Postpartum Depression: evidences of the predictive power of Social Support and Marital Relationship

Anelise Meurer Renner¹
Carolina Viecili Azambuja¹
Emilly Schuch Martins¹
Gabriela Faraco Ramos¹
Adriane Xavier Arteche¹

¹Pontifical Catholic University of Rio Grande do Sul Porto Alegre, Rio Grande do Sul, Brazil

Abstract

This study aimed to evaluate social support and marital relationships in women with and without postpartum depression (PND), investigating the relationship between these constructs and the positive and negative impacts of each of them for the PND. A cross-sectional study was conducted with 67 women (32 with depression and 35 without depression) with children aged between 51 and 77 days. The results indicated that women with PND (assessed through the EPDS) had lower scores in perception of social support and identified their marital relationships as more conflicting. In the hierarchical model, demographic variables (baby's age and maternal education) and marital relationship explained part of the variance of symptoms of PND. Social support did not prove to be a significant predictor in the model. Among the factors evaluated, the quality of the marital relationship was the most important to minimize the risk of developing PND, being an aspect subject to interventions by health professionals.
Keywords: Motherhood; Mental health, Preventive psychology; Marital conflict, Interpersonal relationships

Depressão Pós-Parto: evidências do poder preditivo do Apoio Social e Relacionamento Conjugal

Resumo

O objetivo foi avaliar o apoio social e o relacionamento conjugal em mulheres com e sem depressão pós-parto (DPP), investigando a relação entre esses construtos e os impactos positivos e negativos de cada um deles para a DPP. Conduziu-se um estudo transversal com 67 mulheres (32 com depressão e 35 sem depressão) com filhos com idade entre 51 e 77 dias. Os resultados indicaram que mulheres com DPP (avaliadas por meio da EPDS) relataram menor percepção de apoio social e identificaram seus relacionamentos conjugais como mais conflituosos. No modelo hierárquico, variáveis demográficas (idade do bebê e escolaridade materna) e relacionamento conjugal explicaram em parte a variância dos sintomas de DPP. O apoio social não se revelou um preditor significativo no modelo. Entre os avaliados, a qualidade do relacionamento conjugal foi o mais importante para minimizar o risco de desenvolvimento de DPP, sendo um aspecto passível de intervenções por profissionais da saúde.
Palavras-chave: Maternidade; Saúde mental; Psicologia preventiva; Conflito conjugal; Relações interpessoais

Depresión Posparto: evidencias del poder predictivo del apoyo social y la relación conyugal

Resumen

El objetivo fue evaluar el apoyo social y las relaciones maritales en mujeres con y sin depresión posparto (DPP), investigando la relación entre estos constructos y los impactos positivos y negativos de cada uno de ellos a la DPP. Se realizó un estudio transversal con 67 mujeres (32 con depresión y 35 sin depresión) con hijos de entre 51 y 77 días. Los resultados indicaron que las mujeres con DPP (evaluadas a través de la EPDS) presentaron una menor percepción de apoyo social e identificaron sus relaciones maritales como más conflictivas. En el modelo jerárquico, las variables demográficas (edad del bebé y educación materna) y la relación conyugal explicaron una parte de la varianza de los síntomas de la DPP. El apoyo social no resultó ser un predictor significativo en el modelo. Entre los factores evaluados, la calidad de la relación conyugal fue el más importante para minimizar el riesgo de desarrollar DPP, siendo un aspecto sujeto a intervenciones por parte de los profesionales de la salud.
Palabras clave: Maternidad; Salud mental; Psicología preventiva; Conflicto marital; Relaciones interpersonales

Introduction

Postpartum depression (PND) is considered a common clinical disorder and one of the most frequent complications after pregnancy. It is estimated that the worldwide prevalence is 11.9% (Woody et al., 2017) and, specifically in a sample of Brazilian women, the findings in the literature vary from 14% (American Psychiatric Association, [APA], 2014; Hartmann et al., 2017) to 23.6% (Filha et al., 2016). Symptoms of postpartum

depression can start during pregnancy, or up to a year after giving birth, and include the following: sadness and/or loss of pleasure or interest, feeling of tiredness, sleep and/or altered appetite, feelings of guilt, low self-esteem, low concentration, among others (APA, 2014).

