

Association between Breastfeeding Intention and Exclusive Breastfeeding Abandonment in Cali, Colombia (2016-2018)

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Abstract

Introduction: Exclusive Breastfeeding (EBF) is a biocultural practice that offers numerous benefits for infant health. However, a progressive decrease in the proportion of children who are exclusively breastfed has been observed worldwide. The objective of this research was to analyze the relationship between the intention to breastfeed at the end of pregnancy and the abandonment of EBF during the first six months of life.

Objective: to identify the association between the intention to breastfeed at the end of pregnancy and the abandonment of EBF up to 6 months.

Methodology: A mixed-design, socio-critical study was carried out, which included a cohort analysis with 231 mother-infant pairs, carried out between 2016 and 2018. The research focused on evaluating the intention to breastfeed at the end of pregnancy and information was collected on the type of breastfeeding from the first week postpartum. The couples were followed up until week 24 postpartum, when the introduction of substitutes or complementary foods was recorded. To analyze the relationship between intention to breastfeed and the duration of exclusive breastfeeding (EBF), a logistic regression was applied.

Results: The intention to opt for exclusive breastfeeding (EBF) at the end of pregnancy was remarkably high. However, only 31% of women managed to maintain EBF during the first six months (95% CI: 29%-33%). In addition, no significant association was found between intention to breastfeed at the end of pregnancy and abandonment of EBF before reaching six months (OR: 1.27; p: 0.4).

Discussion: In this research, no significant association was found between intention to breastfeed at the end of pregnancy and the duration of exclusive breastfeeding (EBF). This finding suggests that the decision to initiate and maintain EBF could be more related to hormonal factors that occur at the time of birth. It is essential to gain a deeper understanding of the interaction between biological and emotional factors that play a crucial role in breastfeeding. It should be noted that the intention to breastfeed is determined by multiple variables, and is not limited solely to the mother's conscious decision.

Keywords: Exclusive breastfeeding, health behaviors, cohort studies

1. Introduction

Breastfeeding is a biological-cultural practice [1], which has multiple benefits for children's health. In children under six months of age, breast milk should be the only food (Exclusive Breastfeeding, EBF) [2], because it meets all nutritional needs and generates health benefits, such as reduced morbidity-mortality due to diarrheal and acute respiratory disease; greater development of the central nervous system

and motor skills [3,4,5], however, globally there is evidence of a decrease in the duration of EBF, a similar situation is reported in Latin America [4], and Colombia [5,6].

Based on the above, the World Health Organization (WHO) in 2012 recommended promoting it with interventions focused on raising awareness among health personnel, pregnant women, nursing mothers

and families, emphasizing its benefits for the child's health [7,8,9]. Despite the efforts made in this regard, and the fact that health institutions provide standard education and training to women during pregnancy, numerous studies report that the objective is not being achieved [3].

The above is due to multiple factors, among which the most important are: maternal perception of low milk production, breast illnesses or discomfort, the impact of advertising for breast milk substitutes, limitations to breastfeeding in the workplace, and cultural and social barriers that discourage or do not favor the practice [10,11,12,13].

Given this situation, it is necessary to innovate in public health interventions, for example, identifying and intervening in risk profiles for abandoning the practice. In this sense, Fishbein and Ajzen developed the theory of reasoned action from which it is stated that the attitude and personal motivation to meet a certain expectation depends, to a large extent, on the intention of the individual. This intention can predict behavior when motivated by processes that are assumed to overcome resistance and achieve what is desired [14].

Although few studies have measured the intention to breastfeed in pregnant women and its relationship with the duration of the practice of EBF [15,16], previous research shows that there is a positive association between these two variables [17,18,19; however, as it is an emerging topic, further research is required so that this theoretical input can guide public health interventions. In line with the above, the objective of this research was to evaluate the association between the intention to breastfeed at the end of pregnancy and the abandonment of Exclusive Breastfeeding, in women living in areas of high social vulnerability in the city of Cali, Valle del Cauca.

