



Postpartum depression symptoms and association with socioeconomic and social support characteristics^a

Sintomas de depressão pós-parto e sua associação com as características socioeconômicas e de apoio social

Síntomas de la depresión posparto y su asociación con características socioeconómicas y de apoyo social

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ABSTRACT

Objective: to verify the prevalence of postpartum depression symptoms in postpartum women assisted at a public maternity hospital and its association with socioeconomic and social support characteristics. **Method:** this is an epidemiological, analytical, cross-sectional study in a public maternity hospital conducted from August to October 2017. A sample of 330 postpartum women was interviewed using a form to measure the presence postpartum depression symptoms. The Edinburgh Postnatal Depression Scale was used. To measure social support, the Medical Outcomes Study instrument was used. The measure of association adopted was the prevalence ratio (PR) with 95% confidence intervals (95%CI), and adjusted Poisson regression was applied. **Results:** the prevalence of PPD symptoms was 29.7%. Age between 14 and 24 years (PR:1.60; 95%CI: 1.10–2.34), have up to 8 years of education (PR:1.39; 95%CI: 1.01–2.14) and the low level of affective (PR:1.52; 95%CI: 1.07–2.14) and emotional (PR:2.12; 95%CI: 1.41–3.19) social support were associated with higher prevalence of PPD symptoms. **Conclusion and implications for practice:** in this context, health professionals can play an essential role in which they can jointly develop a care plan according to the needs of women in the pregnancy-puerperal period.

Keywords: Depression Postpartum; Postpartum Period; Risk Factors; Social Support; Women's Health.

RESUMO

Objetivo: verificar a prevalência de sintomas de depressão pós-parto em puérperas atendidas em uma maternidade pública e sua associação com características socioeconômicas e de apoio social. **Método:** estudo epidemiológico, analítico, do tipo transversal, em uma maternidade pública conduzido de agosto a outubro de 2017. A amostra de 330 puérperas foi entrevistada por meio da aplicação de um formulário, para mensuração da presença de sintomas de depressão pós-parto. Foi utilizada a escala de depressão pós-natal de Edimburgo. Já para mensuração do apoio social, foi utilizado o instrumento *Medical Outcomes Study*. A medida de associação adotada foi a razão de prevalência (RP) com intervalos de confiança de 95% (IC95%), e aplicada a regressão de Poisson ajustada. **Resultados:** a prevalência de sintomas de DPP foi de 29,7%. A idade entre 14 e 24 anos (RP:1,60; IC95%:1,10–2,34), ter até 8 anos de escolaridade (RP:1,39; IC95%:1,01–2,14) e o baixo nível de suporte social afetivo (RP:1,52; IC95%:1,07–2,14) e emocional (RP:2,12; IC95%:1,41–3,19) estiveram associados à maior prevalência de sintomas de DPP. **Conclusão e implicações para a prática:** nesse contexto, os profissionais de saúde podem possuir um papel essencial no qual podem desenvolver, em conjunto, um plano de cuidados de acordo com as necessidades da mulher em período gravídico-puerperal.

Palavras-chave: Apoio Social; Depressão Pós-Parto; Fatores de Risco; Período Pós-Parto; Saúde da Mulher.

RESUMEN

Objetivo: verificar la prevalencia de síntomas de depresión posparto en mujeres posparto atendidas en una maternidad pública y su asociación con características socioeconómicas y de apoyo social. **Método:** estudio analítico transversal en una maternidad pública realizada entre agosto y octubre de 2017. La muestra de 330 puérperas fue entrevistada mediante la aplicación de un formulario, para medir la presencia de síntomas de depresión postparto. Se utilizó la Escala de Depresión Postnatal de Edimburgo. Para medir el apoyo social se utilizó el instrumento *Medical Outcomes Study*. La medida de asociación adoptada fue la razón de prevalencia (RP) con intervalos de confianza del 95% (IC del 95%) y se aplicó la regresión de Poisson ajustada. **Resultados:** la prevalencia de síntomas de DPP fue de 29,7%. Edad entre 14 y 24 años (RP:1,60; 95%CI: 1,10–2,34), tener hasta 8 años de escolaridad (RP: 1,39; IC 95%: 1,01 - 2,14) y el bajo nivel de apoyo social afectivo (RP: 1,52; IC del 95%: 1,07 - 2,14) y emocional (RP: 2,12; IC del 95%: 1,41-3,19) se asociaron con una mayor prevalencia de síntomas de PPD. **Conclusión e implicaciones para la práctica:** en este contexto, los profesionales de la salud pueden jugar un papel fundamental en el que puedan desarrollar conjuntamente un plan de cuidados acorde a las necesidades de la mujer en el período gestacional-puerperal.