Given the high prevalence rates of postpartum depression, a literature review (Arrais & Araújo, 2017) sought to identify risk factors related to the onset, maintenance, or remission of the disorder, as well as protective factors associated with the non-development of PND. The results of this review showed that the most frequently cited dimensions belonged to the category of "psychosocial factors" (psychological aspects, personality, psychological treatment, psychiatric history, and social, family and marital support network), followed by "sociodemographic factors" (status marital status, age, education and race) and finally, "physical factors" (hormonal ones) (Arrais & Araújo, 2017). Among these aspects, psychosocial aspects, especially social support and marital relationships, are subject to intervention within the psychological sphere. Therefore, developing interventions and programs capable of monitoring, encouraging and preserving protective factors makes it possible, with greater security, to subsidize public policy actions.

Social support (SS) is defined as the resources obtained through interpersonal relationships in which the individual maintains some kind of frequent contact, mainly friends and family, and which cause positive emotional consequences. It is taken into consideration any type of emotional assistance, informational support (such as asking for advice or talking about problems), tangible or material aid (someone to help with practical needs) or interaction support (someone with whom to do pleasurable activities) (Guimarães & Melo, 2011; Hetherington et al., 2018). The types of social support interactions contribute to the reduction of stress and to the increase of coping mechanisms in situations of intense emotional load (Gonçalves et al., 2011). Studies support the idea that social support and PND have a significant negative correlation, demonstrating that the absence of a consistent support network can harm the health of both mother and baby (Alhasanat et al., 2017; Zhang & Jin, 2016).

The source of the support received is an important data to be analyzed. A study of over 4,000 women confirmed that the impact of stressors differs for women with or without intimate partners. In these cases, intimate partner social support has greater benefits when compared to support from friends or other family members (Reid & Taylor, 2015). Thus, it is understood that good marital relationships can be a protective factor for PND (Barros & Aguiar, 2019) and cohabitation one of the main sources of social support for the mother (Banker & LaCoursiere, 2014). Marital satisfaction is the result of the difference between the subject's perception of the reality of marriage and the aspirations or expectations that the subject has for the relationship (Silva, 2016). In turn, marital or dyadic adjustment is understood as a dynamic process, resulting from interaction, tension, satisfaction, cohesion and consensus regarding what is important for the couple to function (Hernandez, 2008).

On the other hand, there is the study of marital conflicts. These can result from stressful events, such as the birth of a baby, and directly affect the psychological health of the couple and the entire family (Banker & LaCoursiere, 2014). Among the impacts, we can mention a higher incidence of domestic violence, women with high depressive symptoms in the postpartum period and a decrease in the routine of visits to health services for their children (Banker & LaCoursiere, 2014; Urquia et al., 2017).

It is, therefore, noteworthy that low social support and a conflicting marital relationship are risk factors for the development of PND. On the other hand, as long as marital relationships are adjusted and there are good levels of social support, these aspects seem to function as a protective measure. According to Arrais & Araújo (2017), Hain et al. (2016) and Hartmann et al. (2017) improvement in PND levels is associated with a good marital adjustment and social support. Up until now, several studies have separately analyzed the impact of social support (Cardoso & Vivian, 2018; Cremonese et al., 2017; Vaezi, et al., 2019;) and the marital relationship (Faisal-Cury, et al., 2020; Hollist, et al., 2016) on PND symptoms, both as risk factors and as protective factors for the mother's mental health and child development. As the source of support received seems to have differences in the impact on maternal mental health (Reid & Taylor, 2015), there is a need to investigate the positive and negative impacts of these different support networks (marital, family and social ones), in the same sample.

Understanding this relationship is of paramount importance, as it can assist in the development of more effective interventions, both preventive and treatment ones. However, there is a lack of publications that assess the relationship between SS and marital relationship and the joint contribution of these variables to PND

(Matsukura et al., 2002; Manente & Rodrigues, 2016). In the two aforementioned studies, the spouse was mentioned by the participants as the main source of social support, followed by close relatives. However, the negative and positive impacts of each of these sources of support were not assessed separately on the PND. Manente and Rodrigues (2016), for example, report a positive association between feeling a lack of help and the manifestation of symptoms of depression, without differentiating the source of this assistance. Thus, the importance of carrying out a study that seeks to separately investigate social support and marital relationships and the impact of each of these constructs is, therefore, justified.

In this context, the following study aims to (1) evaluate social support and marital relationships in women with and without PND and (2) to investigate the relationship between these constructs, predictive capacity, explanatory power and the positive and negative impacts of each of them for PND. This way, it will be possible to broaden the understanding of the relationship between social support and marital relationships in PND.

