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Screening of depressive and anxiety symptoms in postpartum patients: a descriptive study

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ABSTRACT

Aim: To assess the prevalence of depressive and anxiety symptoms experienced by women during the first four postpartum months. **Method**: Descriptive study, with a quantitative approach. Data collection involving 86 women in the West Zone of São Paulo. Three instruments were used: a questionnaire, the *Edinburgh Postnatal Depression Scale* (EPDS) and the *State-Trait Anxiety Inventory* (STAI). **Results**: 14 women (16.30%) had a score greater than or equal to 12 on the EPDS, a score considered indicative of postpartum depression. There was no significant variation in the presence and/or intensity of symptoms in different months of the postpartum period. The presence of symptoms during pregnancy, marital status, parity and anxiety traits showed statistical significance for postpartum depression. **Conclusion**: The findings highlight the importance of sensitized professionals and of public policies that enhance continuity of care, since depression and anxiety can be evidenced during pregnancy and can arise at various times postpartum.

Descriptors: Depression, Postpartum; Anxiety; Postpartum Period.

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INTRODUCTION

Depression can be considered a global public health problem. It is a major cause of disability among women, and the pregnancy--puerperal period is a stage of their lives with a higher prevalence of depressive and anxiety symptoms[1,2]. During pregnancy and the postpartum period, women face deep physical, emotional, family and social role changes, which are also related to an increased vulnerability to developing mental disorders[1,3].

Puerperal dysphoria, maternity blues or postpartum blues affect about 50% to 80% of postpartum patients, and is the lightest form of psychiatric disorder that can affect women during the postpartum period. The most serious mental disorder that can occur in the postpartum period is puerperal psychosis, with a prevalence ranging from 0.1% to 0.2% of postpartum women. It generally begins quickly and symptoms manifest themselves until two weeks after birth[4].

Postpartum depression (PPD) is a mood disorder characteristic from the postpartum that is considered to be a middle state between puerperal dysphoria and puerperal psychosis. PPD affects approximately 10-20% of mothers and starts, usually, in the first four postpartum weeks extending up to one year, although it reaches its maximum intensity in the first six months[4,5].

Despite widespread inconsistency on the prevalence of these symptoms both in the Brazilian context and internationally, there is consensus that indications of depression and anxiety related to postpartum have not received the appropriate recognition. PPD is still a challenge which is underreported and underdiagnosed, since it's not recognized by health services. The professionals lack knowledge and are unprepared to act on this condition[2,5].

In Brazil, PPD needs to occupy a more prominent place on the agenda of public health policies, a fact that has implications due to the increasing vulnerability of mothers, making them susceptible from a health point of view. There is little information on the subject to support the early identification of PPD conditions and to ensure support and treatment for these women[3,5].

712 women were analyzed in a study conducted in a basic health unit. Of these, 36.5% had a depressive disorder, a significant result when compared to other countries'[6]. Thus, the high prevalence of depression found during pregnancy and the childbirth period reinforces its significance as a public health problem that require the introduction of strategies for prevention and treatment. Careful monitoring through integrated action that takes into account the variables associated with depression can prevent personal and family problems arising from PPD[4].

Although the etiology of the PPD is not clearly known, we realize that some factors may contribute to its precipitation: low socioeconomic status; rejection of pregnancy; multiple pregnancies, births and children; shorter time of relationship with partner; history of obstetric problems; longer time before touching the baby after birth; domestic violence; little support from partner; heavy workloads and conflicting experience of motherhood[3].

Regarding the impact of depressive and anxiety symptoms in postpartum, we can highlight two important aspects: the experience of women who experience motherhood with these symptoms, and the influence of this state on the mother-infant interaction and women's relationship with people in their social support network.

A review of the literature shows that depression can have long and short-term negative effects in the mother-infant interaction

and relationship, and these symptoms present themselves as anxiety disorders and invasive or isolated interactions with the children[7] . However, despite the substantial amount of research demonstrating the negative effects of depression on mother-infant relationships and interactions, little is known about the adaptation of these women to motherhood.

