

Postpartum depression and maternal self-efficacy for breastfeeding: prevalence and association

Depressão pós-parto e autoeficácia materna para amamentar: prevalência e associação

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Abstract

Objective: To identify the prevalence of postpartum depression symptoms and the level of self-efficacy to breastfeed among puerperal women assisted at a Breastfeeding Incentive Center, and to analyze possible associations.

Methods: A cross-sectional study with 208 women up to 60 days postpartum submitted to the Edinburgh Postpartum Depression Scale and the Self-Efficacy Scale for Breastfeeding.

Results: Postpartum depression symptoms were present in 31.25% of women who presented medium (39.9%) and high (36.06%) levels of breastfeeding self-efficacy. The medium or high self-efficacy decreased the depression score by 27.4% or 38.8% respectively, while the high score on the postpartum depression scale reduced the self-efficacy score in breastfeeding by 11.84 points.

Conclusion: The high prevalence of postpartum depression symptoms and self-efficacy for breastfeeding were evident in the studied population. The levels of postpartum depression symptoms and self-efficacy revealed a cause and effect association between themselves.

Resumo

Objetivo: Identificar a prevalência de sintomas de depressão pós-parto e o nível de autoeficácia para amamentar, entre puérperas atendidas num Centro de Incentivo ao Aleitamento Materno, e analisar possíveis associações.

Métodos: Estudo transversal com 208 mulheres, até 60 dias pós-parto, submetidas à Escala de Depressão Pós-parto de Edinburgo e à Escala de Autoeficácia para Amamentar.

Resultados: Sintomas de depressão pós-parto estiveram presentes em 31,25% das mulheres, que apresentaram níveis de autoeficácia para amamentar médio (39,9%) e alto (36,06%). Ter média ou alta autoeficácia diminuiu em 27,4% ou 38,8%, respectivamente, o escore de depressão, enquanto a elevada pontuação na escala de depressão pós-parto reduz em 11,84 pontos o escore da autoeficácia na amamentação.

Conclusão: Prevalência elevada de sintomas de depressão pós-parto e de autoeficácia para amamentar foram evidenciados na população estudada. Os níveis de sintomas de depressão pós-parto e de autoeficácia revelaram associação de causa e efeito entre si.

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Introduction

The puerperium is recognized as a delicate period in women's lives because it includes physical and psychic modifications that can directly influence mental health and emotional well-being, raising the risk of developing psychiatric disorders.

Postpartum depression (PPD) stands out among the psychiatric disorders affecting women in the puerperal period, with prevalence between 13% and 19% in developed countries.⁽¹⁾ Studies show higher rates in Brazil, with prevalence ranging between 7.2% and 39.4% in the cities of Recife and Vitória respectively.^(2,3)

The main risk factors for developing PPD are the following: inadequate or non-existent family and social support, women's psychiatric history, intense anxiety, previous depressive episodes, infertility, history of gestational loss, and negative feelings about gestation or the baby.

The Diagnostic and Statistical Manual for Mental Disorders - Fifth Edition - DSM-5 establishes the first four weeks of puerperium regarding the incidence of PPD symptoms, while the International Classification of Diseases - ICD expands the period for the first six weeks after childbirth.^(4,5)

Anxiety, irritability, anhedonia or loss of ability to feel pleasure, changes in sleep pattern, persistent fatigue and tiredness, guilt feelings, suicidal ideation, decreased appetite, libido and cognition, and the presence of obsessive or overvalued ideas are some clinical symptoms. Together with the difficulty of satisfying the baby's needs, especially regarding lactation, these symptoms are related to PPD.^(2,6)

However, the risk association between postnatal depression and breastfeeding is not conclusive, since the known results are dissonant and poorly enlightening. Some studies show a negative relation, evidencing the greater chance of puerperal women with depressive symptoms weaning their babies early, while others show that weaning is prior to the onset of depressive symptoms, and relate hormonal changes and psychological aspects as risk factors for PPD.⁽⁷⁻⁹⁾

According to Bandura's theory of self-efficacy, the way individuals interpret their feelings tends to modulate their behavior.⁽¹⁰⁾ In other words, the confidence of puerperal women in their ability to feed their child through breastfeeding (called maternal self-efficacy to breastfeed) tends to be compromised by the occurrence of depressive symptoms.⁽⁶⁾

Although the findings of Flores-Quijano et al.⁽¹¹⁾ reinforce the aforementioned hypothesis, revealing that PPD tends to impair women's confidence about their ability to perform the maternal function, and interferes in their behavior and perception on factors associated with their lactational performance, there is a significant shortage of studies investigating the relationship between maternal self-efficacy for breastfeeding and postpartum depression symptoms.