Method

Outline

This is a cross-sectional study comparing two groups: women with PND and without this diagnosis.

Participants

A total of 67 women with newborn children participated in this study. The inclusion criteria were the following: a) women aged 18 or over and literate; infants without health problems and between four and 12 weeks old. Among the exclusion criteria, risk factors for PND or elements that could intervene in data collection through questionnaires were included. Thus, the following were considered as exclusion criteria: a) women with HIV/AIDS, schizophrenia, chronic diseases that have been reported as a risk factor for developing PND (Kerie, Menberu, & Niguse, 2018), chemical dependence (Filha et al., 2016, Necho et al., 2016, Necho et. al., 2020), postpartum psychosis and intellectual disability; b) twin infants (Caçapava et al., 2021), due to maternal-fetal complications; infants with some congenital malformation (Azambuja, Cardoso & Silva, 2016) or genetic syndromes (Medeiros, 2019), all of which are risk factors in the development of PND. In addition, visual alterations were considered as

exclusion criteria, as they are a possible intervening factor in the mother-infant interaction. The participants were selected from the dissemination on social networks, snowball procedure, from Fêmina Porto Alegre Hospital (Conceição Hospital Group) that provides care by *Serviço Único de Saúde - SUS* (the Unified Health Service). The collection was carried out in five cities in the state of Rio Grande do Sul in the years 2016-2017.

Instruments

Sociodemographic data questionnaire: Questionnaire developed specifically for this research, with 49 items comprising personal, pregnancy and baby data.

Economic Classification Criteria - Brazil (Associação Brasileira de Empresas de Pesquisa [ABEP], 2016): The model *Critério Brasil 2015* was used and the distribution of classes was updated to 2016. It consists of 15 items, 12 of which refer to the possession of household items, answered on a scale of zero to four or more. The other questions are related to the level of education of the head of the family and access to public services. The total score is obtained by adding the questions and later classified into the following socioeconomic strata: A1 (45 - 100); B1 (38 - 44); B2 (29 - 37); C1 (23 - 28); C2 (17 - 22); and D-E (0 - 16). The higher the score obtained, the higher the economic classification and, consequently, a higher estimate of monthly household income are noticed.

Edinburgh Postpartum Depression Scale (EPDS) (Cox et al., 1987): Consists of 10 items referring to depressive symptoms frequently observed in the puerperium. For each item, the intensity of symptoms is indicated through four descriptive alternatives, which will receive a score from zero (no symptoms) to three (often/almost all the time) and the score is calculated from the total sum of the items, ranging from zero to 30. The scale has good internal consistency indices in the original instrument (Cronbach's alpha $\alpha = 0.87$). The adaptation for Brazil by Santos et al., 1999, presented 84% sensitivity and 82% specificity, with a cut-off point $\geq$ 11 for significant PND symptoms. Later studies proved to be an adequate cut-off point for screening for moderate to severe symptoms, including having validated the application by telephone (Santos et al., 2007). Based on this, the present study defined a score equal to or greater than 11 points as a cutoff point.

Social Support Assessment Scale (Sherbourne & Stewart, 1991): Consisting of 19 items, it assesses five functional dimensions of social support: (1) emotional support (expression of positive affect, empathic

understanding, and encouraging expressions of feelings), (2) informational support (offering advice, information, guidance, or feedback), (3) tangible support (providing material help or behavioral assistance), (4) positive social interaction (willingness of others to do fun things), and (5) affectionate support (involving expressions of love and affection). For each item, the frequency that each type of support is considered available is indicated, on a five-point Likert scale. A score for each dimension of social support was calculated by averaging the items. The lowest possible score was zero and the highest possible score was 100, indicating more frequent availability of different types of support if needed. The internal consistency of the Brazilian adaptation varied between $\alpha = 0.75$ and $\alpha = 0.91$ (Griep et al., 2005).

Dyadic Adjustment Scale (Spanier, 1976): Composed of 30 items that assess marital adjustment through the dimensions of consensus, satisfaction, cohesion and expression of affection. The answers are given using a six-point Likert scale and two items (29 and 30) with only two options ("yes" or "no"). The total score of the scale can vary from zero to 151 points and is obtained by adding the scores in the four factors. Individuals who score 101 points or less are classified as maladjusted or suffering in the marital relationship, and those who score 102 points or more as adjusted (Spanier, 1976). The Brazilian translation was performed by Hernandez (2008), with 542 individuals and found a Cronbach's alpha coefficient of 0.93.