Palabras clave: Apoyo Social; Depresión Posparto; Factores de Riesgo; Período Posparto; Salud de La Mujer.

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INTRODUCTION

Depression is a common mental disorder that affects around 300 million people. It corresponds to one of the main causes of disability worldwide. It is characterized by the presence of depressive mood, loss of interest or pleasure in almost all activities,¹ which lead to the need for care, and, consequently, to daily rearrangements to provide for them.²

In Brazil, about 15.5% of Brazilians are affected by depression at some point in their lives.³ Women experience depression 1.5 to 3 times more than depressive disorders⁴, and in the puerperium, a phase in which different physiological and psychological changes occur, there is the possibility of the occurrence of postpartum depression (PPD).⁵

PPD is a condition of deep sadness, despair, hopelessness, melancholy, lack of motivation, lack of strength to deal with routine,⁶ which can occur for a few days or even months after childbirth.⁷ The experience of PPD can generate fear, doubt and anguish in postpartum woman in relation to the ability to care for the baby and changes in lifestyle, which can have negative effects on women's health.⁸

In the United States, there is a prevalence of 2.5% of PPD symptoms among postpartum women,⁹ while in the Czech Republic a prevalence of 11.8% was observed.¹⁰ A study carried out in Egypt showed 7% of this frequency.¹¹ In Latin American countries, Chile showed a prevalence of 21% of PPD symptoms.¹² In Brazil, different studies have already observed important fluctuations in prevalence, ranging from 6.7% in São Paulo¹³ to 25.8% in a national study.¹⁴

Several variables may be related to the occurrence of PPD symptoms, such as being young, not having a partner, tobacco use before pregnancy, alcohol consumption and a history of abortion.¹⁵ The experience of violence during pregnancy, delivery by cesarean surgery,¹³ family history of depression and less education¹⁶ are also important in the occurrence of PPD.

The woman with PPD needs social support,¹⁷ as social support is directly related to the increase in the ability to face difficult situations¹⁸. Thus, the presence and support of family, partner and friend can contribute to a positive pregnancy experience.¹⁹ Receiving support, affection, care and protection during pregnancy is essential for the pregnancy-*puerperal* period to pass smoothly.²⁰

It is important to highlight that, the sooner PPD is identified, the greater the chances of preventing damage,¹⁶ such as the decrease in the mother-infant bond and delays in children's social and cognitive development.⁶ In this way, health professionals can assess the risk among postpartum women and provide adequate care to prevent depression from developing or, in the case of already installed, not worsening.²¹

Given the above, considering the magnitude of PPD and the negative impact on the binomial's health, as well as the importance of identifying the reality of each location, this study aims to verify the prevalence of PPD symptoms in postpartum

women cared for in a public maternity hospital and its association with socioeconomic and social support characteristics.

METHODS

Study Design

This is an epidemiological, analytical cross-sectional study, carried out in a public maternity hospital in the city of Cariacica, Espírito Santo.

Context

It is a reference maternity hospital in the care of low-risk pregnancy, which offers outpatient services, 24-hour obstetric urgent and emergency care and hospitalization. For this purpose, 45 beds in the obstetric ward and four in the pre-delivery ward are allocated. This maternity hospital is managed by a philanthropic institution, and all care is provided by the Unified Health System (SUS - *Sistema Único de Saúde*), where the cost is made by the State Government, through the State Health Department. The study municipality is located in the Metropolitan Region of Greater Vitória, with 381,285 inhabitants with a municipal urban development index of 0.718.²²

Participants

Postpartum women admitted to a public maternity hospital in the city of Cariacica with at least 24 hours postpartum, with a live fetus (over 500 grams) regardless of the mode of delivery and having had an intimate partner during pregnancy, were included. Postpartum women with hearing, language, cognitive deficits or dementia that could harm or impede, in some way, the proper understanding of the study were excluded.

