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Sociodemographic and obstetric history in maternal self-efficacy in nursing: a study in panel

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ABSTRACT

Aim: To assess the association of the average values of breastfeeding self-efficacy scale - short form (BSES-SF) scores with sociodemographic and obstetric variables. **Methods:** A quantitative, longitudinal, panel-type study, developed in six Basic Family Health Units in the city of Pacatuba-CE, with 50 women. We used the BSES-SF and forms about prenatal and postpartum periods. A descriptive and inferential analysis, with averages comparison tests (Student T / Wilcoxon test) was performed. **Results:** There was statistical significance between most of the sociodemographic variables and the BSES-SF prenatal and postpartum average scores ($p < 0.05$) and it was possible to find statistical difference in prenatal and postpartum average scores of BSES-SF ($p < 0.05$). **Conclusion:** There was significant increase in the BSES-SF average scores in the postpartum period, showing greater self-efficacy of women in breastfeeding and the need for action of Family Health Strategy (FHS) professionals with the mother in order to increase the prevalence of breastfeeding.

Descriptors: Breast Feeding; Self Efficacy; Nursing; Postpartum Period.

INTRODUCTION

Proper nutrition is the cornerstone of care provision for childhood development and is essential for the achievement of millennium development goals. In 2012, the World Health Assembly adopted a comprehensive plan (2012-2025) which aims to alleviate the child malnutrition load and allocate resources to achieve, by 2022, exclusive breastfeeding rates of 50% globally⁽¹⁾.

It is known that exclusive breastfeeding until six months of age can prevent more than 1.3 million deaths of children under five in developing countries, each year. Considered the first right of the child after birth, breastfeeding can reduce 22% of neonatal mortality⁽²⁾. It was found that in 2011, Brazil reached the mortality rates forecasted for 2015, with breastfeeding as the possible reason for this development in the country. Early breastfeeding rates and exclusive breastfeeding in this country are around 40%, falling to 25% when it becomes complemented by other feeding⁽³⁾. Aiming to interfere with these indicators, the "Amamenta e Alimenta Brasil" strategy intends to qualify primary health care professionals in the reinforcement and encouragement of promoting breastfeeding in the Brazilian Public Health System (SUS)⁽²⁾. This fact is reinforced by the National Policy for Health Care of the Child (PNAISC) that is built on bases across all the health-care networks, including the promotion of breastfeeding, and by the National Food and Nutrition Policy, which aims to improve the feeding, nutrition and health conditions of the population, by promoting appropriate and healthy eating habits, food and nutrition surveillance, prevention and comprehensive care of health problems related to food and nutrition⁽⁴⁾.

The initiation and maintenance of exclusive breastfeeding are influenced by several biological, environmental, socio-cultural and psychological factors, among others. Among the psychosocial factors is the maternal self-efficacy to breastfeed, which has been identified as an important concept of health promotion able to reveal women's expectation and confidence to breastfeed their child. Self-efficacy is the degree of confidence that a woman has in herself to overcome challenging situations for the sake of achieving the desired objectives related to healthy behavior – breastfeeding, in this case⁽⁵⁾.

Supporting self-efficacy is a professional attitude present in an empathic clinical relationship, with relevance recognized at both international^(5,6), and national levels^(6,7). This study is appropriate for all professionals who assist in the mother-child dyad in health care networks, since it alerts them to the need to know the mother's self-efficacy in breastfeed, even in the immediate postpartum period, and in the continuous care of the child. Checking the correlation between the scale scores and sociodemographic variables and obstetric history, professionals can realize the relationship between these factors and the act of breastfeeding, and outline intervention strategies to overcome any breastfeeding difficulty situations, encourage its prevalence and reduce early weaning rates.

METHOD

This was a quantitative, longitudinal, panel-type study, conducted with pregnant women in six of the 14 Basic Family Health Units (BFHU) of Pacatuba-EC city, which were chosen because they are located in the territorial perimeter with greater geographical

concentration of the municipality. Pacatuba is the third largest city in terms of population density of the metropolitan area of Fortaleza, with a Municipal Human Development (IDHM) Education Index of 0.652⁽⁸⁾.

