Pain and associated factors in depressed and non depressed puerperal women*

Dor e fatores associados em puérperas deprimidas e não deprimidas

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ABSTRACT

BACKGROUND AND OBJECTIVES: Physical pain during puerperium is in general caused by musculoskeletal changes inherent to gestation; however, its clinical progression may be changed by mood disorders. This study aimed at evaluating the association between pain and postpartum depression.

METHODS: Participated in the study 80 women at 2 to 30 weeks postpartum. Depressive symptoms were screened with the Edinburgh Postnatal Depression Scale. Pain intensity was evaluated with the analog visual scale, while the Nordic Musculoskeletal Questionnaire was used for pain location.

RESULTS: Univariate analysis has shown that postpartum depression was associated to more severe pain (p<0.001), to constant mood changes (p=0.001), to early sexual initiation (p<0.05) and to a larger number of people living together (p<0.05). Chest was the most common painful site referred by depressed puerperal women (p=0.01). Logistic regression analysis has shown that moderate to severe pain was a strong predictor of postpartum depression (OR=4.6; confidence interval 95%: 1.5-13.9).

CONCLUSION: Moderate to severe pain increases the probability of puerperal women developing postpartum depressive symptoms.

Keywords: Musculoskeletal pain, Pain measurement, Postpartum depression.

RESUMO

JUSTIFICATIVA E OBJETIVOS: A dor física no período puerperal em geral decorre das alterações musculoesqueléticas inerentes à gestação, contudo seu curso clínico pode ser alterado na presença dos transtornos de humor. O objetivo deste estudo foi verificar a associação entre dor e depressão pós-parto.

MÉTODOS: Foram entrevistadas 80 mulheres em pós-parto de 2 a 30 semanas. Os sintomas depressivos foram rastreados através da Escala de Depressão Pós-natal de Edimburgo. A intensidade da dor foi avaliada, por meio da escala analógica visual, enquanto o Questionário Nórdico de Sintomas Osteomusculares foi empregado na localização da dor.

RESULTADOS: A análise univariada mostrou que a depressão pós-parto esteve associada à dor de maior intensidade (p<0,001), a alterações constantes de humor (p=0,001), à iniciação sexual precoce (p<0,05) e ao consumo de álcool (p<0,05). Percepção dolorosa de maior intensidade foi associada a um relacionamento conjugal ruim (p<0,05) e a um maior número pessoas em coabitação (p<0,05). A região torácica foi o local de dor mais apontado pelas puérperas deprimidas (p=0,01). A análise de regressão logística revelou que dor referida de moderada a intensa foi um forte fator preditor de depressão pós-parto (OR=4,6; intervalo de confiança de 95%:1,5-13,9).

CONCLUSÃO: Dor de intensidade moderada a intensa aumenta a probabilidade de mulheres desenvolverem sintomas depressivos no pós-parto.

Descritores: Depressão pós-parto, Dor musculoesquelética, Mensuração da dor.

INTRODUCTION

Depression and anxiety are mood disorders usually associated to pain persistence. As a function of the triad fear-tension-pain[1], emotional presentation is directly related to muscular and physiological functions, being reflected in postural pattern and influencing pain genesis[2].

Within this perspective, puerperal pain and postpartum depression (PPD) may be associated phenomena. Factors predisposing to psychiatric complications and present during gestation, delivery and/or after delivery, may amplify pain perception[3]. Such factors include conflicts with regard to

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female identity, traumatic experiences during early stages of psycho-sexual development, adverse socioeconomic situation, education level, fear and anxiety, especially in the absence of companion's support[1].

Currently, PPD is considered one of the most severe postpartum complications in developed countries[4]. It is a mood disorder with insidious symptoms which may start already in the second or third puerperal week or occur in a period of up to 12 months after delivery. The estimate of its prevalence varies, according to methodological screening procedures, from 7.2 to 43.0% in Brazilian adult puerperal women[5].