Data source and measuring

The interviews took place between August and October 2017, in a private space, with only the presence of newborns allowed. First, the postpartum women were informed about the purpose of the study and after the acceptance and signing of the Informed Consent Form (ICF) the interview took place. Participants under 18 years old signed the Assent Form against the signature of the ICF by their responsible person. Postpartum women's socioeconomic characteristics were obtained using a specific form, in which the following information was collected: age; marital status; education; economy class of the Brazilian Association of Research Companies (ABEP - *Associação Brasileira de Empresas de Pesquisas*).

Study variables

In order to identify the social support scale, the Medical Outcomes Study (MOS) instrument was used, validated in Portuguese, which intends to assess the main dimensions of social support in a practical and brief manner.²⁴ The scale has five dimensions assessed (emotional support, informational support, social interaction, material support and affective social

support). Material support is about providing practical resources and material help; affective, to physical demonstrations of love and affection; positive social interaction, with people to relax and have fun with; emotional, the ability of the social network to meet individual needs such as emotional problems that require secrecy; and scope of information, which represents having people who inform, advise and guide.²⁵

In the present study, social support was divided into five dimensions: material (low, high); affective (low, high); emotional (low, high); of information (low, high); and positive interaction (low, high). Rated high or low according to the mean of each dimension. Thus, women who scored below the average of the respective dimensions were rated as low support and those who were above average are scored as having a high level of social support.

To identify PPD outcome and symptoms, the instrument of the Edinburgh Postnatal Depression Scale (EPDS), validated in Portuguese, which has ten items, was applied. Each item is added to the other items to obtain the total score, which ranges from 0 to 30 points.²⁶ For the research, PPD symptoms were considered present when the woman reached a score greater than or equal to 12. Thus, postpartum women who scored below 12 were categorized as not.

For tracking PPD symptoms, the outcome under study, the instrument entitled EPDS was used. This dependent variable was analyzed in a dichotomous way (yes, no).

Independent variables included:

- a) Age (in years: 14-24, 25 or older)
- b) Marital status (married/consensual union, single/in a relationship)
- c) Education (in years: up to 8, 9 or more)
- d) ABEP economy class (B/C, D/E)
- e) Social/material support (low, high)
- f) Social/affective support (low, high)
- g) Social/emotional support (low, high)
- h) Social support/information (low, high)
- i) Social support/positive social interaction (low, high)

Bias control

To prevent the occurrence of observer bias, the study interviewers participated in training, with the aim of standardizing the conduct of interviews and application of forms in a period prior to data collection. The training of interviewers was carried out in July 2017, with a workload of 20 hours. During the training, the interviewers were trained to apply the instruments and oriented about ethical aspects, neutrality, privacy and confidentiality throughout the data collection process. The pilot test was carried out with 50 postpartum women. The interviewers were accompanied by the researcher responsible for the research and assessed regarding their approach to women, skill and correct application of the instruments. The interviews carried out during this period were not part of the sample selected in this study.

Sampling

To calculate the study sample, the prevalence of the outcome of 50% was considered,²³ a confidence level of 95% and a margin of error of 5%. The sample size was 235 participants. Plus 10% loss and 30% for confounding factors, the sample size was 330 postpartum women.

Statistical methods

Data were entered into an Excel spreadsheet, and analyzes were performed using the STATA 13.0 statistical package. In the descriptive analysis, the unadjusted and relative frequencies and their respective 95% confidence intervals (95%CI) were presented. For the bivariate analysis, Pearson's chi-square test was performed, as presupposed, in order to identify the distribution of postpartum depressive symptoms according to socioeconomic and social support characteristics. For the multivariate analysis, Poisson regression was used to verify the association between the dependent variable and the independent variables. Variables with $p < 0.20$ were included in the analysis and the permanence occurred when $p < 0.05$. Data were presented using the Prevalence Ratio (PR), unadjusted and adjusted with their respective 95%CI.