A recent study[8], adopting a descriptive method and a qualitative approach, aimed to understand the experience of Brazilian women during PPD, and to demonstrate that in response to depressive symptoms, the women described adjustment behaviors for the adoption of different types of maternity. However, this study did not assess whether or not there are changes in the presence and intensity of depressive and anxiety symptoms.

There is a gap with regard to studies that analyze the postpartum period and the adjustments made to the maternity process, and which focus on the identification of depressive symptoms and emotional changes. Consequently, this study aimed to analyze the prevalence of depressive and anxiety symptoms experienced by women during the first four months postpartum, with the belief that such a study will contribute to the construction of knowledge on the subject, and help to identify the need for care specific to the behavior experienced by mothers.

METHOD

This is a descriptive study with a quantitative approach, carried out from February to May 2014 in a School Health Center in the West Zone of São Paulo city. Data collection occurred in the Child Health and Vaccination Departments, during scheduled childcare or on demand consultation.

For the selection of the sample, we included 86 women over 18 years of age who were after the first two weeks of the postpartum period, since this is a period of a high incidence of puerperal dysphoria. We defined as exclusion criteria: the diagnosis of severe mental disorder and/or patients who were not able to read and understand the data collection instruments.

Data collection was held in the 1st, 2nd and the 4th month postpartum. These three stages were set to coincide with the first three routine visits, as recommended as the minimum consultation schedule for child care by the Ministry of Health[9]. Weekly visits to the health center were made by the research team to identify women at different postpartum times, leading to the formation of three groups of women during the period from February 2014 to May 2014.

In this study, it became necessary to set the intervals in days for each month analyzed. Thus, the group of mothers within the 1st month covered from the 14th (after the higher incidence period of *Maternity Blues*) to the 59th day; in the 2nd month, from the 60th to the 89th day; and in the 4th month from the 120th to the 149th day after childbirth. Before the presentation of the questionnaires (which were completed in 30 minutes), the participants received an explanation as to how to fill it in.

100 questionnaires were completed at the Health Center. Of these, 14 were excluded from the sample. Three questionnaires were excluded because they passed, in days, the respective intervals established; four for not presenting the minimum recommended postpartum period (14 days); six for being incompletely filled; and one due to the fact of the interviewee was an adoptive mother.

According to the criteria for inclusion, and the recommended postpartum intervals, the sample totaled 86 questionnaires, with an average of 390 medical consultations per month in

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2014 at the Health Center on the health of the children. Three instruments were applied. The first was a form containing characterization data (age, marital status, education), data related to pregnancy (planned, risk, presence of depressive and anxiety symptoms), obstetric and delivery data (delivery type, number of previous pregnancies and parity), baby information (breastfeeding and health conditions) and data about the social support network postpartum (presence of support, type of support, characterization of support, presence of baby's father and quality of the relationship with the baby's father).

To verify the presence of depressive symptoms postpartum, we used the *Edinburgh Postnatal Depression Scale* (EPDS). The EDPS is a self-administered scale consisting of ten items that include questions about the woman's mood state as experienced in the last seven days. It is a tool that has been widely used to assess PPD since it's easy to use, allows rapid recognition of the symptoms of PPD, and permits comparison between research findings[10]. For each item there are four options listed from 0 to 3, each of which may indicate the severity of symptoms. We used as a cutoff score, values greater than or equal to 12 points, described in the literature as indicative of PPD[11-12]. The EPDS is designed to complement clinical evaluation, not to replace it; in this study it is used for screening and pointing to the probability of depression, but it does not define or diagnose the disease's severity.