The unquestionable benefits of breastfeeding for the baby, woman, family and society, and the harmful effects of PPD for them justify the present study.

In this perspective, the objectives of this study were to identify the prevalence of postpartum depression symptoms and the level of self-efficacy for breastfeeding among postpartum women treated at a Breastfeeding Incentive Center, and analyze the existence of a possible association between PPD and the self-efficacy to breastfeed.

Methods

Cross-sectional study performed at the Incentive and Support Center for Breastfeeding and Human Milk Bank, linked to the Universidade Federal de São Paulo, located in the city of São Paulo. The population was composed of women assisted by nursing in the first postpartum visit, and who were breastfeeding in the current gestation, regardless of the type of breastfeeding.

The sample was composed of 208 puerperal women, a size that met the stipulated criteria for sample calculation. Assuming an incidence of 20% of women with PPD and an error of 5.5% (plus or minus), the minimum sample required is 203 women.

The data collection period was between July 2013 and April 2016, and the puerperal women who agreed to participate in the study signed the Informed Consent form (IC).

The variables related to sociodemographic characteristics, life habits, obstetric and personal antecedents and characteristics related to the intra and interpersonal relations established by the puerperal women were collected from their medical records and recorded in a collection instrument specifically developed for this study. This instrument was adapted based on information from the institution's service form.

The Edinburgh Postnatal Depression Scale (EPDS) and the Breastfeeding Self-Efficacy Scale (BSES) were used respectively to identify postpartum depression symptoms and assess the breastfeeding self-efficacy.

The EPDS is a Likert-type instrument developed in Great Britain and validated in Brazil by Santos et al. to detect depressive symptoms. It is composed of ten statements, with four possibilities of response each, according to the severity or duration of the symptomatology experienced and based on women's perception in the week before the test application. The EPDS score ranges from 0 to 30 points, considering 10 as the cutoff for identification of PPD symptoms. Women in this study who scored ≥ 10 were referred to as having depression for descriptive effect.⁽¹²⁾

The BSES is also a Likert type scale with 33 items about two domain categories called: Technical and Intrapersonal thoughts. The Technical domain is related to the technical management of breastfeeding, while the Intrapersonal thoughts domain is related to the desire, motivation and satisfaction of women/puerperal women in relation to this practice.⁽¹³⁾ For each investigated item, there is a score ranging from 1 (totally disagree) to 5 (totally agree) depending on the woman's response. The total score ranges from 33 to 165 points. Maternal confidence in breastfeeding is classified as low (33 to 118 points), medium (119 to 137) or high (138 to 165).⁽¹⁴⁾

For the statistical analysis of qualitative variables was used the Fisher's two-tailed test. To an-

alyze the relationship of two-category variables with a quantitative scale was used the two-tailed t test or the Mann-Whitney test. For the analysis of variables with three or more categories was applied the Levene test. In the analysis of statistical significance was applied the Kruskal-Wallis test to verify if at least one of the categories has a different score. When the Levene test was rejected or in cases where at least a score was different (Kruskal-Wallis test), the Tukey's test was used for multiple comparisons (pairwise).

For the non-linear regression, was used the model with negative binominal response variable for the EPDS, and the model with normal variable for the BSES. The variables with p-value < 0.10 were included in the regression. The selection of the finalist variables of the models was done using the backward method, with an output alpha of 0.05. The software used for data analysis was the R 3.1.2. (R Team, 2012), and the level of significance adopted for all analyzes was 0.05.

This study was extracted from the study "The interface between the experience of postpartum depression symptoms and the breastfeeding process", linked to the Postdoctoral Program of the University of São Paulo School of Nursing, 2016. The study was registered at the Plataforma Brasil system under number (CAEE) 14507113.9.0000.5392.