The study aimed to identify the relationship between the intention to breastfeed at the end of pregnancy and the abandonment of exclusive breastfeeding (EBF) in a period of up to six months.

A mixed-design, socio-critical approach study was conducted, including a cohort analysis with 231 mother-infant pairs, conducted between 2016 and 2018. The research focused on assessing breastfeeding intention at the end of pregnancy and information on the type of breastfeeding was collected from the first week postpartum. The couples were followed up until week 24 postpartum, at which time the introduction of substitutes or complementary foods was recorded. To examine the relationship between breastfeeding intention and EBF duration, a logistic regression analysis was applied.

The results showed that the intention to opt for exclusive breastfeeding at the end of pregnancy was remarkably high. However, only 31% of women managed to maintain EBF during the first six months (95% CI: 29%-33%). Furthermore, no significant association was identified between the intention to breastfeed at the end of pregnancy and the abandonment of EBF before reaching six months (OR: 1.27; p: 0.4).

In the discussion, it was concluded that no significant relationship was found between the intention to breastfeed at the end of pregnancy and the duration of exclusive breastfeeding. This result suggests that the decision to initiate and maintain EBF could be more influenced by hormonal factors present at the time of delivery. It is essential to deepen the understanding of the interaction between biological and emotional factors, which play a fundamental role in breastfeeding. In addition, it is emphasized that the intention to breastfeed is conditioned by multiple variables, and is not limited only to the conscious decision of the mother.

2. Methodology

This research was conducted from a socio-critical and mixed methodological perspective. Regarding the socio-critical paradigm, this approach was chosen for its ability to examine and understand social inequalities and cultural influences that impact decisions about breastfeeding. On the other hand, the mixed approach involved the use of a combination of qualitative and quantitative methods, thus allowing a more complete understanding of the phenomenon in question.

Study design and participants

A prospective cohort study (2016-2018) was conducted in Cali, Colombia. The reference population was pregnant women who attended public primary health institutions and who met the following inclusion criteria:

- Living in Cali for more than 6 months.
- Being enrolled in the institutional program for early detection of pregnancy disorders.
- Being between 32 and 37 weeks gestation and over 14 years of age.

In total, 404 pregnant women were invited to participate; 231 accepted and completed the initial

measurements. Approval was obtained from the institutional ethics committee (Act No. 018-09-2014) and informed consent was signed.

Study variables

The study variables were sociodemographic characteristics of the mother, age, ethnicity according to the guidelines of the National Administrative Department of Statistics [20], educational level; Regarding obstetric history, the number of previous births and number of prenatal check-ups were taken into account. Regarding breastfeeding, previous experience with breastfeeding, intention to breastfeed and abandonment of the practice before six months were measured.

Previous breastfeeding experience

Another simple Likert scale (bad, average, good, excellent) was used to capture the participant's subjective assessment of previous breastfeeding experiences. For the analysis, they were grouped into dichotomous categories “bad/average” and “good/excellent”. This format was based on precedents in the literature that associate negative previous experiences with greater abandonment of EBF [7,9].

Measuring the Intention to Breastfeed (exposure)

A brief questionnaire was applied using a Likert scale format (4 points: “not at all possible”, “somewhat possible”, “very possible” and “totally possible”), based on the theory of reasoned action [8]. This instrument was subjected to content validation by a panel of experts in breastfeeding and public health (n=5), who reviewed the relevance and clarity of the items. Subsequently, a pilot test was carried out with 20 pregnant women to adjust the language and ensure its understanding. A global score was thus consolidated that defined the intention to breastfeed as “high” or “low/null”.

Table 1. Classification of breastfeeding intention

Possibility of breastfeeding the future child	Does not perceive obstacles to breastfeeding	If you perceive obstacles to breastfeeding
Not at all likely	Null	Null
Something likely	Low	Low
Very likely	High	
Totally likely		

Follow-up of breastfeeding practice

To start the follow-up, the participants were contacted by telephone, weekly, starting from week 38 of pregnancy; once the birth was reported, the women were visited to apply the survey on the initiation of breastfeeding. Telephone follow-up continued until the child was 24 weeks old or until the mother reported the permanent initiation of breast milk substitutes or other food, such as porridge, soups, juices [7]. Follow-up was also suspended when the mother did not answer the call after three daily attempts, two days a week, for two consecutive weeks.