In addition to mood disorders, physical symptoms such as fatigue, breast discomforts, headache, low back pain and cervical pain are frequently described in the puerperal period[6]. The prevalence of pain in cervical, thoracic, lumbar and sacral regions may vary from 20 to 67%[1]. In searching literature data on pain and PPD, a systematic review study has observed that although puerperal physical pain seems to be a function of musculoskeletal changes occurring during gestation, its clinical course may be altered by mood disorders[7].

In light of the above, it is possible that PPD is a potential risk factor for pain intensification and chronicity in the puerperal period. Due to negative repercussions on the quality of life of the binomial mother-child, this study aimed at evaluating factors associated to the presence of pain and depression in the puerperal period. It is relevant to evaluate this association so that preventive measures, treatment and rehabilitation of pain may be established during this period.

METHODS

This is an analytical, transversal study developed in the Integrated Development Region (RIDE) of the Petrolina/PE and Juazeiro/BA Pole, between July 2011 and July 2012, in a Single Health System (SUS) unit which is reference in prenatal, labor and delivery attention.

Initially, to test applicability and appropriateness of research tools and to estimate sample size, a pilot study was developed with the same eligibility criteria adopted in this study. Initial, non-probabilistic sample was made up of 58 puerperal women. PPD screening has identified a frequency of 29.3%. Pearson correlation test has shown moderate (r=0.37) and statistically significant correlation (p=0.004) between variables PPD and pain. Sample size was estimated with the program BioEstat (*Sociedade Civil Mamirauá, Tefé, AM*, Brazil, Release 5.3, 2008). According to correlation coefficient obtained in the pilot study, power of 80% and significance level of 5%, the sample was estimated in 60 puerperal women.

Inclusion criteria were age above 18 years, postpartum period between two and 30 weeks, gestation with resolution between 34 and 42 weeks, speaking and understanding Portuguese, birth of healthy and live babies. Exclusion criteria were puerperal women with diagnosis of orthopedic or rheumatologic diseases, spine and lower limbs (LLLL) deformities, history of sexual violence, previous psychiatric treatment, use of psychoactive or illicit drugs.

All patients included in the study have signed the Free and Informed Consent Term (FICT).

Aiming at screening and establishing the profile of the studied sample, a semi-structured interview was applied with sociodemographic information, behavior and life habits-related factors, personal and hereditary history, sexual and reproductive history data, in addition to clinical-obstetric and neonatal data.

Depressive symptoms were identified with the validated Brazilian version of the Edinburgh Postnatal Depression Scale (EPDS)[8]. This is a self-recording tool with 10 questions scored from zero to 3. Maximum score is 30 being considered depressive symptom a score equal to or above 13[9]. All puerperal women with total score compatible with PPD were revaluated by a psychiatrist for diagnostic confirmation.

The validated version of the Nordic Musculoskeletal Questionnaire (NMSQ) for the Brazilian population was used to evaluate pain perception capacity, limitations and difficulties to perform labor and daily activities[10]. Pain intensity perception was measured with the visual analog scale (VAS)[11], with scores from zero (no pain) to 10 (worst imaginable pain). Referred pain intensity was categorized using VAS median (5); this way, scores below or equal five were considered as absent or mild pain, while scores above five defined moderate to severe pain.

The computer program SPSS (SPSS Inc., Chicago, IL, EUA, Release 16.0.3, 2010) was used for descriptive analysis. After confirming data normality (Kolmogorov-Smirnov test) and homoscedasticity (Bartlett criterion), continuous variables were presented in mean and standard deviation, while categorical variables were presented in relative and absolute frequencies.

Relation between continuous variables was established by Pearson linear correlation and the association between categorical variables was calculated with Pearson Chi-square (X^2) and Fisher Exact tests. Differences between means were calculated with Student's *t* test for independent samples or with univariate Analysis of Variance (ANOVA), with Tukey post-test.

Binary logistic regression was used for bivariate analysis aiming at identifying predictors for postpartum depression. Modeling was carried out with the enter method, considering separately social and demographic characteristics, behavior and life habits-related factors, personal and hereditary history, sexual and reproductive history data and clinical-obstetric and neonatal data. Then, significant variables or those with relation to the model ≤0.20 in previous regression analyses were jointly analyzed. Possible associations between the dependent variable and each independent variable were calculated by non-adjusted odds ratio (OR) calculation.