Results

The sample comprised 208 women assisted in the first nursing visit in the first 60 days after delivery, with an average age of 30 years. Of the total sample, 41.55% of women had high school education, 54.68% had family income between one and three minimum wages, 55.04% lived in their own dwelling and 86.96% lived with their partner (married/domestic partnership).

The majority of puerperal women (72.12%) did not have a history of abortion or gestational loss (93.27%) and had 2.26 pregnancies on average. Even though the current gestation was not planned,

it was desired by 50.96% of the women, 97.6% performed ≥ 6 prenatal visits and 61.35% underwent cesarean delivery.

Regarding breastfeeding, the results show that 96.14% of puerperal women were breastfeeding during the interview period; 58.82% were exclusively breastfeeding, 62.14% experienced some kind of event to breastfeed the baby, and 61.88% reported not having breastfed their other children.

Most of the sample (80.39%) denied a history of violence, 69.61% denied psychiatric disorders, and 72.68% denied a previous episode of depression. When asked about possible complaints, 66.83% denied complaints related to themselves, 88.29% denied child-related complaints and 86.22% denied partner-related complaints.

After the child was born, the marital relationship improved to 53.06% of women surveyed, while 87.75% perceived the relationship with their families satisfactorily.

The prevalence of postpartum depression symptoms among those surveyed was 31.25%. The highest scores in the EPDS were: n.03 - I have been blaming myself unnecessarily when things went wrong (mean = 1.59); n.04 - I have been anxious or worried for no good reason (mean - 1.42) and; n.06 - I have been overwhelmed by the tasks and events of my daily life (mean - 1.26).

Regarding the level of self-efficacy for breastfeeding, it was observed that 39.9% had medium self-efficacy, 36.06% high and 24.04% low. The puerperal women presented mean total score (SD) 128.58 (21.16) in the Self-efficacy Scale for Breastfeeding. Their scores in the Technical 76.53 (13.38) and Intrapersonal thoughts 52.74 (8.42) domains showed they felt discreetly more confident in intrapersonal aspects.

A crossing was performed between the EPDS and BSES scales and the quantitative variables - age in abortion, gestations, parity and postpartum days, using the Spearman's correlation coefficient and considering p-value <0.05 . The crossing did not show a very expressive result for any case because all correlations are lower than or equal to 0.40 for positive correlations, or greater than -0.40 for negative correlations (Table 1).

Table 1. Association of scales (Mann-Whitney) and subscales versus two-category variables

Factor	Category	Mean (SD) BSES	p-value	Mean (SD) EPDS	p-value
Number of abortions	0	127.63(20.4)	0.279	7.01(5.21)	0.034
	1	131.03(23.01)		9.17(6.55)	
Violence	Yes	125.53(24.6)	0.623	11(6.03)	0
	No	129.32(20.05)		6.88(5.34)	
Breastfeeding	Yes	129.77(20.02)	0.002	7.58(5.61)	0.702
	No	97.88(27.89)		9(7.71)	
Started weaning	Yes	113.09(21.92)	0	6.57(4.5)	0.516
	No	130.35(20.35)		7.8(5.81)	
Breastfed other children	Yes	135.47(19.56)	0.001	8.14(6.33)	0.554
	No	124.43(21.23)		7.34(5.36)	
Psychiatric disorder	Yes	125.11(20.17)	0.074	9.19(5.83)	0.003
	No	130.19(21.28)		6.92(5.49)	
Previous episode of depression	Yes	127.14(21.9)	0.622	10.5(6.34)	0
	No	129.21(20.67)		6.59(5.08)	
Marital relationship	Satisfactory	129.14(21.17)	0.254	7.2(5.34)	0.003
	Unsatisfactory	122.36(22.03)		13.21(7.43)	
Type of Breastfeeding	0	118.01(20.85)	0	8.42(6.27)	0.232
	1	136.53(17.41)		7.09(5.24)	
Relationship with family members	Satisfactory	129.46(19.84)	0.39	7.16(5.49)	0
	Unsatisfactory	124(27.46)		11.56(5.8)	
Complaint of herself	Yes	125.13(19.45)	0.058	10.26(6.16)	0
	No	130.39(21.55)		6.36(5.01)	
Child-related complaint	Yes	121.67(20.88)	0.032	9.33(6.15)	0.116
	No	129.57(20.88)		7.44(5.63)	
Partner-related complaint	1	126.48(24.04)	0.545	10.3(6.29)	0.011
	2	129.13(20.62)		7.25(5.48)	

The association of the BSES scale versus variables with three or more categories showed a positive association (p-value <0.05) for the following variables: having a formal job (p - 0.44), absence of events in breastfeeding (p - 0.003), and improved marital relationship after the child (p - 0.03).