Measuring the duration of EBF

The duration of EBF was measured as the number of days of permanence of the practice, with the following formula: $\text{Days-EBF} = \text{weeks of permanence} \times 7$.

For participants who abandoned the practice before week 24, the calculation was $\text{Days-EBF} = (\text{weeks of permanence} \times 7) - 3.5$

Evaluation of the relationship between intention to breastfeed and duration of EBF

To evaluate the relationship between the intention to breastfeed (low and high) and the duration of EBF, the chi2 test was applied, with a p value < 0.05. The

evaluation of the effect of sociodemographic variables, prenatal care and previous experience with breastfeeding was carried out using a logistic regression model (forward technique) according to the recommendations of Hosmer and Lemeshow [21].

3. Results

Sociodemographic characteristics of participants

Of the 231 participants, 68% were between 20 and 34 years old, while 26.4% were under 20 years old. The predominant ethnic group was mestizo (70.4%), followed by Afro-descendant (20.4%) and indigenous (9.1%). 80% reported having completed or incomplete secondary education, and 6% had higher education. 59% had had at least one previous birth and 14.5% more than one. (TABLE 2)

Table 2. Sociodemographic characteristics and obstetric history

Variable	No.	Percentage
<20	61	26.4
20 a 34	158	68
>34	13	2.6
Ethnicity		
Indigenous	21	9.1
Afro-descendant	48	20.4
Teacher	162	70.4
Educational Level		
Primary	14	6.2
Secondary		
(complete/incomplete)	202	87.2
Higher	15	6.6
No. Previous births		
0	137	59.3
1	60	26
>1	34	14.7
No. Prenatal check-ups		
<4	29	12.6
4 o mas	202	87.4

Obstetric and breastfeeding history

Breastfeeding experience and duration

Eighty-five percent of the participants reported a satisfactory experience with previous breastfeeding and 15% reported it as average or poor (see table 3).

Regarding the duration of breastfeeding, one third of the children stop being exclusively breastfed before the first month, two thirds lose this condition at the end of three months or before and in about one third, approximately sixty percent had no previous breastfeeding experience and 6% reported it as a poor or average experience. Approximately nine out of ten breastfeeding women had an adequate number of prenatal check-ups.

Table 3. LM behavior

Satisfaction with breastfeeding in previous births (n:90)	No.	%
Average/bad	14	15
Good	80	85
Current LME duration (days) (n: 231)		
<30	72	31.2
30 a 90	78	33.8
91 a 150	10	4.3
151 a 180	71	30.7

Breastfeeding Intention Behavior

75% of women showed a “high” intention to breastfeed according to the validated Likert scale. The rest considered it “little or not at all possible” to maintain EBF until 6 months, citing social, work or family obstacles (Table 4).

Table 4. Intention to breastfeed in study participants

Ossibility of breastfeeding the future child	You do not see obstacles to breastfeeding	If you see obstacles to breastfeeding	Total
Not at all likely	18	2	20
Somewhat likely	5	4	9
Very likely	9	10	19

Totally likely	142	41	183
Totally likely	174	57	231
	75,30%	24,70%	100%

Association between intention to breastfeed and EBF - adjusted effect

No association was found between intention to breastfeed at the end of pregnancy and duration of EBF up to six months; although it was observed that women who had low intention to breastfeed had 27% higher abandonment of the practice before 6 months (this difference was not statistically significant, OR: 1.27; p: 0.27). This relationship did not improve when adjusted, by multiple logistic regression, for the effect of sociodemographic variables, obstetric history, prenatal care or previous experience of BF; however, it should be noted that the variable negative experience with BF significantly increased the risk of abandoning EBF (OR: 10; p: 0.026) and age over 20 years reduced it by nearly 80% (OR: 0.22; p: 0.033).