Ethical aspects

This study was approved by the Research Ethics Committee (CAAE (*Certificado de Apresentação para Apreciação Ética* - Certificate of Presentation for Ethical Consideration) 69026517.2.0000.5071 - Opinion 2.149.430/2017).

RESULTS

The prevalence of PPD symptoms was 29.7% (CI 25.0 – 34.9) in the sample of 330 women interviewed in the study (Data not shown in table). It is observed in Table 1 that 58.5% of participants were aged between 14 and 24 years; most (80.3%) were married or in a consensual union; 64.2% had 9 years of education or more; and 58.2% belonged to economy class B/C.

Note that 46.7% had low material social support; 28.5%, low affective support; and 45.8% had low emotional social support. Information support and positive social interaction was low at 48.2% and 45.8% (Table 1).

Regarding PPD symptoms, the variables that had a significant relationship were being aged between 14 and 24 years (36.8%; $p = 0.001$), being single or in a relationship (44.6%; $p = 0.003$), having up to 8 years of education (40.7%; $p = 0.001$), have low material social support (37.7%; $p = 0.003$), low affective support (48.9%; $p < 0.001$), low emotional support (45%; $p < 0.001$), low information support (40.9%; $p < 0.001$) and low positive social interaction (39.7%; $p < 0.001$) (Table 1).

In the multivariate analysis, after adjustment for confounding variables, there is an association between PPD symptoms and age, education and affective and emotional social support. PPD

Table 1. Distribution of postpartum depressive symptoms according to the socioeconomic and social support characteristics of postpartum women (n=330) hospitalized in a maternity ward. Cariacica, Espírito Santo, August to October 2017

Variables	n (%)	Prevalence % (95%CI*)	p-value
Age (years)			0.001
14 – 24	193 (58.5)	36.8 (30.2 – 43.9)	
25 and older	137 (41.5)	19.7 (13.8 – 27.3)	
Marital status			0.003
Married/consensual union	265 (80.3)	26.0 (21.1 – 31.7)	
Single/in a relationship	65 (19.7)	44.6 (32.9 – 56.9)	
Education (years)			0.001
Up to 8	118 (35.8)	40.7 (32.1 – 49.8)	
9 and more	212 (64.2)	23.6 (18.3 – 29.8)	
ABEP economic class			0.087
B/C	192 (58.2)	34.8 (27.3 – 43.1)	
D/E	138 (41.8)	26.0 (20.3 – 32.8)	
Social support			
Material			0.003
Low	154 (46.7)	37.7 (30.3 – 45.6)	
High	176 (53.3)	22.7 (17.1 – 29.5)	
Affective			<0.001
Low	94 (28.5)	48.9 (39.0 – 59.0)	
High	236 (71.5)	22.0 (17.2 – 27.8)	
Emotional			<0.001
Low	151 (45.8)	45.0 (37.3 – 53.1)	
High	179 (54.2)	16.8 (11.9 – 23.0)	
Information			<0.001
Low	159 (48.2)	40.9 (33.5 – 48.7)	
High	171 (51.8)	19.3 (14.0 – 25.9)	
Positive social interaction			<0.001
Low	151 (45.8)	39.7 (32.2 – 47.8)	
High	179 (54.2)	21.2 (15.8 – 27.9)	

*95%CI: 95% confidence interval.

symptoms were 60% more prevalent in mothers aged between 14 and 24 years compared to those aged 25 years and older (PR= 1.60; 95%CI: 1.10 – 2.34). Women with up to 8 years of education had a 39% higher prevalence of PPD symptoms

(PR=1.39; IC95%: 1.01-2.14). Participants with low affective social support and low emotional support had, respectively, 1.52 and 2.12 times more prevalence of PPD symptoms when compared to those who reported high affective social support (Table 2).