The regression analysis of the EPDS showed that puerperal women with medium or high score for the self-efficacy scale decreased the EPDS scale score by 27.4% or 38.8%, respectively. The variables of improved marital relationship after the baby's birth, no complaint of herself, and no previous episode of depression also decreased the depression score by 34.5%, 30% and 21%, respectively. Finally, for each new gestation, the woman has a depression score increased by 9.3% (Table 2).

The regression analysis of the BSES showed that a high EPDS score decreased the value of the BSES score by 11.84 points, and that not breastfeeding and not having breastfed the other children also decrease the self-efficacy score by 20.26 and 7.98 points, respectively. Finally, exclusive breastfeeding increases the self-efficacy score by 14.86 points (Table 3).

Table 2. Negative binomial regression model for the Edinburgh Postpartum Depression Scale

Factor	Category	Estimate	Standard error	Relative risk %	CI 95%		p-value
					Inferior %	Superior %	
Intercept	-	2.827	0.196	-	-	-	<0.0001
Mean BSES	119-137	-0.320	0.120	-27.4	-42.6	-8.1	0.0077
High BSES	138 or more	-0.490	0.126	-38.8	-52.2	-21.6	<0.0001
Number of gestations	-	0.089	0.029	9.3	3.1	15.7	0.0026
Complaint of herself	No	-0.356	0.103	-30.0	-42.7	-14.4	0.0005
Marital relationship after the baby's birth	Worse	-0.338	0.176	-28.7	-49.5	0.6	0.0540
	Better	-0.422	0.171	-34.4	-53.0	-8.4	0.0134
Previous episode of depression	No	-0.236	0.111	-21.0	-36.5	-1.8	0.0337

Table 3. Negative binomial regression model for the Breastfeeding Self-Efficacy Scale

Factor	Category	Estimate	Standard error	CI 95%		p-value
				Inferior	Superior	
Intercept	-	129.38	0.18	129.04	129.73	<0.0001
EPDS	10 or more	-11.84	0.16	-12.14	-11.54	<0.0001
Breastfeeding	No	-20.26	0.43	-21.09	-19.42	0.0073
Breastfed other children	No	-7.98	0.15	-8.28	-7.69	0.0028
Type of breastfeeding	Exclusive	14.86	0.15	14.56	15.16	<0.0001

Discussion

In order to identify the symptomatology of postpartum depression in the studied population, the results showed a prevalence of 31.25%, with greater intensity in the symptoms of guilt, anxiety and distress, addressed in statements 03, 04 and 06 of the EPDS, respectively. International studies performed with the same screening scale (EPDS), cut-off point (≥ 10) and postpartum period, have found lower prevalence, ranging from 13% to 24.2%.^(15,16) Although studies have shown the ≥ 10 cut-off point of the EPDS as the best to detect PPD in public health services, we found only two studies adopting this recommendation, both of which showed a prevalence (26.9%) lower than that found in this study.^(17,18)

The prevalence of depressive symptomatology found in national studies that adopted cutoff points of 11/12 in the EPDS reveals indices between 28% and 39.4%, which is a reality closer to that found among the puerperal women investigated in this study.^(3,19)

PPD data on the national scene are alarming. Considering the physical, emotional, psychological, economic and social costs generated for wom-

en, the child, family and society, it is necessary to develop public policies of attention to perinatal mental health. This will make it possible to create knowledge strategies about risk and protection factors to prevent, identify and treat perinatal mental disorders and their serious effects.⁽²⁰⁾

Evidence points to the short-term and long-term impact of postpartum depression on women's lives, especially on mental health and negative effects on their environment. In this sense, the relationship with the baby is also impaired and may affect the breastfeeding process, a fundamental practice for the child's health, because children of depressed women are susceptible to diarrheal diseases, nutritional disorders and changes in the physical, emotional, cognitive and social development.⁽²¹⁻²³⁾

The findings of the present study reveal that 58% of children of the interviewed women were exclusively breastfed at the time of the survey. This rate is above the national and state prevalence of 47.3% and 47.7%, respectively, for children aged up to 60 days of life.⁽²⁴⁾ As women and their babies were assisted in a specialized breastfeeding center, the prevalence above the national average is justified by the received services of incentive, promotion and support.