All analyses were bicaudal, p values were calculated, 95% confidence intervals when established are exact, and significance level was 5%.

This study was carried out in compliance with resolution 196/1996 of the National Health Council and was approved by the Research Ethics Committee, University of Pernambuco, being registered before CAAE 0072.0.097.000-2011.

RESULTS

During data collection, 1557 females were contacted and invited to participate in the study. Among 312 respondents, who met eligibility criteria and accepted to participate, the participants of the pilot study were included. According to simple randomized sampling, by draft, 80 (25.6%) puerperal women were selected.

Mean age was 26.6±5.8 years being that 42 (52.5%) puerperal women were between 20 and 29 years of age. More than half the evaluated puerperal women have reported having a partner in consensual union (n=51, 63.7%) and having studied for approximately 9 to 11 years (n=47;58.7%). Most referred having good marital relationship (n=69;86.2%) and living with up to three people in the same home (n=52;65.1%).

Approximately 52.5% (n=42) of puerperal women had no remunerated professional activity during gestation. Among those working (n=38; 47.5%), the activity of diarist was the most frequent (n=14; 17.5%), with most of them working standing up (n=26; 32.5%) during the whole workload. Almost all puerperal women mentioned that they performed domestic activities (n=77; 96.3%) and that they held their babies on their lap (n=74; 92.5%). Most (n=78); 97.5% referred changing babies' diapers and frequently using low sites to do it (n=58; 72.5%). The father has frequently helped taking care of the baby (n=55; 68.8%).

Moderate to severe pain was reported by 33 (41.3%) evaluated puerperal women, while reports of absent or mild pain were found in 47 (58.7%). Most have stated regularly drinking alcoholic beverages (n=48; 60.0%); almost the whole sample (n=79; 98.7%) has denied smoking. Frequent mood changes was reported by a large number of puerperal women (n=59; 73.8%).

With regard to clinical-obstetric characteristics, at the moment of the interview 52.5% (n=42) of women were in puerperal period of up to 30 days. There has been predominance of vaginal delivery (n=56; 70.0%), planning of current pregnancy (n=47; 58.8%) and breastfeeding (n=76; 95.0%). More than half (n=54; 67.6%) of included puerperal women have reported sexual life initiation below 18 years of age (n=57; 71.0%), having one or two children and not having history of miscarriages (n=55; 68.8%). There has been identical frequency in babies' gender (n=40; 50% girls and n=40; 50% boys).

Among participants, 32.5% (n=26) had scores indicative of PPD and made up the depression group (DP); the others (67.5%, n=54) were allocated to the non-depressed group (NDP). There has been positive correlation (r=0.35, p=0.002) between EPDS and VAS scores.

The comparative analysis between DP and NDP groups has shown statistically significant association between PPD and more severe referred pain (p<0.001). In addition, PPD was also associated to constant mood changes (p=0.001), alcoholism (p<0.05) and sexual life initiation below 18 years of age (p<0.05) (Table 1).

When sample was separated by referred pain intensity, comparison between groups has shown association of more severe referred pain and PPD (p<0.001), as well as association of moderate to severe pain and not having good relationship with companion/spouse (p<0.05) and with higher number of people living together (p<0.05) (Table 2).

Table 1. Association between postpartum depression and sociodemographic indicators, behavior and life habits, personal and hereditary history, sexual and reproductive history data, clinical-obstetric and neonatal data (n=80)