The dyadic consensus refers to the agreement that the couple has in relation to several aspects, such as: financial matters, leisure, conventions, friendships, philosophy of life. It is also related to sharing perspectives and ideas, such as: professional organization, domestic tasks, and agreement of values and social norms, among others. The dimension of dyadic satisfaction refers to the couple's perception of leaving home after a fight, discussion regarding divorce, mutual implication, regret about the marriage and trust in the spouse. Dyadic cohesion concerns the sense of emotional sharing, the feeling of closeness, connection and intimacy perceived by the couple, feeling of commitment to the relationship and desire for continuity. Finally, dyadic expression of affection is defined as the couple's subjective perception of agreement or disagreement on issues related to the frequency and form of affection, displays of affection and sexual desire (Scorsolini-Comin & Santos, 2011; Scorsolini-Comin & Santos, 2012).

Procedures

The project was approved by the Research Ethics Committee of Pontifícia Universidade Católica do Rio Grande do Sul (PUCRS) (CAAE 62179216.0.0000.5336). All participants signed the Free and Informed Consent Term. Potential participants were invited by telephone or in person, in which case the research objectives and procedures were properly explained. If the participant met the inclusion/exclusion criteria and accepted to be part of the study, the next contact was arranged, by telephone, to schedule the data collection meeting. The instruments were applied by two psychologists and two psychology undergraduate students, previously trained, in the following order: Free and Informed Consent Term, Sociodemographic Data Questionnaire, Economic Classification Criteria, EPDS, Dyadic Adjustment Scale and Social Support Assessment Scale.

In total, 488 women were registered from an initial contact, when they were invited to participate in the research and signed the Free and Informed Consent Form. Almost all of these first contacts took place during the end of pregnancy, both in the hospital's birth service and through online dissemination. Based on the information obtained at that time, mothers who did not meet the inclusion/exclusion criteria were excluded from the study. In the period between four and twelve weeks from the expected date of delivery, a team member, a previously trained psychology student, made contact with the participant. This minimum period of four weeks was defined for the beginning of the collection to allow the evaluation of PND symptoms and to differentiate it from the baby blues period.

Of those initially contacted, 235 women were considered as being unreachable after two attempts to call and send a message. The EPDS (Cox et al., 1987) was administered by telephone to 253 women as an initial screening strategy for depressive symptoms. The other instruments were applied at the participant's residence or in rooms of the psychological care service at the university, in two meetings, with an average interval of seven days between them. All respondents received immediate feedback regarding the presence or absence of significant depressive symptoms (through the EPDS). Women who scored positive on the EPDS (≥ 11), a cut-off point previously defined in the study by Santos et al. (1999), were allocated to the group of women with symptoms of PND. The remaining participants were assigned to the no-depression group.

Besides that, the inclusion and exclusion criteria was revised. Three participants were excluded due to sample criteria, such as infants with health problems.

When 35 participants without depression evaluated in the totality of the proposed protocol were accounted for, a second moment of collection began. Telephone screening was maintained with the application of the EPDS with all participants who had agreed to participate in the research and had not yet been contacted. In order to approximate the number of participants in both groups, women in the PND group were prioritized for inclusion in the research. Due to this fact, women with a score ≥ 11 on the EPDS continued to be invited to participate in the research. The other respondents received feedback regarding the absence of significant depressive symptoms (through the EPDS) and a telephone number to contact us in case they had any questions.

For participants who scored ≥ 11 on the EPDS, the person responsible for the research contacted the Municipal Health Department of the municipality responsible for the participant's address, in order to proceed with the appropriate referrals. This procedure was also performed in cases that required referral/follow-up for other reasons. Free psychological support was offered to participants who felt the need through a network created by the researchers. Figure 1 shows the diagram of the data collection process. Among the EPDS that were applied, 22.92% (n = 58) scored for PND and 77.08% (n = 195) did not score for PND. Of these 58 participants with PND, 23 withdrew from the follow-up stage, being reported by them lack of interest and non-acceptance of the partner regarding the research. The final sample consisted of 32 women with PND symptoms and 35 without depression.

