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INTEGRATIVE REVIEW OF THE LITERATURE

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INCIDENCE AND FACTORS ASSOCIATED WITH POSTPARTUM DEPRESSIVE SYMPTOMS: A LITERATURE REVIEW

*Incidência e fatores associados aos sintomas depressivos pós-parto: uma revisão de literatura**Incidencia y factores asociados a los síntomas depresivos posparto: una revisión de la literatura***Daniela Marcia Rodrigues Caldeira¹** **Rafael Ataíde Monção²** **Paulo Eduardo Guimarães Cordeiro³** **Lucineia de Pinho⁴** **Rosângela Ramos Veloso Silva⁵** **Maria Fernanda Santos Figueiredo Brito⁶** 

ABSTRACT

Objective: to identify in the scientific literature the incidence of postpartum depressive symptoms and associated factors. **Method:** narrative review of the literature described according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses statement. The bibliographic search was carried out in the BVS, in the LILACS and MEDLINE databases. Observational studies with a longitudinal design were eligible, using the Edinburgh Postnatal Depression Scale, available in full text, published in 2019 and 2020. **Results:** 17 articles were included. The incidence of postpartum depressive symptoms ranged from 0.18% to 27.87%. The main associated risk factors were a history of depression, stress and stressful family relationships, low social support, comorbid psychiatric disorders and negative experiences or complications during childbirth. **Conclusion:** postpartum depressive symptoms affect a significant proportion of postpartum women and remain a public health problem. It is suggested that studies related to the theme be continued on a national level.

DESCRIPTORS: Depression, Postpartum; Postpartum period; Women's health;

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RESUMO

Objetivo: identificar na literatura científica as incidências dos sintomas depressivos pós-parto e os fatores associados. **Método:** revisão narrativa da literatura descrita conforme a declaração Preferred Reporting Items for Systematic Reviews and Meta-Analyses. A busca bibliográfica foi realizada na BVS, nas bases de dados LILACS e MEDLINE. Foram elegíveis estudos observacionais com delineamento longitudinal, que utilizaram a Escala de depressão pós-parto de Edimburgo, disponíveis em texto completo, publicados nos anos de 2019 e 2020. **Resultados:** foram incluídos 17 artigos. A incidência de sintomatologia depressiva pós-parto variou de 0,18% a 27,87%. Os principais fatores de risco associados foram histórico de depressão, estresse e relação estressante familiar, baixo suporte social, transtornos psiquiátricos como comorbidade e experiência negativa ou complicações durante parto. **Conclusão:** a sintomatologia depressiva pós-parto atinge parcela expressiva das puérperas e se mantém como problema de saúde pública. Sugere-se a continuidade dos estudos que se relacionam com a temática no cenário nacional.

DESCRIPTORIOS: Depressão pós-parto; Período pós-parto ; Saúde da mulher;

RESUMEN

Objetivos: identificar en la literatura científica la incidencia de síntomas depresivos posparto y factores asociados. **Método:** revisión narrativa de la literatura descrita según la declaración Preferred Reporting Items for Systematic Reviews and Meta-Analyses. La búsqueda bibliográfica se realizó en la BVS, en las bases de datos LILACS y MEDLINE. Fueron elegibles estudios observacionales con diseño longitudinal, utilizando la Escala de Depresión Postnatal de Edimburgo, disponible en texto completo, publicada en 2019 y 2020. **Resultados:** se incluyeron 17 artículos. La incidencia de síntomas depresivos posparto varía del 0,18% al 27,87%. Los principales factores de riesgo asociados fueron antecedentes de depresión, estrés y relaciones familiares estresantes, bajo apoyo social, trastornos psiquiátricos comórbidos y experiencias negativas o complicaciones durante el parto. **Conclusion:** los síntomas depresivos posparto afectan a una proporción significativa de mujeres posparto y siguen siendo un problema de salud pública. Se sugiere continuar con los estudios relacionados con el tema a nivel nacional.

DESCRIPTORIOS: Depresión posparto; Periodo posparto; Salud de la mujer.