The study sample encompassed the entire population of women who met the following inclusion criteria: they were pregnant women over 30 weeks of gestational age, pregnant with a single fetus attending the prenatal low risk basic health units of the Family Health Strategy (FHS) that were selected in the search. Of the 70 eligible pregnant women, 20 were not able to be part of the final sample because they fit in at least one of the following exclusion or discontinuity criteria: cognitive constraints that made it impossible to participate in the study; pregnant women who had premature births or who donated the child and neonates that were kept longer than 15 days in the Intensive Care Unit.

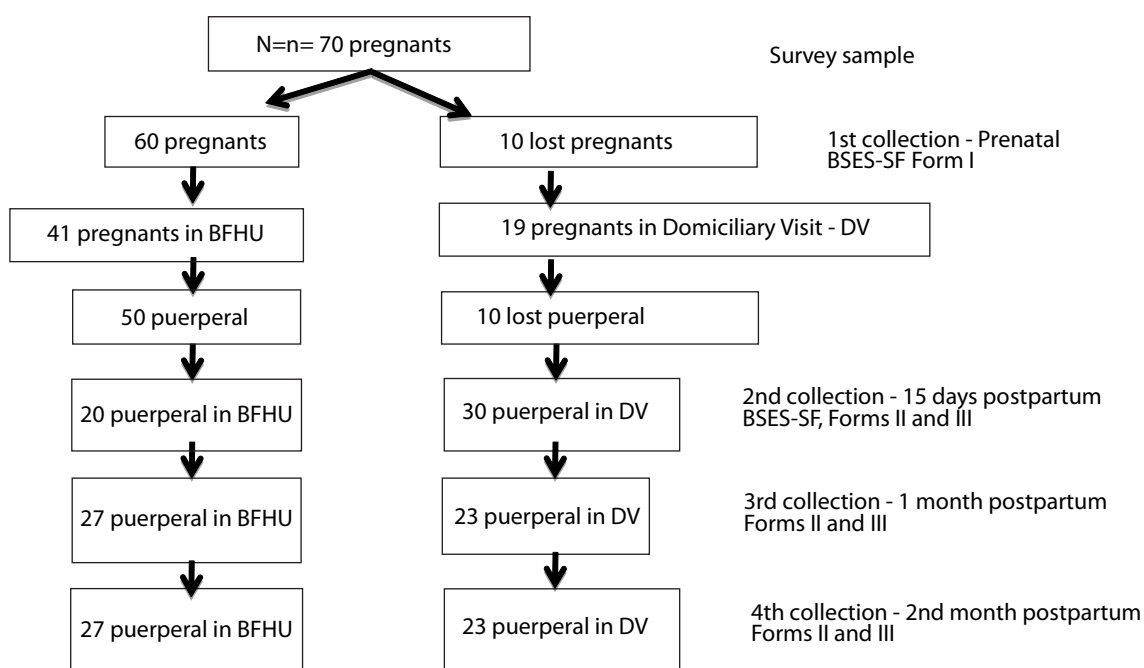
Given the above, the data was collected

from a sample of 50 women, from July to November 2011, either in the Basic Health Unit or by home visit. It was carried out in two stages: the first during the prenatal period of pregnant women and the second on the 15th postpartum day.

So, we used the Breastfeeding Self-Efficacy Scale - Short Form (BSES-SF) as the instrument, in a version that had been translated and adapted for use in Brazil⁽⁷⁾, which consists of 14 items with five response options (1-5 points each). The scale of the sum may range from 14 (minimum) to 70 points (maximum value), depending on the degree of agreement of the interviewee. BSES-SF evaluates the self-efficacy level in mothers' breast-feeding, i.e., their self-confidence or breastfeeding success. It is noteworthy that until then, this scale had not been applied in Brazil in the context of primary health care.

In addition to the BSES-SF we applied an adapted form from other studies^(5,6), which

Figure 1 - Flowchart of sample and data collection. Paracatuba, 2011.



Source: Authors, 2014

addressed data regarding the sociodemographic and economic profile of pregnant women, their gynecological and obstetric conditions, information on diet and type of breastfeeding offered.