A third questionnaire was applied in order to identify anxiety symptoms in the postpartum - the State-Trait Anxiety Inventory (STAI), which is one of the most widely used instruments in different cultures, for measuring anxiety in adults[13,14]. STAI is composed of two different Likert-type scales, each with 20 items with four graduations, whose values can fluctuate between 20 and 80 points. One of them is related to the state of anxiety (the A-State) and the given score measures the extent of the patient's anxiety at the time she was filling out the questionnaire. The other scale is related to trait anxiety (A-Trait), clearly differentiating between the temporary condition of an anxiety state, and the most overall quality and long-term trait anxiety.

The inventory does not establish a cut off note. It is known, however, that the minimum score is 20 points, and the maximum is 80 points in both inventories. The higher the score, the greater the intensity of anxiety[13,14]; these criteria is also adopted in this study. OK THIS LOOKS FINE.

The study was approved by the Research Ethics Committee of the Nursing School of São Paulo University, under the opinion number 489971, on 10/12/2013, and by the Ethics Committee of the School Health Centre where data collection was held.

For the treatment of the data, we used the SPSS version 17 software for the analysis of the continuous variables, to provide descriptive statistics. YES, THIS LOOOKS OK It calculated the absolute and categorical frequencies for the interpretation of categorical variables. Then these variables were related to PPD (obtained through an EPDS ≥12 score) using the chi-square test for categorical variables and the Wilcoxon--Mann-Whitney test for the continuous ones. The significance rate of $p \leq 0.05$ was used.

The logistic regression model was used to relate the changes of the variables with PPD in the different periods studied. The continuous variables analyzed were the STAI A-Trait and A-State scores and parity. As for the numerical variables, we analyzed the presence of depressive symptoms or anxiety during pregnancy, marital status, education, high-risk pregnancy, pregnancy planning, breastfeeding, presence of support and its characterization, coexistence and quality of the relationship with the baby's father.

RESULTS

The results showed the data that characterizes the sample. Of the total of 86 participants, there was a predominance of women of white skin (49%), married (47%), with income between one and three wages (41.86%) and university graduate education (36%). The number of multiparous surpassed that of single-pregnancy mothers, totaling 53.49%. Also in relation to the questionnaire, there was a predominance of planned (52%) and usual risk (80%) pregnancies. As for baby care, most of the patients (85%) reported feeling supported, and of these, 66% attributed this support especially to the baby's father. There is a higher proportion of women living with the baby's father in the same household (86%) and who characterized the relationship with the baby's fathers as being very good (63%).

Questionnaires were segregated in terms of the following groups: the group from 1st month totaled 30 (35%) questionnaires, the 2nd month group totaled 30 (35%) and the 4th month group totaled 26 (30%) questionnaires.

The following are the main results according to the data analysis, considering the women who had EPDS≥12 score related to other variables of the study.

Table 1 - Women in the postpartum who scored ≥12 in EPDS. São Paulo, 2014.

Postpartum period	EPDS≥12	N	%
1st month	No	24	80.00%
	Yes	6	20.00%
2nd month	No	27	90.00%
	Yes	3	10.00%
4th month	No	21	80.80%
	Yes	5	19.20%
Total	No	72	83.70%
	Yes	14	16.30%

N=86
Source: author's research

According to Table 1, of the 86 questionnaires collected, 14 (16.13%) scored at or above 12 in the EPDS. The relationship between high scores on the EPDS and months postpartum showed that there were more women in the group of the 1st month compared to the groups from the 2nd and the 4th months. There were six (20%) women in the 1st month postpartum. In the 2nd month group, three (10%) women had EPDS≥12 scores; and in the 4th month group, five (19.20%). However, this difference did not reach statistical significance.

Table 2 - Overview of Women in Postpartum who scored EPDS≥12 and scored in the STAI A-Trait and STAI A-State. São Paulo, 2014.

