

Association between emotional symptoms of premenstrual syndrome and the risk of developing depressive symptoms in the postpartum period

Associação entre sintomas emocionais da tensão pré-menstrual e o risco de desenvolvimento de sintomas depressivos no pós-parto

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ABSTRACT

This study verified a possible association between emotional status in the pre-menstrual period (emotional PMS) and the risk of postnatal depression. Were included 94 women in the immediate postpartum period at the Maternity Hospital of the Universidade Federal de Minas Gerais Hospital das Clínicas from July 2011 to August 2012. Questionnaires were used to assess pre-menstrual symptoms and to determine the Edinburgh Scale for the risk of developing postnatal depression. Reports of three or more emotional symptoms in the premenstrual period and a score of 12 or more in the Edinburgh Scale were correlated using chi-square test, with a $p < 0.05$ considered for relevance. The Relative Risk (RR) for an association between emotional PMS and a higher risk of postnatal depression was calculated and considered significant. Emotional changes were associated to a 3.78 RR of emotional PMS and increased risk to develop postnatal depression. It is possible that both situations have pathophysiologic similarities in the release of neurotransmitters particularly affected by hormonal changes that happen in both the moments. A well-defined emotional PMS predisposes to increased risk of puerperal depression.

Key words: Premenstrual Syndrome; Depression, Postpartum; Puerperal Disorders; Risk Factors; Postpartum Period.

RESUMO

Este estudo verificou a possível associação entre a situação emocional no pré-menstrual (TPM emocional) e risco de depressão puerperal. Foram estudadas 94 mulheres no pós-parto imediato na Maternidade do Hospital das Clínicas da Universidade Federal de Minas Gerais, entre julho de 2011 e agosto de 2012. Foram aplicados questionários para avaliação da sintomatologia pré-menstrual e do Escore de Edimburgo relativo ao risco de desenvolvimento de depressão puerperal. O relato de três ou mais sintomas emocionais no pré-menstrual e a pontuação de 12 ou mais no escore de Edimburgo foram correlacionados pelo teste do qui-quadrado, considerando-se significativo $p < 0,05$. Calculou-se o risco relativo (RR) de a sintomatologia emocional pré-menstrual associar-se ao mais alto risco de depressão puerperal. Houve significância entre as alterações emocionais e o RR de 3,78 diante de TPM emocional com risco aumentado de desenvolver depressão puerperal. É possível que ambas as situações tenham semelhança fisiopatológica na liberação de neurotransmissores afetados particularmente pelas variações hormonais que ocorrem em ambos os momentos. A TPM emocional bem caracterizada predispõe a elevado risco de depressão puerperal.

Palavras-chave: Síndrome Pré-Menstrual; Depressão Pós-Parto; Transtornos Puerperais; Fatores de Risco; Período Pós-Parto.

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INTRODUCTION

Throughout their lives women experience a high incidence of two mood-altering situations, with rates at round 40 and 30%, respectively: premenstrual syndrome (PMS) throughout menacme, and depression symptoms in the postpartum period, around the sixth postpartum week.

The occurrence of both mood alterations has recently been associated with the same women as there seems to be an association between depression symptoms in the postpartum period and dysphoria of varied intensities in the preconception stage.¹

The possible relation between premenstrual emotional symptoms and postpartum depression is due to the fact that both situations have great clinical similarity and a common physiological environment. Sadness with no apparent reason, emotional instability and crying easily, as well as insomnia and irritability prevail in both cases. In both situations, a great change is observed in the hormonal environment, whether in the sudden decline in progesterone levels or in reduced thyroid function. Other common findings in both groups are metabolic changes with varying degrees of resistance to insulin and major elevation of pro-inflammatory cytokine in blood levels.²

The risk of developing depression in the postpartum stage has been much researched, with the Edinburgh scale accepted as one of the most trustworthy methods of defining it. It consists of a questionnaire with 10 items that objectively characterize the feelings experienced by a woman in the postpartum period regarding her life at that moment. The scale scores each question zero to three, and an evaluation scoring a total of 12 or more points characterizes a higher risk of postpartum depression.²

Due to the similarity and possible physiopathological relation between the emotional changes in the premenstrual stage and the higher risk of postpartum depression, a study was conducted on the prevalence of the association between these two disorders in patients at the Maternity Ward of Hospital das Clínicas (HC) of the Universidade Federal de Minas Gerais (UFMG).