Data were analyzed using descriptive statistics, absolute and relative frequencies, averages, standard error (SEM) and standard deviation (SD), and inferential analysis performed using the Wilcoxon's or Student t test in all variables studied. It is noteworthy that the statistical tests to confirm the normality of the variables were performed (Kolmogorov-Smirnov test), as well as the equality of variances (Levene test), and it was considered statistically significant ($p < 0.05$). The data were processed using the SPSS software - Statistical Package for the Social Sciences, version 19.0 and presented in Tables.

The study received a favorable opinion from the Research Ethics Committee of the Federal University of Ceará, under register 124/2011, fulfilling all the requirements of the National Health Council Resolution 466/12, including the free and informed consent term signed by the all study participants.

RESULTS

In Table 1, we can see that the following sociodemographic characteristics were positively associated with the mean maternal self-efficacy in breastfeeding (BSES-SF) in relation to prenatal and postpartum periods, as follows: aged between 15 and 17 years; married / common-law marriage; maternal education period less than eight years and paternal education period equal to or higher than eight years; have a *per capita* income greater than R\$141.00; be up to two people residing in the same household; not have

family-sponsorship from the government; have the public water system for their water supply system and either the public system or septic tank for their sewage.

Participating mothers were, on average, 36.4 gestational weeks ($SD \pm 3$). With regard to the relationship between variables, we can see in Table 2, a statistically significant association between the mean BSES-SF scores in the prenatal and postpartum periods for the following obstetric characteristics: multiple pregnancy; no history of miscarriage; multiparity; existence of two living children; have previously breastfed exclusively or in mixed ways; no difficulties in breastfeeding; previous positive breastfeeding experience; mothers who were breastfed in infancy and who knew someone who had breastfed.

DISCUSSION

It can be seen in the study sample that younger women had higher differences in BSES-SF average scores, when comparing prenatal and postpartum periods. Thus, it is believed that although studies show that younger mothers tend to breastfeed for a shorter period⁽⁷⁾, these women have a great chance of being stimulated to maintain breastfeeding during the postpartum period through health education strategies, given that they already have a tendency to have their self-efficacy improved postpartum.

It is known that the occurrence of infant morbidity and mortality is high in underdeveloped countries, especially among babies that are born to teenage mothers⁽⁹⁾; this emphasizes, therefore, the relevance of the FHS professionals in encouraging these mothers to breastfeed their children, since teenage pregnancy is an ever-present reality in our country.

Table 1 - Comparison of the mean of the scores of the BSES-SF in the prenatal and postpartum, according to sociodemographic variables. Pacatuba, CE, 2011.

Variables	BSES-SF PN				BSES-SF PP				
	N	%	M	DP	M	±EPM	M	±EPM	P
Age			23	5,3					
15-17	9	18			57	2,7	63	1,9	0,02
18-43	41	82			57,6	1,1	60	1,1	0,059
Marital status									
Married / partner	38	76			57,5	1,1	61,7	1	<0,0001
Single / Divorced	12	24			57,3	2,3	56,4	2,1	0,806
Maternal schooling			8,6	2,6					
<8 years old	12	24			58,1	2,1	62,3	1,4	0,041
≥ 8 years old	38	76			57,3	1,2	59,8	1,2	0,06
Paternal schooling			8,3	3,1					
<8 years old	15	30			57,5	1,9	60,7	1,6	0,153
≥ 8 years old	35	70			57,5	1,2	60,4	1,2	0,034
Occupation									
With occupation	9	18			55,8	3,1	62,3	2,2	0,044
Without occupation	33	66			56,9	1,1	60	1,1	0,008
Per capita income			0,4	0,3					
<R\$ 140 (<26% SM)	17	34			58,1	1,4	61,2	1,5	0,167
>R\$ 141 (>27% SM)	33	66			57,2	1,4	60,1	1,2	0,029
People residing in the home			3,48	1,4					
01/fev	15	30			55,5	2	61,5	1,7	0,009
03/abr	22	44			59,6	1,2	60,2	1,4	0,636
5 or more	13	26			56,1	2,2	59,7	2,1	0,221
Has Family Grant									
Yes	28	56			58,5	1,3	58,9	1,6	0,818
No	22	44			56,7	1,4	61,6	1,2	0,001
Water source									
Public system	46	92			57,9	1,1	60,8	1	0,016
Others	4	8			53	2,3	56,3	4,6	0,279*
Fate of wastewater									
Public system/septic	39	78			57,4	1,2	60,6	1,1	0,022
Street / River / Stream	11	22			57,6	1,9	59,6	2	0,194
Regular garbage collection									
Yes	50	100			57,5	1	60,5	1	
Lives near the UBSF									
Yes	32	64			56,9	1,4	60	1,2	0,07
No	18	36			58,5	1,4	61,3	1,5	0,007