INTRODUCTION

The period surrounding pregnancy, childbirth and the puerperium is marked by physical, hormonal and psychological changes in women, which can have an impact on their life experience. In the puerperal period, women face the challenge of adapting to their new roles as mothers and caregivers, as well as managing the physical and psychological changes in their bodies after giving birth.¹ These changes can contribute to the occurrence of mental disorders.²

In the last ten years, postpartum depression has become one of the world's most serious public health problems.³ The prevalence of postpartum depression is estimated at 17.22% (95% CI, 16.00 -18.51) of the population.⁴ Research has shown varying incidences of postpartum depressive symptoms. A study carried out in the USA with 5,034 mothers showed that 11% of the women had moderate depressive symptoms at 4 months postpartum and 8% at 12 months.⁵ Different rates of occurrence of postpartum depressive symptoms may be related to different characteristics of the populations studied, in addition to the variable methodological criteria used in the studies.⁶⁻⁸

The Diagnostic and Statistical Manual of Mental Disorders fifth edition (DSM - 5) and the International Classification of Diseases in its 11th Edition (ICD 11) are functionally equivalent in defining the period of up to 6 weeks after childbirth for the onset of the disorder.⁹ The diagnostic criteria for major depressive disorder require patients to have at least 5 symptoms, including depressed

mood or decreased interest in activities, and to be experiencing significant distress or functional impairment almost every day for at least 2 weeks.¹⁰

Maternal postpartum depression has negative consequences both for mothers suffering from this condition and for their children, with important impacts mainly on mothers' psychological health, quality of life and interactions with their baby, partner and family members.¹¹⁻¹² In addition, maternal postpartum depression has many direct and indirect negative effects on a child's development, including lower quality of the home environment and decreased maternal sensitivity and care.¹¹

Given the repercussions of postpartum depression for the mother-child binomial, family and society, recognizing the demographic, socioeconomic and behavioral aspects associated with postpartum depression is important for designing effective public policies. The aim of this study was to identify in the scientific literature the incidence of postpartum depressive symptoms and the factors associated with this outcome.

METHODOLOGY

This is a narrative literature review described in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA).¹⁴ The process of preparing this review began with the formulation of the following question: "What is the incidence and factors associated with the development of symptoms of postpartum depression?"

The bibliographic search was carried out in the Virtual Health Library (VHL), and the databases "Latin American and Caribbean Literature in Health Sciences (LILACS)" and "Medical Literature Analysis and Retrieval System Online (MEDLINE)" were selected. These databases were chosen by the authors because they include reputable journals in the health area and present diverse literature on the proposed theme.

The searches and reading of the scientific articles took place between May and July 2021 and were carried out by three authors, so that the information gathered could be checked more than once, with greater precision at all stages.

The search strategy used the combination of descriptors listed in the Health Sciences Descriptors (DeCS) and Medical Subject Headings (MeSH) "Postpartum Depression OR Depression, Postpartum" and "Postpartum Period OR Postpartum Period" using the term "AND" as a Boolean operator.

Observational studies with a longitudinal design that assessed the incidence of postpartum depressive symptoms and associated factors were considered eligible. Articles that used the Edinburgh Postpartum Depression Scale (EPDS) as a standardized tool for assessing postpartum depressive symptoms, available in full text, in English, Portuguese or Spanish, and published in 2019 and 2020 were included. Articles that after reading did not fit the object of study, literature reviews, case or experience reports, reviews, theses, editorials and letters to the editor were excluded.

The articles were selected independently by three researchers, in two stages, by evaluating the title and abstract and then reading the full text. A joint evaluation was then carried out to assess whether the authors agreed on the selection. Disagreements were resolved through discussion and consensus.

In order to ensure greater systematization, an analysis of the quality of the articles included in this review was carried out. This analysis followed the principles proposed by the Checklist for Measuring Quality.¹⁵ Nine questions were excluded from the original instrument because they were not applicable to longitudinal studies, and two others were adapted to allow for better use of the instrument.