PATIENTS AND METHODS

From July 2011 to August 2012, 94 women who had undergone prenatal care and who delivered at the

Maternity Ward of the HC UFMG were followed. All agreed to take part and signed the informed consent form. The study was approved by the UFMG Research Ethics Committee (CAAE 0294.0.203.000.11). Two questionnaires were given to all patients, one of them during their prenatal care appointments, concerning their menstrual history, linking premenstrual symptoms to emotional aspects, i.e. mood alterations, sadness, irritability, crying easily and for no reason, insomnia, anxiety, appetite disorders; and the second, in the postpartum stage, consisting of the Edinburgh test to evaluate the risk postpartum emotional disorder occurring. Accounts of at least three symptoms among those listed on Table 1 were considered as a positive PMT-related emotional manifestation. A score of 12 points or more in the postpartum depression test (PPDT) was considered to indicate risk of emotional disorder.

RESULTS

The clinic alterations related to premenstrual tension are shown on Tables 1, 2, and 3.

Table 1 - Distribution of the premenstrual symptoms researched

Reported symptom	Reported frequency	Percentage of the symptoms
Mood alteration	63	21 %
Irritability	63	21 %
Crying easily and without reason	35	12 %
Sadness	35	12 %
Insomnia	24	08 %
Anxiety	61	20 %
Changes in appetite	23	06 %

Table 2 - Results in the Edinburgh Scale (PPDT)

Score	Number of patients	Results percentage
00 to 06 points	37	39%
07 to 11 points	15	16%
12 to 18 points	34	36%
Above 18 points	08	09%
Total	94	100 %

Tabela 3 - Association between PMS emotional symptoms and post partum emotional disorders **

Emotional dysfunction in the pre-menstrual period	Positive score * in the PPDT	Negative score ** in the PPDT
Yes	30	07
No	12	45
Total	42	52

Chi-squared -p <0,001rr (CI 95%) 3.85 (2.26 to 6.52).

* ≥ 12 points. ** ≤ 11 points.

DISCUSSION

The emotional disorders experienced by women in the two stages studied are clearly related. A history of emotional changes in the premenstrual period represents a threefold risk for a woman to experience sadness and postpartum depression.

The reason for this association is probably related to similar physiopathologies in their symptomatological genesis. Rise in serotonin levels or its improved action have a positive influence on premenstrual symptoms and those taking place in the postpartum period. Another similar mechanism involved in these dysphorias is the decline of dopamine in the frontal cortex, olfactory bulb, and nucleus accumbens (NA). Maybe because of these similar physiopathological mechanisms, some therapeutic initiatives can affect both premenstrual tension (PMS) and postpartum depression, as can be seen in the use of omega-3 supplementation. There is a significant decline in perinatal depression in women supplemented with omega-3 during the second half of pregnancy.³ Low ingestion of omega-3 among women is associated with high rates of depressive disorders throughout pregnancy.⁴ Findings on beneficial association of omega-3 with the decline of postpartum depression are similar to previously mentioned studies related to treatment of premenstrual tension (PMT) with omega-3 supplementation.^{2,3}

As a final recommendation and proposal for new studies, it is important to identify during the prenatal stage women with a risk of postpartum depression

based in their history of premenstrual tension with evident emotional components. Other variables associated with postpartum depression must be controlled, such as a history of psychic disorders, health changes throughout pregnancy (high-risk pregnancy) and fetal diseases diagnosed in the antenatal stage. The suffering resulting from postpartum depression completely justifies the need for new studies about ways of predicting this clinical situation, which is so frequent and still little understood.

CONCLUSION

There is a significant association between emotional symptoms in the premenstrual period and increased risk of postpartum depression in the immediate postpartum period.

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