Variables	DP (n=26) (%)	NDP (n=54) (%)	p value*
Age (years) (Mean ± SD)	25.3±4.6	27.3±6.3	0.167[c]
Marital status			
Married	6 (23.1)	15 (27.8)	
Consensual union	18 (69.2)	33 (61.1)	0.766[a]
Single	2 (7.7)	6 (11.1)	
Marital relationship			
Good	22 (84.6)	47 (87.0)	
Bad	2 (7.7)	2 (3.7)	0.453[a]
No answer	2 (7.7)	5 (9.3)	
Education level (years)			
0 to 8	9 (34.6)	19 (35.2)	
9 to 11	17 (65.4)	30 (55.6)	0.260[a]
12 to 17	0 (0.0)	5 (9.3)	
Family income (Mean ±SD)	1060.9±985.3	1085.8±898.0	0.911[c]
Number of people living together			
1 to 3	14 (51.9)	38 (70.4)	
4 to 6	10 (37.0)	16 (29.6)	0.070[a]
>6	2 (7.4)	0 (0.0)	
Working during current gestation			
Yes	14 (53.8)	24 (44.4)	0.430[a]
No	12 (46.2)	30 (55.6)	
Position during work			
Sitting down	3 (21.4)	5 (20.8)	
Standing up	10 (71.4)	16 (66.7)	0.873[a]
Walking	1 (7.1)	3 (12.5)	
Domestic tasks			
Yes	26 (100.0)	51 (94.4)	0.221[b]
No	0 (0.0)	3 (5.6)	
Changing diapers			
Yes	26 (100.0)	52 (96.3)	1.000[b]
No	0 (0.0)	2 (3.7)	
Height of diapers changing place			
High	5 (19.2)	15 (28.8)	0.359[b]
Low	21 (80.8)	37 (71.2)	
How the baby is carried			
In stroller	1 (3.8)	5 (9.3)	0.658[b]
On lap	25 (96.2)	49 (90.7)	
Pain (intensity)			
Moderate/severe	18 (69.2)	15 (27.2)	<0.001[a]
Absent/mild	8 (30.8)	39 (72.2)	
Mood changes			
Yes	25 (96.2)	34 (63.0)	0.001[b]
No	1 (3.8)	20 (37.0)	
Smoking			
Yes	1 (3.8)	0 (0.0)	0.325[b]
No	25 (96.2)	54 (100.0)	
Alcoholism			
Yes	15 (57.7)	17 (31.5)	0.025[a]
No	11 (42.3)	37 (68.5)	
Sexual initiation (years)			
≤ 18	23 (88.5)	34 (63.0)	0.020[b]
>18	3 (11.5)	20 (37.0)	

Continued...

Tabela 1. Continuation

Variables	DP (n=26) (%)	NDP (n=54) (%)	p value*
Use of contraceptive			
Yes	16 (61.5)	36 (66.7)	0.652[a]
No	10 (38.5)	18 (33.3)	
Number of children			
1	5 (19.2)	20 (37.0)	
2 to 3	17 (65.4)	21 (48.2)	0.252[a]
>3	4 (15.4)	8 (14.8)	
Obstetric complications (pregnancy or delivery)			
Yes	4 (15.4)	14 (25.9)	0.395[b]
No	22 (84.6)	40 (74.1)	
Miscarriage			
Yes	9 (34.6)	16 (29.6)	0.652[a]
No	17 (65.4)	38 (70.4)	
Type of delivery			
Vaginal	20 (76.9)	36 (66.7)	0.348[a]
Cesarian	6 (23.1)	18 (33.3)	
Current pregnancy planning			
Yes	11 (42.3)	22 (40.7)	0.894[a]
No	15 (57.7)	32 (59.3)	
Postpartum period (days)			
≤ 30	13 (50.0)	34 (63.0)	
31 to 59	3 (11.5)	2 (3.7)	
60 to 89	1 (3.8)	6 (11.1)	0.259[a]
90 to 119	2 (7.7)	5 (9.3)	
≥ 120	7 (26.9)	7 (13.0)	
Breastfeeding			
Yes	25 (96.2)	51 (94.4)	1.000[b]
No	1 (3.8)	3 (5.6)	
Baby gender			
Female	9 (34.6)	31 (57.4)	0.056[a]
Male	17 (65.4)	23 (42.6)	
Companion support to take care of the baby			
Yes	20 (76.9)	35 (64.8)	0.274[a]
No	6 (23.1)	19 (35.2)	

DP: depressed puerperal women. NDP: non-depressed puerperal women; *p<0.05 statistically significant; [a]Pearson Chi-square; [b]Fisher Exact test; [c]Student's *t* test for independent samples.