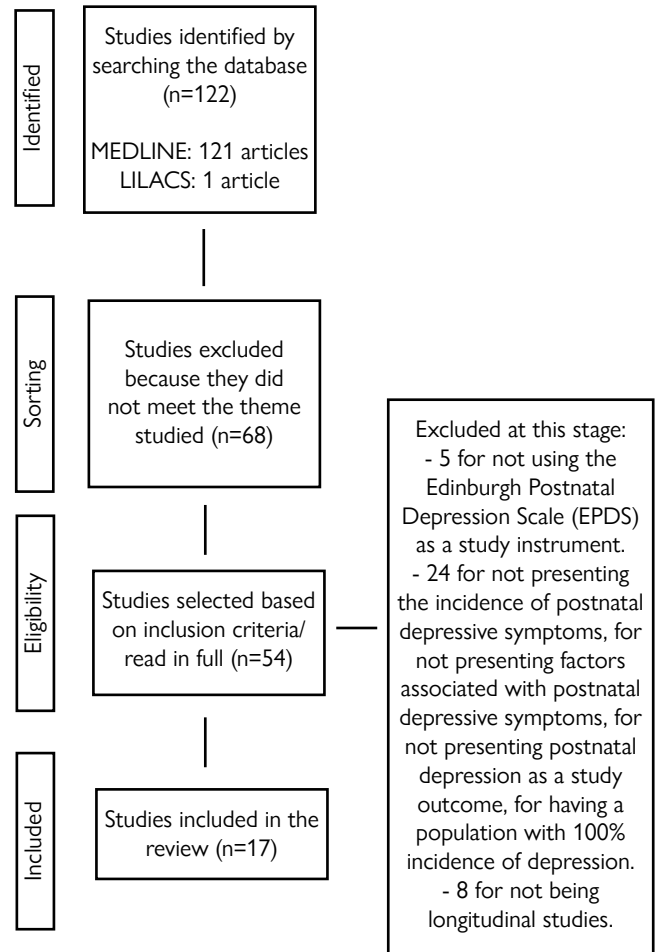
These criteria were able to assess the external validity, internal validity, presence of bias and power of the study, with scores ranging from 0 to 1. This indicates that the studies that achieved scores closer to 18 had better publication quality.¹⁵

RESULTADOS

122 articles were identified in the database with the agreement of the three authors, after reading the titles and abstracts. 55.7% (n=68) were excluded because they did not meet the study object. The 54 articles that met the inclusion criteria were read in full by the authors. Eight were excluded because they did not have a longitudinal study design, 24 because they did not present factors associated with postpartum depressive symptoms, because they did not present the incidence of postpartum depressive symptoms, because they did not present the presence of postpartum depressive symptoms as a study outcome, because they had a population with

a 100% incidence of depression and five because they did not use the EPDS. A total of 17 articles were selected (Figure 1). These articles were re-read and organized in a spreadsheet.

Figure 1 - Schematic representation of the stages of identification, screening, eligibility and inclusion of papers in the review, based on the recommendations of the Preferred Reporting Items for Systematic Review and Meta- Analyses (PRISMA). Montes Claros, MG, Brazil, 2021.



Of these 17 articles, seven studies were published in 2020. The quality analysis showed scores ranging from 14 to 18 points, demonstrating that the articles are of good quality in terms of external validity, internal validity and study power. The main limitations, which were decisive for this range of scores, were: failure to adequately adjust for confounding factors in the analyses from which the main findings were drawn, failure to clearly describe the distribution of the main confounding factors and failure to describe whether the subjects prepared to take part in the study were representative of the entire population from which they were recruited. These limitations were present in 12 articles.

Table 1 presents the characteristics of the articles relevant to this review: authors, study population, incidence and factors associated with the outcome presence of postpartum depressive symptoms.

Seven studies were Chinese in origin, with the incidence of PPD ranging from 6.19% to 27.87%. Six were carried out in European countries with the incidence ranging from 0.18% to 25.9%. Two were carried out in US cities with the highest prevalence of 12.1%, one in Australia with the highest prevalence of 17.2% and one in Canada with 6%. The lowest incidence of 0.18% occurred among Dutch women assisted in local health units and the highest incidence of 27.87% among Chinese women who did not stay in postpartum care institutions, a place of support for puerperal women present in Chinese culture.