Source: Authoring, 2014

SM: Minimum Wage during the study = R \$ 545.00; M = average; SD = Standard Deviation; M BSES-SF PN = average of the scores of the BSES-SF in the prenatal; M BSES-SF PP = average of the scores of the BSES-SF in the post-partum; SEM = Standard Error Medium; p: Student t; * Wilcoxon test.

In this study we found a statistically significant association between maternal education of less than eight years and maternal self-efficacy between the prenatal and puerperium periods. It is inferred that this relationship is negative, given that mothers

with low education tend to introduce other foods earlier to their children⁽¹⁰⁾. Mothers with more education may have a stronger sense of personal competence and tend to approach the completion of difficult tasks as challenges to be mastered, and not repel them as thre-

Table 2 - Comparison of the means of the scores of the BSES-SF in the prenatal and postpartum, as obstetric history. Pacatuba, 2011.

Variables	BSES-SF PN						BSES-SF PP			
	N	%	M	DP	M	±EPM	M	±EPM	ρ	
Previous pregnancies										
first pregnancy	24	48			57,1	± 1,5	59,7	± 1,6	0,183	
Multiple births	26	52			57,8	± 1,4	61,2	± 1,1	0,013	
Abortions										
Yes	7	14	0,1	0,4	57,1	± 4	62,3	± 2,3	0,232 *	
No	43	86			57,5	± 1	60,2	± 1,1	0,025	
Similarity										
first pregnancy	26	52			57,1	± 1,4	60	± 1,5	0,144	
Multiple births	24	48			57,8	± 1,5	61	± 1,2	0,01	
Living children										
			0,94	1,2						
One	11	22			57,4	± 2,7	59,4	± 2	0,356	
2	7	14			59,9	± 1,8	62,6	± 2	0,028 *	
3 a 5	6	12			59,9	± 1,8	62,6	± 2	0,225 *	
Without children										
	26	52			56,9	± 1,4	60,2	± 1,5	0,255	
Type above breastfeeding¹										
Mixed	23	92	213,1	11,5	58,4	± 7,1	61,1	± 5,7	0,004	
Exclusive	15	60	403,1	17,1	58,2	± 7,7	58,2	± 4,6	0,012	
Difficulty al breastfeeding^{1m}										
Yes	1	4			49	±	46	±	-	
No	23	96			57,6	± 1	60,8	± 0,9	0,021	
Experience breastfeeding¹										
Positive	22	92			57,5	± 4,5	61,1	± 1,2	0,004	
Negative	2	8			66,5	±	62	±	-	
Nursed when was a child										
Yes	37	74			57,5	± 1,2	59,2	± 1,1	0,047	
No	10	20			58,9	± 2,1	65,1	± 1,5	0,182	
Don't know	3	6			52,7		59		-	
Know someone who nursed										
Yes	49	98			51,1	± 1	60,3	± 1	0,022	
No	1	2			66		64		-	
AVERAGE BSES-SF PN			57,46			± 1			0,009	
AVERAGE BSES-SF PP			60,4			± 1				

Source: Authoring, 2014

¹Multiple births; M = average; DP: Standard deviation; M BSES-SF PN: Mean scores of BSES-SF in the prenatal; M BSES-SF PP: Mean scores of BSES-SF in the post-partum; EPM: Error Standard Medium; ρ: Student t; * Wilcoxon test.

ats⁽¹⁰⁾. Thus, it is believed that women with higher educational levels, because they have more opportunities to access information about the advantages of breastfeeding, also have an increased probability of initiating breastfeeding.

Despite these findings, other studies of maternal age and education did not focus on the score obtained in BSES-SF of the prenatal

period, postpartum week and four months after delivery⁽⁵⁾. In addition, no differences in this study were identified between the average scores of BSES-SF at one, four or eight weeks postpartum, when considered in relation to age and educational level⁽⁶⁾, in contrast to several other studies^(11,12).