	EDPS ≥ 12	1st Month		2nd Month		4th Month		P Value*	
		Average (SD)	Median	Average (SD)	Median	Average (SD)	Median		
STAI A--Trait	No	37.08 (8.10)	35.5	35.26 (8.12)	33	35.24 (8.34)	34	STAI Interaction	0.770
	Yes	53.67 (7.61)	51	58 (11.36)	63	56.8 (7.46)	61	0.019	
STAI A--State	No	35.21 (8.39)	32.5	34.44 (7.39)	33	31.95 (11.51)	30		0.140
	Yes	47.67 (7.34)	50	53.33 (12.74)	47	55.4 (6.95)	54	0.113	

N=86
** STAI P-value corresponds to the relationship between the scales (A-Trait and A-State) and EPDS≥12. Interaction is the relationship between scores on the STAI and the different periods postpartum.*

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Table 3 - Overview of Women in Postpartum who scored EPDS≥12 with women who reported depressive or anxiety symptoms during pregnancy. São Paulo, 2014.

EDPS ≥ 12	Symptoms	1st month		2nd month		4th month		P-value	
	Pregnancy	N	%	N	%	N	%	Preg. Simptons	Interaction
No	No	18	94.7%	22	95.7%	15	93.8%		
	Yes	6	54.5%	5	71.4%	6	60.0%		
Yes	No	1	5.3%	1	4.3%	1	6.3%		
	Yes	5	45.5%	2	28.6%	4	40.0%	< 0.001	0.949

N=86
Source: Author's research

Table 2 shows that women with EDPS≥12 also had higher scores with regard to the trait anxiety inventory (STAI A-Trait). Among these women, the average was 53.67, with a median of 51 points in the A-Trait for the group from the 1st month. The group from the 2nd month presented an average of 58 and a median of 63 points; the group from the 4th month had an average of 56.80 and a median of 61 points. The relationship between high scores on the A-Trait score and EPDS≥12 was statistically significant (P = 0.019). There was no statistically significant difference between the A-Trait scores in different periods of the postpartum (p = 0.770).

In turn, the State Anxiety Inventory (A-State) for women with EPDS≥12 was also high, but the values did not achieve statistical significance (P = 0.113). The relationship between the scores on the STAI A-State and the different postnatal times is also shown to be irrelevant (p = 0.140).

The presence of symptoms of anxiety and depression during pregnancy, and their relationship with the EPDS≥12 score, was statistically significant (p <0.001). The data show that five (45.5%) women presented signs and symptoms during pregnancy, and scored EPDS≥12 were in the first month, two (28.6%) in the 2nd and four (40%) in the 4th month, demonstrating the importance and correlation of signs and symptoms during pregnancy, and the emergence of depressive symptoms in postpartum.

The number of births, or parity, showed a statistical significance in terms of the EPDS≥12 score (p = 0.002). The median was two births per women who had EPDS≥12 in all the groups studied. The average of births by these women was 2.17, 2.0 and 1.60 in the first, second and third months, respectively. The relationship between parity and EPDS≥12 score proved not to be statistically significant in terms of difference between the postpartum periods (p = 0.067).

Regarding marital status, it is possible to see the predominance of married women or those in stable relationships who scored EPDS≥12 in the Edinburgh Scale. All the women in the 1st month group who presented PPD signs were married or in stable relationships. In

Table 4 - Ratio of women Parity Postpartum with EPDS≥12. São Paulo, 2014.

Parity	EDPS ≥ 12	1st month		2nd month		4th month		P-value	
		Average (SD)	Median	Average (SD)	Median	Average (SD)	Median	Parity	Interaction
	No	1.5 (0.66)	1	1.33 (0.48)	1	1.62 (0.74)	1		
	Yes	2.17 (0.75)	2	2 (0.00)	2	1.6 (0.55)	2	0.002	0.067

N=86
Source: author's research

Table 5 - List of civil status in women in the postpartum period with the score on the EPDS. São Paulo, 2014.