Table 2. Association of pain and sociodemographic indicators, behavior and life habits, personal and hereditary history, sexual and reproductive history data, clinical-obstetric and neonatal data (n=80)

Variables	Moderate/ severe pain (n=33) n (%)	Mild/absent pain (n=47) n (%)	p value*
Age (years) (Mean ± SD)	25.2 ± 5.0	27.6 ± 6.2	0.066[c]
Marital status			
Married	10 (30.3)	11 (23.4)	
Consensual union	22 (66.7)	29 (61.7)	0.206[a]
Single	1 (3.0)	7 (14.9)	
Marital relationship			
Good	30 (90.9)	39 (83.0)	
Bad	3 (9.1)	1 (2.1)	0.031[a]
No answer	0 (0.0)	7 (14.9)	

Continued...

Tabela 2. Continuation

Variables	Moderate/ severe pain (n=33) n (%)	Mild/absent pain (n=47) n (%)	p value*
Education level (years)			
0 to 8	13 (39.4)	15 (31.9)	
9 to 11	19 (57.6)	28 (59.6)	0.534[a]
12 to17	1 (3.0)	4 (8.5)	
Family income (Mean±SD)	994.9±1097.0	1137.0 ± 779.8	0.503[c]
Number of people living together			
1 to 3	16 (48.5)	36 (76.6)	
4 to 6	15 (45.5)	11 (23.4)	0.017[a]
>6	2 (6.1)	0 (0.0)	
Working during current gestation			
Yes	18 (54.5)	20 (42.6)	0.290[a]
No	15 (45.5)	27 (57.4)	
Position during work			
Sitting down	5 (27.8)	3 (15.0)	
Standing up	11 (61.1)	15 (75.0)	0.603[a]
Walking	2 (11.1)	2 (10.0)	
Domestic tasks			
Yes	33 (100.0)	44 (93.6)	0.264[b]
No	0 (0.0)	3 (6.4)	
Changing diapers			
Yes	33 (100.0)	45 (95.7)	0.509[b]
No	0 (0.0)	2 (4.3)	
Height of changing diapers place			
High	7 (21.2)	13 (28.9)	0.443[a]
Low	26 (78.8)	32 (71.1)	
How the baby is carried			
In stroller	1 (3.0)	5 (10.6)	0.392[b]
On lap	32 (97.0)	42 (89.4)	
PPD			
Yes	18 (54.5)	8 (17.0)	<0.001[a]
No	15 (45.5)	39 (83.0)	
Mood changes			
Yes	27 (81.8)	32 (68.1)	0.169[a]
No	6 (18.2)	15 (31.9)	
Smoking			
Yes	0 (0.0)	1 (2.1)	1.000[b]
No	33 (100.0)	46 (97.9)	
Alcoholism			
Yes	16 (48.5)	16 (34.0)	0.194[a]
No	17 (51.5)	31 (66.0)	
Sexual intiaition (years)			
≤ 18	26 (78.8)	31 (66.0)	0.212[a]
>18	7 (21.2)	16 (34.0)	
Use of contraceptive			
Yes	20 (60.6)	32 (68.1)	0.490[a]
No	13 (39.4)	15 (31.9)	
Number of children			
1	7 (21.2)	18 (38.3)	
2 to 3	19 (57.6)	24 (51.1)	0.182[a]
>3	7 (21.2)	5 (10.6)	

Continued...

Tabela 2. Continuation

Variables	Moderate/ severe pain (n=33) n (%)	Mild/absent pain (n=47) n (%)	p value*
Obstetric complications (pregnancy or delivery)			
Yes	6 (18.2)	12 (25.5)	0.438[a]
No	27 (81.8)	35 (74.5)	
Miscarriage			
Yes	9 (27.3)	16 (34.0)	0.520[a]
No	24 (72.7)	31 (66.0)	
Type of delivery			
Vaginal	24 (72.7)	32 (68.1)	0.656[a]
Cesarian	9 (27.3)	15 (31.9)	
Current pregnancy planning			
Yes	14 (42.4)	19 (40.4)	0.858[a]
No	19 (57.6)	28 (59.6)	
Postpartum period (days)			
≤ 30	19 (57.6)	28 (59.6)	
31 to 59	3 (9.1)	2 (4.3)	
60 to 89	3 (9.1)	4 (8.5)	0.511[a]
90 to 119	1 (3.0)	6 (12.8)	
≥ 120	7 (21.2)	7 (14.9)	
Breastfeeeding			
Yes	32 (97.0)	44 (93.6)	0.639[b]
No	1 (3.0)	3 (6.4)	
Babies' gender			
Female	14 (42.4)	26 (55.3)	0.256[a]
Male	19 (57.6)	21 (44.7)	
Companion support to take care of the baby			
Yes	21 (63.3)	34 (72.3)	0.408[a]
No	12 (36.4)	13 (27.7)	