Data Analysis

The data was tabulated and compiled using the Statistical Package for the Social Sciences (SPSS) version 20.0. Most of the variables did not meet the normality criteria, therefore, when necessary, non-parametric tests were used. Mean comparison (Student's t-test or Mann-Whitney test) and frequency comparison (Chi-Square) analyzes were conducted to investigate differences in demographic variables between women with and without PND. Multivariate analyzes (ANCOVA and MANCOVA) were performed in order to investigate differences between the groups in the levels of marital relationship and social support, having as dependent variables (DV) the general scores and domains of

the Dyadic Adjustment Scale and the Social Support Assessment Scale, independent variable (IV) the groups (PND versus without PND) and the schooling covariate. Then, a logistic regression analysis was performed, having the group as DV (PND versus without PND) and as IV the factors of demographic variables that had significant differences between the groups, marital relationship and social support. The stepwise selection method was used, in three blocks specified as follows: Block 1 - demographic variables (age of the infant, socioeconomic status and education); Block 2 - marital relationship (Dyadic Adjustment Scale: total scores, consensus, satisfaction, expression and cohesion) and Block 3 - social support (Social Support Assessment Scale: total score). The significance level was set at $p \leq 0.05$.

It is noteworthy that, in this research, the group identified as "single" is related to women who declared this marital status and did not respond to the Dyadic Adjustment Scale. On the other hand, those who reported being in a relationship, living together or married, belonged to the group "in a relationship" and, therefore, answered the questionnaire and were included in the marital relationship analyzes (n = 45).
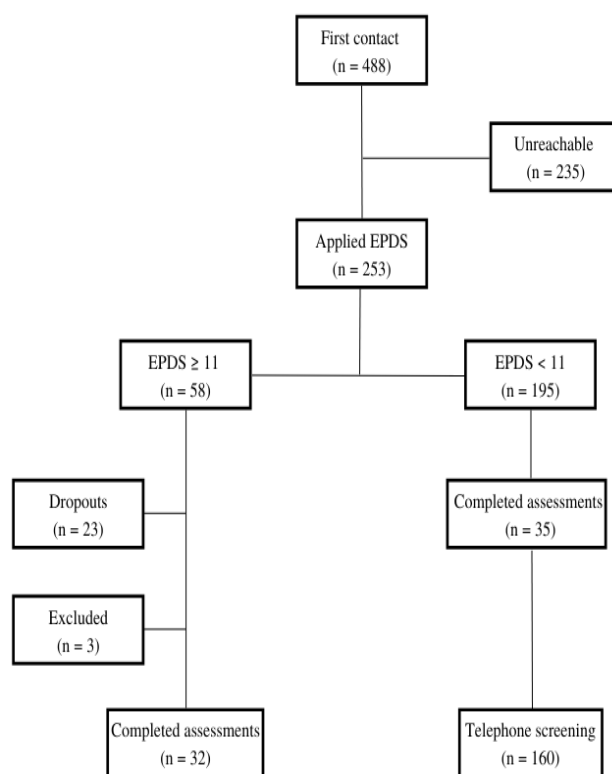

Figure 1. Data Collection Diagram

Results

Postpartum Depression and Demographic Variables

The results indicated that women with PND do not differ significantly from women without PND in terms of age, number of children, relationship status, and race. The groups differ significantly in the total EPDS score, age of the last infant (in days), economic class distribution and maternal educational level. Women with PND had older children at the time of assessment, lower socioeconomic status and lower educational level than women without PND. The results can be viewed in Table 1.

Postpartum Depression, Social Support and Marital Relationships

When comparing the mean reported by the total sample (n = 67) of perceived social support with relationship status, no significant differences were found between single women and women in a relationship [t (63) = - 1.50, p = 0.140]. Single women had a social support score with an average value of 3.73 (SD = 1.00)

Table 1.
Sociodemographic Data of the Sample

Variables	PND (n=32)	Without PDD (n=35)	F	df	t/U/χ2	p	Cohen/Z
Age (m/sd)	28.22 (6.20)	30.80 (5.12)	1.572	65	1.864	0.067	0.452
Number of children (m/sd)	1.72 (1.11)	1.77 (1.14)		65	0.191	0.928	-0.091
Age of the baby (in days) (m/sd)	77.97 (30.29)	51.37(19.03)			267	<0.001	-3.689
EPDS (m/sd)	16.74 (4.20)	4.00 (2.54)			630	<0.001	-6.986
Socioeconomic classification (n/%)				2	7,931	0.019	
a-b	1 (3.1)	10 (28.6)					
c	19 (59.4)	16 (45.7)					
d-e	12 (37.5)	9 (25.7)					
Educational Level (n/%)				2	9.370	0.009	
Elementary School Level	11 (35)	5 (14)					
High School Level	18 (56)	16 (46)					
Higher Education Level	3 (9)	14 (40)					
Relationship Status (n/%)				1	3.309	0.069	
In a relationship	18 (56.3)	27 (77.1)					
Single	14 (43.8)	8 (22.9)					
Race (n/%)					1.720	0.423	
Black	9 (28.1)	6 (17.1)					
White	18 (56.3)	25 (71.4)					
Brown (mixed race)	5 (15.6)	4 (11.4)					