	Marital	1º mês		2º mês		4º mês		Valor-p	
EDPS ≥ 12	Status	N	%	N	%	N	%	Est. Civ.	Interação
Não	Single/divorced/ widow	6	100.0%	7	87.5%	8	100.0%		
	Married / Common Law	18	75.0%	20	90.9%	13	72.2%		
Sim	Single/divorced/ widow	0	0.0%	1	12.5%	0	0.0%	0.030	0.163
	Married / Common Law	6	25.0%	2	9.1%	5	27.8%		

N=86
Source: author's research

the 2nd month group, one woman was single/ divorced/widowed and two were married or in a common-law marriage. In turn, from the 4th month group, five (27.8%) women who were married or in a stable union scored above 12 on the EPDS. Thus, the relationship between marital status and EPDS≥12 was shown to be statistically significant (p = 0.030) and the relationship between marital status and postpartum was not statistically significant (p = 0.163).

In this study, we found no statistically significant association between the EPDS≥12 score and the following categories: education, high-risk pregnancy, pregnancy planning, breastfeeding, presence of support, characterization of support, relationship with baby's father and quality of this relationship as reported by the women.

DISCUSSION

The findings of this study (16.13%) were consistent with the literature, which predicts that PPD affects an average of 10-20% of women, especially within the first six months postpartum[2,4,5]. The women in the 1st month postpartum group had a proportionally higher expression in terms of this incidence (20%) than the 2nd and 4th month postpartum groups, with 10% and 19.2% respectively, although the data presented no statistical significance.

Some factors (such as the presence of anxious and depressive symptoms during pregnancy, marital status, parity and trait anxiety) were associated with the presence of scores higher or equal to 12 on the Edinburgh Scale, a situation indicative of PPD.

Overall, there was no significant variation in the presence and/or intensity of symptoms in different months postpartum, and none of the variables associated with EPDS≥12 had a statistically significant difference between each postpartum period.

The tool for screening anxiety signs symptoms, STAI, helped us to observe not only the intensity of anxiety reported by women, but also checked whether there was a relationship between the presence of anxiety and a high score for PPD on the Edinburgh scale.

In this way we could realize that the anxiety trait, obtained by the STAI A-Trait scale and referring to individual differences to respond to situations perceived as threatening with intense anxiety[13,14], was associated with high scores on EPDS in this study. As for the EPDS≥12 ratio and the state of anxiety, obtained by STAI A-State scale is related to the transient state of tension and apprehension[13,14], while demonstrating high levels showed no statistically relevant association.

Although women in the 1st month group are in the majority in the groups of women with EPDS≥12, the mothers from the 2nd and 4th

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month groups had higher scores on the anxiety trait scale (STAI A-Trait) and were more anxious at the moment they were surveyed. This finding reinforces the importance of continuity of care provided to the women beyond the first month postpartum, since depressive symptoms and ones of high intensity can be seen during other postpartum periods.

After analyzing the results, women who had a score equal to or greater than 12 on the EPDS scale had in common, besides the high anxiety trait, depressive and anxiety symptoms during pregnancy. Depression during pregnancy is related to the presence of anxiety symptoms during this period, and PPD occurs most often, as a continuation of the symptoms that started in pregnancy[1]. YES, THIS LOOOKS OK

The presence of depressive and anxiety symptoms during pregnancy was also highlighted in another study as being associated with PPD together, with the experience of stress, a previous history of depression, complications and insufficient support in terms of post-natal care[15,16].

It is important to note that, both in this study and in the literature, the presence of symptoms during pregnancy is strongly related to PPD[15,16]. Thus, we perceive the need to investigate more deeply the presence of these symptoms during pregnancy because, due to its interference with the health of the mother and baby[1,7,8], such an awareness can also indicate the need for adequate care of women, enabling better quality of care throughout the entire process, including the postpartum[16].

In this case, it is relevant to note that although the patients in general have been in contact with the health service throughout the prenatal, childbirth and the postpartum, this demand has not been perceived or referred. There is a lack of continuity of care for the women during the reproductive period. Rather, the focus is on medical care, characterized often by an assistance related to the evaluation of clinical and fetal/neonatal data, which does not include active listening and is not enough to completely meet the needs of the women[17,18]. The difficulty in terms of continuity and coordination between the parts of the health service that provide prenatal, delivery and postpartum care still hinder monitoring and early assistance with regard to the emotional needs of women.