Thus, the prevalence of breastfeeding is positively associated with factors such as

older mothers with higher education levels, the opportunity for maternity leave and with women having more than one child⁽¹³⁾, or negatively associated with primiparity, physical fatigue, low education, low income and lack of advice on breastfeeding⁽¹⁴⁾.

Corroborating another study⁽¹²⁾, fathers' education level of eight years or more was also important in increasing maternal self-efficacy in breastfeeding. In addition, the mother's marital status, either married or living in a stable relationship, was found to influence maternal self-efficacy ($p < 0.05$), and to favor the maintenance of breastfeeding. Consequently studies have demonstrated the importance of paternal influence, both in beginning and continuing breastfeeding, making the partner's share of the support to mothers during pregnancy and childbirth relevant to promoting breastfeeding^(5,6).

In the present study, being in employment was associated with maternal self-efficacy; however, we found an association regarding *per capita* income above R\$141, which is above the poverty line. It should be noted that other researchers also found a significant relationship between income and maternal self-efficacy variables, suggesting therefore that the higher the income, the higher the self-efficacy in breastfeeding^(6,11).

The data revealed that, of the sample involved, 56% ($n = 28$) were beneficiaries of the Family Grant government program, of which 38% ($n = 19$) had education level ≥ 8 years; 54% ($n = 27$) did not have any job and 50% ($n = 25$) had no satisfactory *per capita* income. Currently, 16.2 million (8.5%) Brazilians are extremely poor, of which more than half live in the northeastern area (9.6 million), some without any income (4.8 million) and a *per capita* income of R\$ 1.00 to R\$ 70.00 (11.4 million). It is relevant to note, that economic param-

eters are used to develop social policies, such as the Family Grant Program. According to the Ministry of Social Development (MDS), in its ten years of existence, the Family Grant government program has contributed to the reduction of infant mortality, of children up to 5 years, by 19.4%⁽³⁾.

As for sanitation, the Brazilian Institute of Geography and Statistics (IBGE) revealed that in 2010, 93.5% of urban households relied on the public water supply service. As for the sewage, it was found that 68.3% of Brazilian households were served by the public system. With regard to garbage collection, 98.5% of homes were covered by this service, corroborating our study⁽⁸⁾. Thus, it is inferred that the better the living conditions and sanitation of these families, the greater self-efficacy women will present when breastfeeding their children, due to also feeling safe with respect to such socio-sanitary variables.

As for the place of residence, mothers who lived far from the BFHU had higher self-efficacy in breastfeeding ($p < 0.05$). Thus, it can be inferred that the FHS is reconciling promotion activities among the population that is in its delimited area, and we also highlight the role of home visits by the FHS staff and community health agents, who act as a link between families and health services. The FHS has the potential to increase breastfeeding rates through continuous monitoring of health conditions and risk situations, including breastfeeding, in their socio-cultural and family context. In addition to this, we stress the initiatives of Amamenta Brazil Network and the Cegonha Network, which has also been working in primary health care.

It is known that obstetric history is a relevant factor to be considered in current pregnancies, since it can influence how a woman copes with a new pregnancy⁽⁶⁾. As for parity,

this study revealed that primiparas showed a significant reduction of self-efficacy in nursing, compared to multiparae, which corroborates other studies^(5,12). Thus, multiparae with previous breastfeeding experience showed BSES-SF scores that were consistently higher than primiparae⁽⁶⁾, and we may infer the importance of successful past experience in the development of self-efficacy in breastfeeding.

Primiparae should receive counseling and different stimuli, because they are part of the breastfeeding interruption risk group, due to their inexperience, insecurity and doubts that arise when starting breastfeeding⁽¹⁵⁾. However, multiparae with negative experiences may also have their self-efficacy compromised, by having negative emotional responses, such as fear and anxiety⁽¹²⁾. This aspect must be considered by health professionals in activities developed in primary care units, through paired dialogue where a pregnant patient with positive breastfeeding experience shares her experiences with women who have never breastfed, or who have had previous negative experience breastfeeding. A study in Australia showed that the BSES scores increased after birth, as there was, respectively, an increase among both in primiparous and multiparous women of 2.9 and 3.2 in average scale scores, between the prenatal and postpartum periods⁽¹⁶⁾.