*p<0.05 statistically significant; [a]Pearson Chi-square; [b]Fisher Exact test; [c]Student's *t* test for independent samples.

Referred pain site evaluation has shown that the thoracic region (72.2%) was mostly indicated by evaluated puerperal women, followed by lumbar (66.1%), hips/LLLL (45.3%) and neck (38%). Similarly, the thoracic region was the painful site mostly indicated by depressed puerperal women (p=0.01) (Table 3).

Table 3. Association between pain site and postpartum depression

Pain site	DP (n=26) n (%)	NDP (n=54) N (%)	p value*
Neck	7 (26.9)	6 (11.1)	0.073[a]
Shoulder	3 (11.5)	5 (9.3)	0.710[b]
Arm	2 (7.7)	5 (9.3)	1.000[b]
Elbow	0 (0.0)	0 (0.0)	-
Forearm	1 (3.8)	0 (0.0)	0.325[b]
Wrist, hand and fingers	2 (7.7)	1 (1.9)	0.245[b]
Thoracic	13 (50.0)	12 (22.2)	0.012[a]
Lumbar	9 (34.6)	17 (31.5)	0.779[a]
Hips/LLLL	6 (23.1)	12 (22.2)	0.932[a]

DP: depressed puerperants. NDP: non-depressed puerperants; LLLL: lower limbs; *p<0.05 statistically significant; [a]Pearson Chi-square; [b]Fisher Exact test.

Among evaluated factors, logistic regression analysis has shown that more severe pain may increase the chance of having PPD (p<0.01), being considered strong predictor of postpartum depressed symptoms (Table 4). In addition, constant mood changes remained associated to PPD.

Table 4. Model of bivariate logistic regression of clinical-obstetric factors, sexual history data and life habits related to postpartum depression.

Variables	p value	OR (CI95%)
Pain intensity		
Mild/absent pain	0.004	5.62 (2.10-16.29)
Moderate/severe pain		
Constant mood changes		
No	0.017	15.65 (1.85-116.97)
Yes		
Sexual initiation (years)		
≤18	0.187	0.37 (0.08-1.63)
>18		
Alcholism		
No	0.117	2.58 (0.79-8.45)
Yes		
Babies' gender		
Female	0.284	1.90 (0.59-6.09)
Male		

DISCUSSION

In our study, the positive association between pain and PPD is added to data described in the literature[3,12-16]. However, one has to stress that pain-related findings are frequently interpreted in terms of duration[3], presence or absence[12-15], without quantifying intensity or considering whether this factor influences depressive symptoms. Our results have shown that, in addition to the relation between these variables, pain intensity referred in the postpartum period may be a predictive signal of depression.

Similar result was found in a multicenter, longitudinal and prospective study[16], which has analyzed whether acute puerperal pain plays some role in the establishment of persistent pain and PPD. Using pain evaluation and PPD screening tools similar to those used in our study, data were obtained from the review of medical records within 36 hours after delivery and by means of telephone interview eight weeks later. Authors have observed that puerperal women with acute intense postpartum pain (score 7-10) had 2.5 times more risk of persistent pain and 3.0 more risk of PPD as compared to those with mild postpartum pain (score 0-3).

