that my baby latches on well during feeding.	4.0	4.0	5.0	4.0	5.0	5.0	0.008

Table 4. Cont.

BSES-SF Questionnaire	Breastfeeding Time						<i>p</i> -Value *
	Low Duration			Duration > 4 Months			
	Md	1st Q	3rd Q	Md	1st Q	3rd Q	
Q5: I can always manage the breastfeeding situation to my satisfaction.	4.0	4.0	5.0	5.0	4.0	5.0	0.283
Q6: I can always breastfeed, even when the baby is crying.	5.0	4.0	5.0	5.0	4.0	5.0	0.484
Q7: At all times I am still looking forward to breastfeeding my baby.	4.0	4.0	5.0	5.0	4.5	5.0	0.001
Q8: I always feel comfortable when breastfeeding in the presence of other family members.	4.0	4.0	5.0	5.0	4.0	5.0	0.005
Q9: Breastfeeding is always a satisfying experience for me.	4.0	4.0	5.0	5.0	4.0	5.0	0.026
Q10: I always cope well with the fact that breastfeeding takes up part of my time.	4.0	4.0	5.0	5.0	4.0	5.0	0.562
Q11: I can always finish breastfeeding my baby on one breast before switching to the other.	5.0	4.0	5.0	5.0	3.5	5.0	0.913
Q12: At every feeding, I always feel that my breast is enough to feed my baby.	5.0	4.0	5.0	5.0	3.0	5.0	0.812
Q13: I am able to feed my baby whenever he asks me to.	4.0	4.0	5.0	5.0	5.0	5.0	<0.001
Q14: Whenever someone asks me if my baby has finished breastfeeding, I know the answer to whether or not he or she has done it.	5.0	4.0	5.0	5.0	3.5	5.0	0.858

Md: Median; 1st Q: 1st Quartile; 3rd Q: 3rd Quartile; * Mann–Whitney Test. Bold *p*-values indicate statistical significance.

In Table 4, we can observe a significantly longer duration in six questions, three from the Intrapersonal Thoughts domain (Q2, Q4 and Q9) and three from the Breastfeeding Technique domain (Q7, Q8, and Q13). These results, which show higher scores for mothers who breastfeed for longer, reveal positive attitudes towards the act of breastfeeding itself, such as the desire to breastfeed, personal satisfaction, readiness to breastfeed when the baby needs it, confidence in the correctness of the process, a sense of comfort in the act itself, and a positive attitude towards life in general.

A binary logistic regression model was performed, using all socio-demographic variables that were significant in the univariate analysis as predictors of a longer duration of breastfeeding. The results of the model are presented in Table 5.

Table 5. Logistic regression model for early breastfeeding cessation.

Variables	B	<i>p</i> -Value	OR	IC OR	
Constant	1.820	0.278	0.162		
Stable partner	−4.448	0.013	0.012	0.001	0.398
Completed studies	1.339	0.033	3.814	1.032	15.646
Preparing for childbirth	−3.343	0.002	0.035	0.004	0.281

The explained variance of the model was 62.7%. The model showed adequate calibration ($\text{Chi}^2 = 4.409$ $\text{df} = 8$; $p = 0.818$) and good discrimination ($\text{AUC} = 0.845$; 95% CI 0.741–0.949) (Figure 1). We found that the increase in the probability of dropping out is related to higher educational attainment. On the other hand, having a stable partner and attending childbirth preparation is associated with a longer duration of breastfeeding.