In this study, women's level of self-efficacy for breastfeeding was investigated to analyze their probability of maintaining children's exclusive breastfeeding for longer periods. The results showed a protective factor of breastfeeding, as they revealed high levels, predominantly medium (39.9%) and high (36%), that is, women were confident, motivated and persistent in the role of lactating, although 62% have experienced some type of breastfeeding event.

The above findings and their relevance are in line with studies performed at national and international level. They reinforce the advantages of adopting instruments in the clinic for the early identification of aspects of women's low confidence in the breastfeeding practice by health professionals. Thus, they allow the elaboration of individualized and effective interventions to solve the difficulties experienced in this process and prevent early weaning, since women with low self-efficacy are three times more likely to interrupt breastfeeding.⁽²⁵⁻²⁷⁾

Analyzing the existence of a possible association between PPD and self-efficacy, the results of the present study show a cause and effect relationship between the outcomes, showing that women with a high index of PPD symptoms in the EPDS present a reduction of 11.84 points in the BSES score value. In addition, puerperal women with moderate or high self-efficacy had a score reduced by 27.4% or 38.8% in the scale to detect postpartum depression symptomatology (EPDS).

The above findings are in line with national and international studies that reinforce the negative effect of PPD symptoms on the duration of breastfeeding, associating them with early weaning^(7,11,20,28) and with the interference of low self-confidence to breastfeed in the symptoms of PPD.^(11,29)

The symptoms related to guilt, anxiety, concern and distress are present in the daily events, more prevalent among women in this study, and associated with the PPD.^(2,6,29) These symptoms reveal the way studied women experience and manage their emotions in the face of daily obstacles, including

the infant's demands, and which may interfere with their self-esteem and self-confidence in the performance of maternal functions. Puerperal women in this scenario are more vulnerable to emotional problems and feel less confident and secure to care for their child, including the establishment and/or maintenance of breastfeeding.⁽¹¹⁾

On the other hand, women with a satisfactory marital relationship, with less complaints of themselves and/or with no history of depression (statistically significant variables in this study), seem to have better conditions to deal with the maternal role demands imposed by the arrival of the baby in their lives. Thus, motivated to breastfeed and confident in their ability to care for the child successfully, the puerperal women of this study revealed more difficulty in technical issues than in the intrapersonal domain, besides presenting high self-efficacy levels for the breastfeeding practice and to tackle their difficulties.

Thus, the present study confirms the findings of the literature on the importance of developing specific national policies for perinatal mental health care aimed at reducing maternal morbidity resultant of mental disorders related to this period and with serious consequences for women, their child, family and society.

The instruments adopted in this study were suitable for use in the public health system and for the improvement of breastfeeding assistance because they allow the early identification of women and children at risk of early weaning.

Conclusion

The study identified a prevalence of 31.25% of postpartum depression symptoms in the investigated population; high levels of maternal self-efficacy for breastfeeding and an association between postpartum depression symptoms and the level of self-efficacy for breastfeeding: medium or high self-efficacy levels decreased by 27.4% or 38.8%, respectively, the EPDS score, while the high EPDS score has decreased the BSES score by 11.84 points.

Collaborations

Abuchaim ESV participated in the project design, collection, analysis and interpretation of data, writing of the article and approval of the final version of the manuscript. Silva IA collaborated with project design, analysis and interpretation of data, critical review of intellectual content and approval of the final version of the manuscript. Torquato NC contributed to the collection, analysis and interpretation of data, writing of the article and approval of the final version of the manuscript. Di Lucca MM cooperated with the analysis and interpretation of data, writing of the article and approval of the final version of the manuscript.

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