Table 2. Multivariate analysis - unadjusted and adjusted - of the socioeconomic and social support characteristics of puerperal women (n=330) hospitalized in a maternity ward. Cariacica, Espírito Santo, August to October 2017

Variables	Unadjusted analysis			Adjusted analysis		
	PR*	95%CI**	p-value	PR*	95%CI**	p-value
Age (years)			0.002			0.014
14 – 24	1.86	1.26 - 2.74		1.60	1.10 – 2.34	
25 and older	1.0			1.0		
Marital status			0.002			0.171
Married/consensual union	1.0			1.0		
Single/in a relationship	1.71	1.22 – 2.40		1.34	0.95 – 1.89	
Education (years)			0.001			0.040
Up to 8	1.72	1.24 – 2.39		1.39	1.01 – 2.14	
9 and more	1.0			1.0		
ABEP economy class			0.086			
B/C	1.0			1.0		0.691
D/E	1.33	0.96 -1.86		1.07	0.77 – 1.48	
Social support						
Material			0.004			0.657
Low	1.65	1.17-2.32		1.09	0.75 – 1.58	
High	1.0			1.0		
Affective			<0.001			0.018
Low	2.22	1.61 – 3.04		1.52	1.07 – 2.14	
High	1.0			1.0		
Emotional			<0.001			<0.001
Low	2.69	1.85 – 3.89		2.12	1.41 – 3.19	
High	1.0			1.0		
Information			<0.001			0.139
Low	2.11	1.47-3.03		1.36	0.91 – 2.04	
High	1.0			1.0		
Positive social interaction			<0.001			0.716
Low	1.87	1.32 – 2.64		1.05	0.72 – 1.52	
High	1.0			1.0		

*PR: prevalence ratio; **95%CI: 95% confidence interval.

DISCUSSION

The prevalence of PPD symptoms in the present study was 29.7%, a finding similar to that found in a health service in São Paulo (31.2%),²⁷ and higher in relation to studies conducted in maternity hospitals of two public hospitals in São Paulo and in the Northeast Region, in which the prevalence of PPD symptoms was 6.7%¹³ and 11.8%,²⁸ respectively. On the other hand, there are places where this value is even higher, as in the case of Saudi Arabia, where the prevalence of PPD symptoms was 57.5%,²⁹

and South Africa, with 47.4%.³⁰ In contrast, in Canada, a low prevalence (2.9%) of PPD symptoms was recorded.³¹

In the present study, the high prevalence of PPD symptoms raises concern, as the presence of postpartum depressive symptoms influences the mother-infant relationship, especially in the first three to five months after delivery, because during this period, mothers with PPD symptoms have difficulty performing maternal functions, manifesting feelings of contempt, guilt, rejection by the child and anger. Other impacts that can also be generated by PPD symptoms are: difficulty in breastfeeding; baby

sleep instability; affective ambivalence in the binomial; deficiency in complying with the child's vaccination schedule; Low weight; psychomotor disorders;³² behavior problems; and delays in this baby's language development.⁶

It is noted in this research that young women (14 to 24 years) had higher prevalence of PPD symptoms, a finding similar to a study carried out in Sweden, in which 707,701 women were assessed, finding that younger women without a history of depression had a significant increase in the risk of PPD symptoms.³³ One factor that may explain this finding is that younger mothers are more exposed to situations of vulnerability, worry and stress.³⁴ Young postpartum women experience additional challenges, as they are at a stage of development in their own lives, often having to give up goals and desires, due to the responsibilities of caring for a newborn.³³

Women with less education had a 39% higher prevalence of PPD symptoms, a finding similar to that found in a cross-sectional study of a reference maternity hospital in Paraná in 2015.³⁵ A study carried out in the city of Rio Grande (RS), with 2,687 women, showed the relationship between education and higher frequency of PPD, since the higher the years of education completed, the greater the protection in the development of depression.¹⁶ Education is a component that influences and helps to effectively manage problems. It is noteworthy that low education interferes with the postpartum woman's ability to act in the face of problems imposed by motherhood, which can lead women to a feeling of insecurity in relation to their ability to be mothers.³⁶