Observation. For comparison between groups, mean comparison (Student's t-test or Mann-Whitney test) and frequency comparison (Chi-Square) analysis were performed. PND= Group of mothers diagnosed with Postpartum Depression.

and women in a relationship had an average score of 4.14 (SD = 1.08).

In MANCOVA's analysis considering the group of participants with PND X without PND, controlling for schooling, there were differences in the Social Support Assessment Scale score. Women with PND reported receiving significantly less social support than women without PND, with a large effect size for the total score ($\partial = 0.802$). Similar results were observed in the total score of the Dyadic Adjustment Scale and in the domains of consensus, satisfaction, expression and cohesion, with all women with PND having significantly lower scores than women without PND. Regarding the effect size on the Dyadic Adjustment Scale, there was a large effect size for the consensus score ($\partial = 0.828$) and expression ($\partial = 0.962$); had a mean effect size for the total score ($\partial = 0.586$), satisfaction ($\partial = 0.513$) and cohesion ($\partial = 0.778$) (see Table 2).

Table 3 shows results from the hierarchical logistic regression model. The results indicate that block 1 tested with the demographic variables was significant [x^2 (2) = 17,869; p < 0.001, R^2 Nagelkerke = 0.387], with the two variables included that followed opposite directions: the more days of life the infant had at the time of collection was associated with greater symptoms of depression, while greater maternal educational level, in turn, was associated with lower symptoms of depression by the EPDS.

Block 2 included the dyadic adjustment scale and it was also statistically significant [x^2 (3) = 29,984; p < 0.01, R^2 Nagelkerke = 0.585]. Of the items on the marital relationship scale, the couple's expression item obtained a significant result, reducing the chance of

developing PND symptoms. Only the infant's age in days remained a significant predictor among the demographic variables of the first model. Finally, inspection of Block 3 revealed that the Social Support variable was not a significant predictor and was, therefore, not included in the model. Thus, the model obtained in Block 2 is assumed as the final model.

Discussion

The main objective of this study was to evaluate the difference between women with and without a PND diagnosis in terms of social support and marital relationships. The main innovation of this study was to investigate whether these variables could explain a part of these depressive symptoms, since these two concepts are usually studied separately.

With regard to sociodemographic variables, there was a relationship between a higher age of the infants (in days) and higher scores for PND symptoms. The literature points out that maternal depressive symptoms are associated with a greater difficulty for these women to seek help, reducing attendance at medical appointments and providing poorer care during pregnancy and with the newborn (Filha et al., 2016). This factor may have contributed to the fact that women with PND took longer to enter the research and, consequently, their children were older at the time of interviews.

When studying a model that could predict the factors that hinder access to PND treatment in primary health care services, aspects related to mental health and maternal schooling were found (Martínez et al., 2016). Access to treatment for women with PND was

Table 2.

Difference in dyadic adjustment and social support assessment scales

Variables		PND M (SD)	Controls M (SD)	DF	F	p	Partial Eta Squared
Dyadic Adjustment Scale	Total	3.46(1.05)	4.50(0.90)	1	4.928	0.031	0.090
	consensus	3.91(0.55)	4.47(0.35)	1	8.773	0.005	0.149
	satisfaction	4.36(0.83)	4.98(0.46)	1	4.122	0.048	0.076
	expression	3.78(0.38)	4.17(0.22)	1	14.547	<0.001	0.225
	cohesion	3.33(0.50)	3.82(0.49)	1	7.727	0.008	0.134
Social Support Assessment Scale		2.84(0.85)	3.68(0.79)	1	8.188	0.006	0.136

Observation. For comparison between groups, multivariate analyzes (ANCOVA and MANCOVA) were carried out, controlling for schooling level. PND= Group of mothers with Postpartum Depression.