DISCUSSION

The review of longitudinal studies pointed to a considerable variation in the incidence of postpartum depressive symptoms, from 0.18% in the Netherlands to 27.87% in Taiwan in China, but in most studies it was below 20%, with the most commonly associated factors being previous history of depression (during pregnancy or not)^{8,19,27} stress level and stressful family relationships^{16,22-23} low social support,^{2,8,16} presence of anxiety or other psychiatric disorders as a comorbidity^{7,19,23} and negative experience or complications during childbirth.^{7,21,27}

Chart 1 - Summary of the studies included in the final sample of this review (n = 17). Montes Claros, MG, Brazil, 2021.

AUTHORS/YEAR OF PUBLICATION	SAMPLE	ASSOCIATED FACTORS
1) Chen & Chien 2020	N = 407	Full-time employment; presence of depressive symptoms during pregnancy; lower level of social support; lower level of domestic decision-making power during pregnancy; being a native woman; insufficient family income and history of depression.
2) Leonard et al., 2020	N = 1316	24 months postpartum; low social support and perceived stress.
3) Yu et al., 2020	N = 615	Higher level of negative coping.
4) Solomonova et al., 2020	N = 316	Delusional ideation in late pregnancy; significant indirect effect of sleep disturbances in early pregnancy on postpartum depressive symptoms through delusional ideation in late pregnancy.
5) Pataky & Ehlert 2020	N = 687	History of depression; symptoms of premenstrual syndrome before the current pregnancy.
6) Gross et al., 2020	N = 620	History of harassment, assault and military sexual trauma
7) Huang et al., 2020	N = 309	Staying in a postpartum care institution correlated with a decrease in the EPDS score.

8) Liu et al., 2019	N = 599	Use of neuroaxial analgesia during labor correlated with a decrease in the percentage of postpartum depression at 6 weeks; use of neuroaxial analgesia during labor caused a decrease in the EPDS score 2 years after delivery.
9) Aris-Meijer et al., 2019	N = 3842	Life events related to health and illness of self or loved ones; relationship with partner or conflicts with loved ones; work, financial or housing problems.
10) Lin et al., 2019	N = 234	Stress on the family bond; anxiety disorders; unavailability of care for the newborn.
11) Dekel et al., 2019	N = 824	Complications of childbirth; history of mental disorders
12) Navodani et al., 2019	N = 1358	Being a migrant; 12 months and 18 months after giving birth.
13) Skalkidou et al., 2019	N = 1629	Single nucleotide polymorphism in the hydroxysteroid 11-beta dehydrogenase 1 gene (HSD11B1); single nucleotide polymorphism in the serpin 6 family member A gene (SERPINA 6).
14) Mak et al., 2019	N = 1449	Having GDM at 1 month and 3 months postpartum; elevated fasting blood glucose levels, and 1-hour and 2-hour blood glucose levels during pregnancy
15) Takács et al., 2019	N = 260	History of depression and negative birth experience.
16) Riquin et al., 2019	N = 457	Dissatisfaction with their body image.
17) Song et al., 2019	N = 8842	Women passively exposed to smoke before pregnancy and during pregnancy.

It has to be considered that differences in the incidence of postpartum depression symptoms in different populations can be attributed to specificities related to ethnicity, culture, social and economic factors, demographic variation and different methodological criteria used to screen for this condition. In order to minimize issues related to methodological differences, the EPDS was chosen as the main tool for screening for postpartum depressive symptoms because it is a self-report questionnaire for use in research, made up of ten items that facilitate the detection of perinatal depression, because it has been translated into more than sixty languages and is currently used in various regions of the world; because it is a validated scale and has ideal sensitivity and specificity values at the cut-off point for screening for major and minor depression.³⁰

Studies have shown that positive screening for depression in the first trimester of pregnancy has maintained a trend in the second and third trimesters and in the postpartum period, so systematic monitoring programs during pregnancy and the puerperium are essential for consolidating and improving health policies in the sector that contribute to quality care for the mother-fetus binomial during prenatal care, in order to prevent PPD and its repercussions in the puerperal period.^{7,25,31-32}