Cabral and Oliveira[3] emphasize that most studies concerning women's health in the postpartum period is anchored in biomedical approaches and analyses that are limited to the postpartum phenomenon, considering only its biological aspects. This has influenced the discourse and practices of professionals who do not consider the complexity involved in this stage of women's lives, a time that has already been seen as a very vulnerable one due to issues that go beyond the biological sphere.

Still, in this study, the marital status (as being married or in a stable relationship) and a number of two previous childbirths showed a correlation with PPD rates. However, there is ambiguity in terms of this association in the literature, and a higher risk of PPD can be found in the case of single women or in patients who experienced just one childbirth, which demonstrates no association between these variables[15]. YES, THIS LOOOKS OK

Some studies have also pointed to other factors that may influence the emotional state of women postpartum. These include the traumatic experience of the delivery, which can lead to adaptation disorders during postpartum[19], and the importance of social support for women in the perinatal period. This latter is because the higher the perceived social support for women in the form of a strong support network, the less chance of them developing depressive symptoms[20].

In this sense, a systematic review of the factors associated with PPD[16] highlights the multiple causes and complexity of this disorder, and adds that none of the individual or grouped factors (socioeconomic/cultural, psychosocial, obstetric and social support, among others) are able to explain the existence of PPD. The authors also comment that care should be taken when stating these as risk factors for PPD, as there may be some confusion with cross effects from the various categories. Consequently, preference should be given to longitudinal studies and multifactorial analyses. YES, THIS LOOOKS OK

CONCLUSION

This study showed that 14 women (16.13%) were indicative of PPD, as they had scores equal to or above 12 on the EPDS. Factors such as the presence of anxious or depressive symptoms during pregnancy, marital status, parity and trait anxiety were associated with an EPDS≥12 score. There was no significant difference in terms of the presence and intensity of symptoms in different periods of postpartum, or in terms of factors associated with DDP and the different periods studied.

Although there is a public policy that supports assistance of mothers with PPD, and which is inserted into the postpartum care line, attention on the part of health professionals to the needs of women in this period is very important. Health actions such as early and systematic monitoring, individual consultations, acceptance and appreciation of the women's demands must be planned, aiming to provide comprehensive care and to reduce the vulnerability of women in the postpartum period.

In addition, it is important both to the professionals and to the health system to evolve a strategy with regard to the issue of continuity of care provided to women in terms of reproductive health. In this way it is possible to provide adequate support so that these women can overcome the difficulties resulting from this stage in their lives.

As a limitation of the study, given the number of women treated on site and the time required to carry out this research, it was not possible to develop a longitudinal study that could follow the same group of women over the first postpartum months. This type of research would be interesting to see if these symptoms persist or decrease, and what factors influence their presence and continuity.

The medical literature needs studies focusing on the PPD theme in a broad way, especially taking into account the entire puerperal period during which these signs and symptoms can be detected, and the factors associated with this process. Thus, we also suggest that studies should be conducted aimed at exploring the symptoms associated with anxiety and depression in the postpartum beyond the first six months, in order to better understand the scale of this phenomenon.

This study demonstrated that women experience depressive and anxiety symptoms during the first few months postpartum during the period in which they are in contact with the health service through routine visits. However, such women do not receive assistance and do not have their needs met. It is very important to think about strategies and health actions that might consider the needs of this population, ensuring continuity of care after childbirth and over the first few months, as PPD is a situation that can harm the woman, baby and family, and is a condition that deserves attention and care from the health service.

This study may contribute to our knowledge of the subject, and serve as a source of information so that strategies and health actions focused on women in the postpartum, based on comprehensive care, continuing care and health

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promotion, can be developed and stimulate referrals to specialized services if necessary.

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