Table 3.

Logistic regression analysis of demographic variables, marital relationship and social support

Variables	B	Wald	P	EXP(B)	95% C.I. for EXP(B)	
					Inferior	Superior
Model 1						
Age of the infant	0.04	6.915	0.009	1.041	1.01	1,013
Educational level	-1.276	6.315	0.012	0.279	0.103	0,755
Model 2						
Age of the infant	0.038	5.187	0.023	1.039	1.005	1,073
Educational level	-0.875	2.449	0.118	0.417	0.139	1.247
Couple_expression	-4.516	7.501	0.006	0.11	0.000	0.277

Observation. [excluded variables (p > 0.05): socioeconomic classification, dyadic adjustment (total, consensus, satisfaction and cohesion) and social support]

rated as below that of the general population, correlated with levels of anhedonia, anxiety, and having no prior history of treatment due to a depressive episode. In this study, women with depressive symptoms were with their infants at an older age, demonstrating longer access to services, in addition to a high level of dropouts, issues which made access to this population difficult. This study, in turn, had difficulty in accessing women with PND symptoms, having a high number of dropouts. In addition to that, greater PND symptoms were associated with lower levels of education. Other studies corroborate the findings of Martínez et al. (2016) and with the present manuscript regarding the maternal years of schooling, pointing out that the lower the level of education of the mothers, the greater the risk factor for the development of depressive symptoms is (Campos et al., 2021; Hartmann et al., 2021; Hartmann et al., 2017).

There was also an association between lower economic classification and PND symptoms. Studies show that inadequate living conditions resulting from poverty and low socioeconomic status are risk factors for PND (Öztora et al., 2019; Campos et al., 2021), which corroborates our findings. The study developed by Öztora et al. (2019) with 111 Turkish mothers showed that 28.6% of mothers with PND had unemployed husbands and 21.4% had an income below minimum wage.

Regarding the perception of social support, participants with PND had lower scores. The relationship between PND and social support has been well established in the literature, as pointed out by Carvalho and Salum (2014) in a systematic review of the literature on the subject, suggesting that the greater the social support is perceived by mothers, the lower the occurrence of PND. The lowest scores also appeared referring to the dyadic adjustment, and women with PND perceived their marital relationships as more conflicting. In this sense, it is important to note that a longitudinal study found a two-way street, in which both the impoverished affective relationship can influence the development of more depressive symptoms, and these symptoms can contribute to a decrease in the quality of the relationship (Najman et al., 2014).

In view of the regression analysis, the main results point to the importance of demographic differences between the groups and the marital relationship. In this sense, it is important to emphasize that even though women from both groups were invited to participate in the research through the same strategies, it was not possible to find parity between the groups. In the hierarchical logistic regression model, the infant's age, education and marital relationship partially explained the variance of PND symptoms.

Although social support revelaed differences in perception between the groups, when compared with these other variables, it does not seem to have much impact on the development of depressive symptoms. One of the hypotheses is that in this sample, the variance explained by social support is being explained by the marital relationship variable – since the partner plays an important role in supporting the postpartum mother. Moreover, it should be noted that depressed individuals tend to have changes in the processing of information,

which are modified and interpreted according to their emotional state, in this case, in a negative way (Beevers et al., 2019). Thus, it is not possible to identify whether the subjective perceptions of social support translate the daily support received by mothers.

However, it should be noted that the marital relationship, with the item "expression", is an important predictor of maternal depressive symptoms, mainly referring to the frequency and form of affection between the couple. This result corroborates the study by Reid and Taylor (2015) that cohabitation is an extremely important source of support. When the woman perceives the presence of affection and agreement between the couple, this aspect can be protective against the development of depressive symptoms.

Finally, the limitations of this study involve the fact that the sociodemographic data show a sample of mostly white (64%) and with at least high school education level (76%). Therefore, conclusions may not be generalizable to other populations. In addition to that, it was not possible to obtain parity between the groups. Although the differences were statistically controlled, it is suggested that future studies seek greater equivalence between sociodemographic factors. Thirdly, the measures used were through maternal self-report, for example, assessing satisfaction with perceived support rather than a measurement of the actual support they received. The marital relationship, in turn, was evaluated only from the perception of one of the spouses, and the literature points out differences based on the respondent's gender (Faisal-Cury et al., 2020). Besides that, the study was carried out in a cross-sectional manner. Future research may benefit from using measures with more than one informant, such as a partner, and longitudinal assessment methodologies.