Table 8. Association between breastfeeding intention and duration of EBF. Adjusted model

Variable Intention to breastfeed	OR	Valor p
High	1	
Low	1,27	0,7
Previous experience with breastfeeding		
Good	1	
Fair/poor	10,6	0,026*
Age		
<20	1	
20 years of age and older	0,22	0,033*
Ethnicity		
Indigenous	1	
Afro-descendant	1,41	0,71
Mestizo	1,52	0,61

Discussion

This study evaluated the intention to breastfeed at the end of pregnancy and its association with the abandonment of exclusive breastfeeding (EBF) before 6 months of age. Likewise, the relationship with sociodemographic variables, obstetric history and prenatal care was examined.

It was found that being over 19 years of age at the end of pregnancy decreases the risk of abandoning EBF before six months, while previous negative experience with breastfeeding (BF) increases this risk. On the other hand, the intention to breastfeed at the end of pregnancy did not show an association with the abandonment of EBF. In addition, it was observed that abandonment of the practice was especially high during the first three months of the child's life.

The World Health Organization (WHO) and the Ministry of Health of Colombia have recommended EBF until 6 months, as well as its continuation together with complementary foods until 2 years of age [22]. In line with these guidelines, the duration of EBF reported in this study was similar to that recorded by the National Survey of the Nutritional Situation (ENSIN) of Colombia in 2015[23]. This duration was longer than that reported in Cali in 2003, according to Cabrera et al. [5] and slightly shorter than that described by Victora et al. for Latin America [4].

Regarding age over 20 years as a protective factor against cessation of EBF, our findings are consistent with numerous studies that describe this same association [24,25]. This could be explained, on the one hand, by the psychological maturity and commitment of the adult woman to take on the task of breastfeeding [26] and, on the other, by a greater capacity to handle the difficulties of daily life [27].

In relation to the previous negative experience with breastfeeding and its impact on the abandonment of this practice, various studies indicate that "not being able to breastfeed the child" due to breast problems such as mastitis, mastalgia, difficulties in offering the breast, nipple conditions (flat, depressed or small) and pain or sensitivity in the breasts, is remembered as a "bad experience" [28]. These experiences can generate a strong negative

emotional impact on the mother, who may experience depression, anxiety, anguish, despair, frustration and negative self-evaluation. These traumatic memories, in addition, are often difficult to integrate into the woman's biography and can significantly interfere with her daily functioning [12]. In this same sense, it has been reported that in the postpartum period women have particular emotional needs and may go through episodes of stress related to specific circumstances [10]. Likewise, it is common for them to perceive little social support and feel unable to express their emotional needs [11].

Regarding the prevalence of breastfeeding intention in the last month of pregnancy, our results are similar to those reported by Delgado S. in Chile [15], with 98%, and by Gorrita et al. in Cuba [6], with 100%. This could be due, among other reasons, to the impact of educational interventions developed by health institutions in Latin America.

In our study, the intention to breastfeed at the end of pregnancy was not related to cessation of EBF before six months. In fact, women who declared a high intention to breastfeed and considered themselves capable of doing so did not maintain EBF for longer than those with low intention or who did not perceive themselves capable of breastfeeding. We believe that this is due to the fact that the intention to breastfeed is a phenomenon influenced by multiple factors [29], including the joint action of hormones involved in pregnancy, childbirth and the postpartum period, biological maturity, emotions, the mother's educational level and the environmental conditions in which breastfeeding takes place [15]. Thus, all these elements largely determine compliance with the practice of breastfeeding.

Based on the results obtained, we do not recommend using the intention to breastfeed as an indicator of risk of abandoning exclusive breastfeeding. However, we insist on the need to implement support and counseling for the mother/infant child binomial in the postpartum period, prioritizing said intervention in those binomials that present factors that threaten the continuity of breastfeeding, such as a history of negative experiences with breastfeeding and maternal age below 20 years. Additionally, we suggest that this support be maintained for at least

the first three months, a period in which the risk of stopping EBF is particularly high.

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