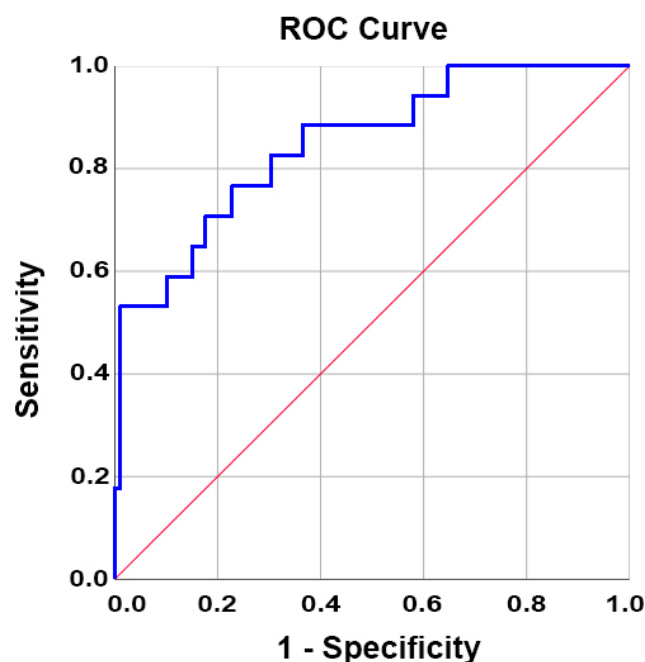


Figure 1. Receiver operating characteristic (ROC) curve of the model of early breastfeeding cessation as a function of socio-demographic variables. The diagonal line indicates no discrimination above chance.

4. Discussion

Although the WHO, the AEP, and other associations recommend exclusive breastfeeding for up to 6 months [10,26], our study shows that the average does not exceed 70 days and half of the women breastfeed for less than 60 days, which is well below these recommendations. This is not an isolated finding; a study carried out in Guipúzcoa [27] shows that while a high percentage of women start breastfeeding, after the first 4 months, this percentage drops from 84.8% to 53.7%. Other studies report percentages of initiation that are below this, with a considerable decrease after the third month of breastfeeding [6,28–30], which is more similar to the results found in our study.

A total of 76.1% of the mothers in this study are over 30 years of age. The mean age of mothers who breastfeed their children was 33 years (SD 4.49), slightly higher than that reported by the 2010 project of the Child and Perinatal Health Observatory (OSIP) [29], a project of the Dirección General de Salud Pública de la Conselleria de Sanitat de la Comunitat Valenciana, which aims to provide information and public dissemination on child health; this put the mean age of mothers at 31 years. According to the National Institute of Statistics (INE) [31], the average age of mothers at the national level is 32.08 years and at the level of the province of Valencia the average is 32.32 years, very similar values to those found in our study. We found no statistically significant differences in the sociodemographic factor age. However, some studies [27,28,32–35] identify that the older the mother, the longer the duration of BF, with older mothers being those who breastfeed the longest.

In the literature, we find that the initiation and abandonment of BF is related to maternal factors (lack of knowledge, lack of adequate counselling, age, insecurity when breastfeeding, etc.) and other community factors also play a role, whether at the level of the family, the health system, etc. [28,33]. In the present study, we found an association between satisfaction with breastfeeding and the type of delivery. We observed that women who gave birth naturally were much more satisfied with BF than those who delivered by instrumental delivery or caesarean section. We have also seen that women who give birth naturally have a significantly longer duration of lactation than women who give birth by instrumental delivery or caesarean section. Other studies [36,37] support these findings and show that caesarean delivery is a factor that has a negative influence on the timing of BF. On the other

hand, Cakmak and Kuguoglu [38] try to respond to this fact by stating that mothers who give birth by caesarean section need more help with the initiation of breastfeeding after delivery and this seems to influence the subsequent duration of breastfeeding.

In terms of duration, it has been observed that the presence of a stable partner and the receipt of support from the partner have a direct impact on the duration of breastfeeding. This may be the reason why married women breastfeed for significantly longer than single or divorced women. Other studies [39,40] confirm this assertion, as mothers who are divorced or single are more likely to give up breastfeeding early due to a lack of emotional stability, fatigue, and lack of support. Similarly, in the present study, we found that the women who are more satisfied with BF are married, although the differences with respect to single or divorced women are not statistically significant. In the model of early breastfeeding cessation, we also found that partner stability is a protective factor for breastfeeding, consistent with the work of Littman et al. [41], who found that mothers whose partners were supportive of breastfeeding were more likely to breastfeed for longer.