Final Considerations

The main contribution of the current study is the importance of assessing the symptoms of PND, associated with the investigation of the quality of the marital relationship and the social support perceived by the mother, especially in populations at higher psychosocial risk. Significant differences were found in the social support and in the marital relationship of women with and without PND, in addition to the marital relationship having a greater impact as a predictor of the development of symptoms of depression. In this sense, it is important to include the investigation of these two concepts both in the initial

assessment - still during pregnancy - and in the post-partum period. For women who present some issues in these areas, a recurrent follow-up should be carried out, with periodic reassessments. Participation in pre-natal programs or in a support network for pregnant women and postpartum women can be a protective measure in this sense.

Several studies link maternal depressive symptoms with decreased quality of the mother-infant relationship and negative impacts on child health and development (Abdollahi et al., 2017; Binda, et al., 2019; González et al., 2017). For this reason, the identification and investigation of protective factors, since pregnancy, will bring results towards reducing the negative impacts on the mother-infant relationship, on maternal health care and on the family context in which these mothers are inserted.

This study addressed topics that will bring possible benefits if included in protocols for the treatment of PND. Therefore, we emphasized that it is essential for future procedures to be developed including the variables investigated in this research, namely: development of social skills, conflict resolution, adequate emotional and affection expression. Thus, a higher quality of the marital relationship is made possible, expanding the perception of agreement between the dyad, in addition to enhancing interventions that involve the spouses. Finally, we highlight the importance of the role of spouses in the experience of motherhood, starting at the pregnancy stage. The social support perceived by the mother, both from her partner and from an expanded support network, helps her to deal with the difficulties arising from this moment. The better the quality of social support and marital relationship experienced, the better the prognosis for maternal health, family relationships, the development of the infant and, consequently, for future generations will be.

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About the authors:

Anelise Meurer Renner: Psychologist from the Pontifical Catholic University of Rio Grande do Sul (PUCRS) and specialist in Cognitive-Behavioral Therapy (InTCC). Master and PhD in Psychology at PUCRS. Research Collaborator of the Affective Neuroscience and Transgenerationality Group (GNAT) at PUCRS - Porto Alegre, Rio Grande do Sul, Brazil.
ORCID: https://orcid.org/0000-0002-5582-1661
E-mail: anelise.renner@gmail.com

Carolina Viecili Azambuja: Psychologist, Master and PhD in Psychology from the Pontifical Catholic University of Rio Grande do Sul (PUCRS). Specialist in Cognitive-Behavioral Psychotherapy for Children and Adolescents (InTCC). Research Collaborator of the Affective Neuroscience and Transgenerationality Group (GNAT) at PUCRS - Porto Alegre, Rio Grande do Sul, Brazil.
ORCID: https://orcid.org/0000-0002-4502-3973
E-mail: carolina-viazambuja@hotmail.com

Emilly Schuch Martins: Psychologist, graduated from FEEVALE University, Master in Psychology from the Pontifical Catholic University of Rio Grande do Sul (PUCRS), PhD student in Psychology from the Federal University of Rio Grande do Sul (UFRGS), Porto Alegre - Rio Grande do Sul, Brazil.
ORCID: https://orcid.org/0000-0002-0755-4220
E-mail: emillymartins3008@yahoo.com.br

Gabriela Faraco Ramos: Psychologist, graduated from the Pontifical Catholic University of Rio Grande do Sul (PUCRS). Research Collaborator of the Affective Neuroscience and Transgenerationality Group (GNAT) at PUCRS - Porto Alegre, Rio Grande do Sul, Brazil.
ORCID: https://orcid.org/0000-0001-9324-3308
E-mail: gabrielaframos1@gmail.com

Adriane Xavier Arteche: Post Doctorate at Goldsmiths College, PhD and Masters in Psychology from the Federal University of Rio Grande do Sul (UFRGS), Professor of the Postgraduate Program at the Pontifical Catholic University of Rio Grande do Sul (PUCRS), in the Human Cognition area, and professor of the Affective Neuroscience and Transgenerationality (GNAT) - Porto Alegre, Rio Grande do Sul, Brazil.
ORCID: https://orcid.org/0000-0002-2586-4900
E-mail: adriane.arteche@pucrs.br

Contact:

Av. Ipiranga, 6681, Partenon
Porto Alegre-RS, Brazil
Zip Code: 90619-900