It has to be stressed, however, that this relation is not unanimous among available studies[4,17]. In spite of observing higher VAS scores in puerperal women at risk for depression, a longitudinal prospective study carried out in France has not observed statistical relation between physical pain and PPD diagnosis in a period of eight weeks. Authors have stated that pain is not a risk marker for PPD and may negatively influence screening scales resulting in false-positives. In our study, with the purpose of decreasing this potential bias, we have adopted the highest cutoff point (13) previously established by the author of EPDS[9].

Among the variables evaluated in this study, the final logistic regression model has shown that only "more severe pain" and "constant mood changes" have remained associated to PPD. A study[5] developed in Brazil has not found association between PPD and variables such as age, marital status, education level, family income and number of children. Simultaneously, a study carried out in France has not found relation between PPD and sociodemographic and clinical variables[4].

However, the relation observed here between mood fluctuations and PPD raises once more the discussion of possible influence of pain on depressive symptoms[4]. Within this perspective, such relation may be attributed to a superimposition of risk factors.

In addition, the comparative analysis between groups separated by categorization of pain intensity and sensation has shown that, in addition to depression, more severe pain was associated to poor marital relationship and to living with too many people. Since negative emotions are related to physical symptoms perception amplification, which vary according to psychological distress levels[16], these variables might have influenced the emotional status of puerperal women as a function of lack of privacy and lack of companion's support, leading to increased pain perception.

With regard to the association between referred pain site and postpartum depressive symptoms, there are divergences in the literature concerning the naming of the painful site and with regard to parameters used to score EPDS. So, in our study, the thoracic region was the painful area mostly appointed by puerperal women, with EPDS scores equal to or above 13[10]. On the other hand, PPD screening and pain evaluation studies mention as most frequent painful sites "the back"[3,13,18], generalized term used as synonym for posterior trunk, lumbo-pelvic[12,19] and/or pelvic regions[15].

In addition, authors[12] have observed that depressive symptoms were more frequent in puerperal women with low back pain when applying cutoff points of ≥10 and ≥13 to EPDS, while for puerperal women with pain on pelvic girdle, this comparison was significant only when applying cutoff point of ≥10. When investigating the relation between physical and emotional health problems in period of 6 to 9 months postpartum, an Australian study[13] has categorized puerperal women according to respective EPDS scores, in low score group (EPDS<9), group with neighboring values for depression (9<EPDS<12) and group of probable depression (EPDS≥13).

To the detriment of methodological heterogeneity, it is fact that most studies suggest a real association between pain and mood disorders in the puerperal period[3,12-16,18,19], showing that complications of the pregnancy-puerperal cycle are multifactorial and definitely emphasize mutual complex interactions among environment, psyche and soma[1].

Notwithstanding presented results, it is important to discuss methodological limitations of our study. A limitation is the use of a self-evaluation scale to screen PPD. EPDS is commonly used in different studies[3,12,14,16,17,19], but it has not been projected to establish the diagnosis of PPD, as it is the case with the semi-structured clinical interview applied by the psychiatrist[5,9]. However, admitting the limitations regarding the use of this tool, all puerperal women with scores indicating PPD were revaluated by a psychiatrist for diagnostic confirmation.

Although VAS being considered a standard scale to measure pain intensity[20], another limitation of this study was the application of an unidimensional tool to evaluate pain. This scale was chosen for this study as a function of observing its use in studies investigating the relation between pain and PPD[4,16,19]. In addition, multidimensional tools are not practical[20] and require more time to be applied, which would bring further discomfort to mothers and their babies. However, we recognize the importance of fostering studies to analyze pain affective-emotional aspects through a multidimensional evaluation.

This is also a small sample as compared to international studies. The use of a transversal design limits pain evaluation in the period before the pregnancy-puerperal cycle. So, it is clear the importance of fostering longitudinal studies addressing such theme.

CONCLUSION

Our findings evidence that moderate to severe pain increases the possibility of puerperal women developing depressive symptoms. In the universe of evaluated women, painful site associated to PPD was the thoracic region.

Recognizing that there is valid association between pain and PPD, we suggest the establishment of physical and mental health promotion strategies for women, involving multidisciplinary and multiprofessional teams to evaluate physical health of mothers with depressive symptoms, in addition to pain rehabilitation measures.

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