A previous history of depression was identified as a risk factor for postpartum depression in this review^{8,19,27} and in previous studies, this can be explained by the possible continuity of postpartum depression from past depressive episodes³³. Even when treated, recurrence of depression is common, especially six months after clinical improvement. Considering that the pregnancy and puerperal period is a time of great change in a woman's personal life, it becomes a sensitive period for recurrences.³⁵ Postpartum depression needs to be investigated in primary health care, which should value sociodemographic and individual aspects in order to establish a comprehensive care plan from prenatal care onwards, with a view to preventing this frequent puerperal disorder.³⁶

Perceived family stress was a predictor of postpartum depression,^{16,22-23} a result corroborated in another study.³⁷ Immigrant women's lower domestic decision-making power (28.72 vs. 30.73; $p = 0.003$) was associated with postpartum depression⁸ and conflicting relationships with partners also showed this association.¹⁸ However, another study highlighted marital satisfaction as a determinant of postpartum depression.³⁴

Stressors experienced within the family are also seen as a risk, mainly because they destabilize women emotionally. Stress can be directly related to a lack of family support and instability in affective relationships, a factor that directly affects marital intimacy, which is directly responsible for maternal quality of life during the postpartum period.^{8,38}

A lower level of social support appears to be a predictor of postpartum depression.^{2,8,16} On the other hand, women who reported moderate social support during pregnancy were significantly less likely to report depressive symptoms.³⁹ An Australian study in which women reported a decline in the social support they received during pregnancy and the postpartum period showed this to be an important predictor of postpartum mental health,

with evidence that it is a protective factor only if it is maintained during the postpartum period.⁴⁰

Social support refers to affective support, financial and practical resources and information received from another person when making decisions.⁴¹ A conflictual relationship with a partner or loved ones and financial problems are highly important predictors of postpartum mental health and are associated with higher levels of PPD.²² It should be understood that the relationship between social support and psychiatric disorders is mutual, since the presence of depression can lead to a decrease in the pregnant woman's perception of social support, just as low social support can contribute to the development of mental disorders.⁴¹

Psychiatric comorbidities, including anxiety, play an important role in the incidence of PPD, with anxiety disorder being an associated factor²³ and a history of mental disorders.^{7,19} Psychiatric disorders found during pregnancy, such as anxiety, are often investigated in association with depression. It is necessary to consider that the overlapping of depressive and anxious symptoms during the gestational period can lead to underdiagnosis of both conditions.⁴²

Another risk factor associated with PPD to consider is the negative experience of childbirth. Negative experiences or complications during childbirth appear as another event that causes emotional suffering and stress for pregnant women and is strongly associated with the onset of PPD.³⁵ Emergency cesarean sections, the presence of meconium, umbilical cord prolapse, preterm labor and prematurity are all obstetric emergency factors related to the development of PPD.⁴³ Mother-child interaction in the first moments after delivery and breastfeeding during the first hour after delivery, which may not occur due to obstetric complications, are considered protective factors in the development of mental symptoms in the mother.⁴⁴

Early prevention of PPD during pregnancy is essential for a good maternal prognosis. It is necessary for health professionals within primary care to carry out multi-professional interventions such as: active search, knowledge of the social indicators of the area of operation, early prenatal care, active and attentive listening to recognize personal, family and social predictors; which aim to identify the risk factors for PPD. These measures enable action to be taken on the changeable predictors in order to minimize their influence on triggering this condition.³⁶

The results analyzed in this review reiterate the recommendations that comprehensive care for the health of the mother-fetus binomial begins in primary care, the place where women first access maternity care and where they will be followed up at regular intervals to establish a bond that often goes beyond physical care and gives rise to emotional and social complaints that define the environment, favorable or not, for maternal mental health.

CONCLUSIONS

Postpartum depressive symptoms have a high incidence in most puerperal women and remain a public health problem in maternal-fetal care. The main risk factors associated with the presence of depressive symptoms in the postpartum period in-

clude a previous history of depression (during pregnancy or not), stress levels, stressful family relationships, low social support, the presence of anxiety or other psychiatric disorders as a comorbidity and negative experiences or complications during childbirth.

It is suggested that further studies be carried out on the subject of postpartum depressive symptoms in Brazil in order to identify other factors associated with this condition.

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