We found a positive correlation between the number of children and the BSES-FS mean score, i.e., women with more children scored higher on the scale, which is consistent with a study that found a correlation among women who had one or more living child⁽¹⁷⁾.

Studies show that women with positive experience regarding breastfeeding other children had a predisposition to breastfeed a new baby and, in general, they breastfed for a longer period compared with women

who had negative experiences, such as pain, mastitis, engorgement cracks, inverted nipples, insufficient milk production and other difficulties⁽¹¹⁾.

The level of performance based on previous experience has a significant influence on self-efficacy⁽¹²⁾, since the success of previous experiences are considered as relevant to this construct, as previous breastfeeding experience, former professional support, vicarious experiences with behavior monitoring of someone who lives in a similar life situation and has managed to successfully breastfeed.

Thus, women who have prior experience of negative or unsuccessful breastfeeding may be particularly at risk, by not trying or not continuing to breastfeed subsequent children. Considering that previous experience will influence their self-efficacy, nurses applying the BSES-SF may be able to identify and facilitate the perception of previous breastfeeding experience, and, from there, to promote specific interventions that increase the mothers' self-efficacy to initiate and maintain breastfeeding with their child.

In 2009, the FHS reached 50.7% of the population, with greater coverage in the smaller municipalities. Studies shows that every increase of 10% in the Family Health program coverage is associated with a reduction of 4.6% in infant mortality⁽¹⁸⁾. So there is importance to identifying the factors that motivate women to breastfeed. The FHS program must be family-centered, understood and perceived from their physical and social environment, which enables the FHS teams to expand understanding of the health/disease processes and the need for interventions that go beyond healing practice.

Self-efficacy is an essential cognitive variable for motivation and performance of any health related action or behavior. So, stimu-

lating maternal confidence for breastfeeding may possibly influence other behaviors that will impact on child health indicators.

The link and the longitudinal monitoring of the FHS team with pregnant women enables the identification of the mothers' self-efficacy levels for breastfeeding. So when these professionals identify mothers with low self-efficacy, since it is a negative predictor for exclusive breastfeeding, they may intervene in order to promote maternal self-efficacy to breastfeed and a consequent increase in the prevalence of breastfeeding, as well as a positive impact on growth and child development.

As there are four sources of self-efficacy information (personal experience, vicarious experience, verbal persuasion, physiological/emotional states), specific strategies to strengthen the effect of these sources can be traced⁽¹⁹⁾. For example, women without support could be directed to activities where they can meet and get help from other experienced mothers, allowing them to have a role model and, therefore, more vicarious experience. A support network for breastfeeding, easier access to health services, involving education and planning for breastfeeding, can improve breastfeeding outcomes, and are also important factors in increasing self-efficacy.

Prenatal care is one of the most basic actions of primary care, impacting in a very positive way on maternal and child indicators. Pregnant women need to be identified to promote their relationship with the team, in order to ensure satisfactory quality monitoring, the identification and intervention against potential problems in a timely manner, the defining of priorities based on assessment, risk classification and vulnerability analysis⁽¹⁸⁾.

CONCLUSION

This study, which consisted of an analysis of the mean BSEF-SF scores according to sociodemographic variables and gynecological and obstetric history, strengthens the evidence of factors that influence the self-efficacy of breastfeeding. It stresses the importance of primary care nurses' role which can, from the application of BSES-SF, develop educational strategies to address breastfeeding not only with mothers, but also in the context of the whole family, attempting to discuss solutions and coping strategies to deal with difficulties.

In this context, given the need to raise the awareness of fathers in the promotion of breastfeeding, fathers should participate in educational strategies so that through verbal persuasion, which is a source of self-efficacy, they can also act to provide support to mothers and encourage them to continue the breastfeeding process.

Therefore, the nursing sector needs to use appropriate educational technologies to intervene with the patients and their families, because knowing their self-efficacy and their family challenges, it can deliver health education that adheres and implements new health practices for women during pregnancy and the postpartum period.

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