Culturally, pregnancy is seen as a moment of happiness and expectation in the lives of many women, considering the prospect of joy that a new child will bring to the family. At the same time, pregnancy can be a stressful and anxiety-provoking event, and some women may experience perinatal mental health problems during this period, mainly due to the great concern for the child's health, with the ability to care for the child and be a good mother.³⁷ Furthermore, young age and the lack of opportunity to reach a higher level of education can increase social and economic vulnerability and heighten anxiety about the arrival of baby.³⁴ A pregnancy can also be related to an unwanted pregnancy, which increases the likelihood of PPD symptoms.³⁸

The finding of a higher prevalence of postpartum depressive symptoms in postpartum women with lower social emotional support in this study is in line with the results found in a survey conducted in an obstetric clinic in Poland, where patients at higher risk of presenting PPD symptoms had lower scores of social emotional support.³⁹ Emotional support allows postpartum women to express their feelings towards motherhood, such as insecurity, feelings of inadequacy and expectations regarding the baby or their performance as mothers. The lack of this support during this period can cause emotional distress.¹⁵

Furthermore, this study observed an association between low affective social support and a higher prevalence of PPD symptoms, since the individual who has low affective social support may be involved in a social cycle with dysfunctions in the physical demonstrations of love and affection.⁴⁰ Women who

receive affective social support have a better perception of their health status, which provides a better insight into the help they receive from their support matrix.⁴¹

A study carried out in a public maternity hospital in São Paulo showed that 23% of women belonging to the risk group for PPD symptoms received any type of affective and emotional social support.⁴² Regarding the help of friends and family in child care, 80% of postpartum women not belonging to the risk group for PPD symptoms received this help, while this support from friends and family was less present (38%) in mothers in the risk group. In addition to this, those with higher scores for PPD symptoms were those with little family and psychological support.⁴² Taking care of the newborn requires knowledge, dedication, patience and willingness. In this scenario, some women, due to inexperience and/or insecurity, are unable to perform such care, needing help until they adapt.⁴³

The limitations of the study consist in the fact that the data presented here are collected in a public maternity hospital, so that it is not possible to generalize the findings to the total population of postpartum women. However, it is worth noting that this is the only public maternity hospital in the city. Another point to mention is the possibility of information bias; however, the interview took place in a private place after the explanation of the research objective and the participant's acceptance, as well as the use of validated instruments for tracking the injuries, which are factors that contribute to reducing this bias.

CONCLUSION AND IMPLICATIONS FOR PRACTICE

Finally, the study reveals a high prevalence of PPD symptoms among the participants and this prevalence is related to socioeconomic and social support characteristics, namely: young postpartum women (14-24 years), low level of affective social support and low emotional level during pregnancy.

In this scenario, professionals working in health services should promote mental health follow-up of postpartum women, which can be started mainly in the prenatal period through consultations, in order to detect risk factors in pregnant women with the potential to develop postpartum depressive symptoms. Furthermore, it is worth highlighting the importance of continuing care for women in the puerperium with the provision of qualified and multidisciplinary care, integrating the different areas of care. Thus, it is necessary for the health team to act in the reception, detection and treatment of PPD. Since it is a mental illness, psychologists, psychiatrists and obstetricians can work together in order to offer comprehensive care to women and their families in health services.

Thus, primary care professionals have an essential role, as they are sometimes present in the care of women throughout the pregnancy- puerperal period. This contact with women favors the construction of bonds, in which an opportune space is created for the postpartum woman to share the anxieties and anxieties

facing the difficulties, making it possible to develop a care plan according to each woman's needs.

AUTHOR'S CONTRIBUTIONS

Study design. Franciéle Marabotti Costa Leite.

Data collection or production. Franciéle Marabotti Costa Leite. Maria Luiza Cunha Santos.

Data analysis. Franciéle Marabotti Costa Leite. Dherik Fraga Santos. Ranielle de Paula Silva. Joyce Ferreira Reis. Maria Luiza Cunha Santos.

Interpretation of results. Franciele Marabotti Costa Leite. Dherik Fraga Santos. Ranielle de Paula Silva. Joyce Ferreira Reis.

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