There is evidence that mothers who have had antenatal classes have a much longer duration of breastfeeding than those who have not. We have also seen that they are generally more satisfied, according to the results of the BSES-SF scale. However, this difference is not statistically significant. On the other hand, in the model of early breastfeeding cessation, we have seen that support for childbirth preparation is a protective model. This is mainly due to the counselling provided by health professionals, which makes breastfeeding safer and more comfortable. In addition, Alus et al. [42] state that the success of BF requires a great deal of preparation and support from skilled personnel from the very beginning.

Surprisingly, we have observed in our study that mothers with a tertiary level of education have a shorter duration than mothers with an intermediate level of education. Furthermore, we have seen in the model that an increase in the educational level of breastfeeding mothers is a risk factor for the abandonment of breastfeeding. This is consistent with the study by Chen et al. [43], which showed that infants whose mothers had higher education were more likely to experience breastfeeding cessation. A plausible explanation could be that mothers with higher levels of education tend to have higher levels of employment and demand, which may contribute to their early cessation of breastfeeding, as Cooklin et al. note [44]. In contrast, other recent studies, such as Aidam's [37], show that mothers with higher levels of education continue breastfeeding longer because they are more aware of its benefits for the baby's health and for themselves. Other studies find no association between breastfeeding duration and the mother's level of education [45–47].

In our study, we found that the desire to breastfeed, personal satisfaction, willingness to breastfeed when the baby needs it, confidence in the correctness of the process, and a sense of comfort are the causes of early cessation of breastfeeding, making discomfort and insecurity risk factors for breastfeeding. The most dissatisfied women surveyed were those who had not attended antenatal classes, most likely due to lack of information and support. Nursan et al. [48] disagree with these findings and state that there is no significant relationship between maternal satisfaction and previous antenatal education classes. However, the findings of Pinilla et al. [49] are consistent with ours. Effective breastfeeding requires the establishment of policies and a breastfeeding-friendly environment, as well as the development of personal skills through information, education, and training. It is essential that mothers have the knowledge to increase their milk production and that they are well supported by trained staff, which reduces their sense of insecurity.

It should be recalled that, in 2016, breastfeeding was recognized as a human right for babies and mothers that should be promoted and protected, according to a statement issued by the United Nations (UN) Human Rights Council in Geneva [50]. No other health behaviour has such a broad and long-lasting impact on public health. Protecting, supporting, and promoting breastfeeding helps to safeguard planetary and human health by minimising environmental damage [51].

Limitations

The limitations of the present study include the small sample size. This may limit the generalizability of the results. The aim of this research was to achieve a larger number of face-to-face interviews to obtain an optimal sample size. However, given the circumstances of the global pandemic, sample collection was hampered by many telephone visits. Many mothers refused to be interviewed because they wanted to spend as little time as possible at the health centre. On the other hand, given the pandemic situation, it is likely that concerns about the transmission of the virus through breastfeeding may have also contributed to the reduction in breastfeeding. Finally, although the results of this study seem to indicate that satisfaction levels may be associated with a longer duration of breastfeeding, the limitations of the sampling and the retrospective questionnaire response design mentioned above preclude broad generalisation of the results, although these findings suggest the need for individual assessment and intervention to support breastfeeding women.

5. Conclusions

A high level of education, lack of preparation for childbirth, instrumental delivery or caesarean section, lack of security, feeling uncomfortable breastfeeding in the presence of others, and low maternal satisfaction were factors associated with early breastfeeding cessation among mothers in the study. Women in the study who are married are significantly more satisfied with exclusive breastfeeding and breastfeed longer than single and divorced women.

Effective breastfeeding requires the establishment of policies and a breastfeeding-friendly environment. It also requires the development of personal skills through information, education, and training. It is essential that mothers have the knowledge to increase their milk production and that they are adequately supervised by qualified and well-trained personnel, which will reduce their sense of insecurity, increasing advocacy efforts among mothers with higher education.

Based on this analysis, it is important to propose further research with new intervention strategies in the future to contribute to the social normalisation of breastfeeding and to help many breastfeeding mothers avoid early cessation of breastfeeding, which will contribute to the protection of planetary and human health by minimising environmental damage. Adequate and protocolised care must be provided. Education and support for parents on optimal breastfeeding and the environmental impact of formula feeding is essential.

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