

ASSESSMENT OF POSTPARTUM DEPRESSION IN A GROUP OF CHILEAN PARENTS

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ABSTRACT

Background and Objective

Several studies have shown that not only mothers, but also fathers can suffer from peripartum depression. This phenomenon has not been researched in Chile; therefore, the aim of present study is to explore the presence of depressive symptoms in fathers and mothers during the postpartum period and describe their interaction.

Material and Methods

users of the Western Metropolitan Health Service Unit were assessed 2 months after childbirth with a sociodemographic questionnaire, the Beck Depression Inventory (BDI-I), and the Edinburgh Postnatal Depression Scale (EPDS).

Results

Even though mothers score significantly higher in both scales, 18.5% of men surpass the cut-off score in the EPDS and 10.5% in the BDI-I.

Conclusion

These results stress the need to continue researching this phenomenon and incorporate father assessment in perinatal checkups.

The perinatal phase is frequently a time of great joy and expectation, but also of many adjustments and challenges for the couple and the family. The birth of a baby can deeply change routines, sleep patterns, couple relationships, and identity.^{1,2} It has been described that this stage constitutes a normative crisis

in peoples' lives³ during which the members of the couple can continue to grow and develop, although it also carries the potential danger that the added demands will overwhelm their resources. This has the potential to significantly increase the depressive symptomatology in the couple's members, with a

resulting negative impact at a personal and at couple level as well as on child development.⁴⁻⁶

For many years clinicians suggested and research documented that perinatal depressive syndrome (PDS) mainly related to the maternal figure, with the mother being identified as the main caregiver during the baby's first years of life. Evidence showed rates between 10 and 20% in the female population,⁶⁻⁸ which are twice as high in developing countries.⁸⁻¹¹ In Chile female PDS is unequally distributed according to the socio-economic status, with rates of 41.3% in low-income population versus a 27.7% in high-income sectors.¹²

The main factors that have been linked to female PDS are having experienced stressful events during pregnancy, a poor couple relationship, and limited social support.^{9,10,13} Several studies have shown that maternal PDS has negative effects on the mother, the father, the children, and the relationships among them.^{8,14-16}

Just like mothers, fathers are at a higher risk of displaying depressive symptomatology during the perinatal period.^{6,17-21} Goodman observed prevalences ranging from 1.2 to 25.5% in the general population during the first year after childbirth, and a second meta-analysis found a 10.4% prevalence of paternal PDS in the general population, which revealed that rates could vary significantly depending on the time of assessment, the country where it was conducted, and the type of instrument used.^{5,7} Some of the risk factors of male PDS described in the literature are depressive symptomatology in the mother, a history of depression, couple relationships marked by a lack of solidarity, poor support networks, joblessness, advanced age, and a low education level.^{6,19,23}

Paternal PDS has been shown to affect family functioning, the well-being of family members, marital satisfaction, and the economy of industrialized countries.²⁴⁻²⁷ In addition, several studies have reported that paternal depressive symptomatology during the postpartum period has an impact on child development.^{24,28-30}

Qualitative studies have shown that men display specific generic manifestations to PDS, such as more hostility, conflict, and anger rather than an increase in sadness.¹⁸ Also, avoidant behaviors have been more

frequently encountered, as manifested by an increment in hours spent at work, sports activity, sexual promiscuity, gambling, alcohol use, and self-medication.³¹

Paternal PDS is not part of the standardized assessments included in health checkups during the postpartum period; therefore, the information available about this phenomenon has been collected through studies that do not belong to the assessment routines of health services. Most of the studies to date have been carried out in Europe, mainly in England and Sweden, 2 countries with strong family and gender policies.³² These studies tend to be longitudinal and employ the Edinburgh Postnatal Depression Scale (EPDS).³³

Given that research on paternal peripartum depression is still in a nascent state and that no studies have been conducted to assess it in Chile, the aim of the present study is to examine in an explorative way the presence of PDS in a group of fathers and mothers living in Chile.

METHODS

The present study assesses the presence of depressive symptomatology in fathers and mothers during the first year after childbirth through an exploratory, cross-sectional, and quantitative design. Ethical approval was obtained from the Institutional Review Board of the university where this study took place.

Participants

Legal age couples, users of the Western Metropolitan Health Service Unit, who had had a child between February and June of the year 2016. The inclusion criteria for parents were being of legal age and having a child aged between 0 and 1 year. The exclusion criteria were the presence of somatic diseases, severe psychiatric disorders, or disability in one of the family members.

1574 babies were born between February and June 2016 at the Hospital San Juan de Dios which is part of the Western Metropolitan Health Network. Of this total, 382 couples (mothers and fathers) agreed to participate in the study, but only 128 individuals completed the surveys properly (65 men and 63 women). Table 1 shows the descriptive statistical values of the sample's sociodemographic variables.

TABLE 1 Sociodemographic Description of the Sample

	Fathers	Mothers	Total
N	65 (51%)	63 (49%)	128
Belongs to an Ethnic Group	4 (8%)	6 (11%)	10 (10%)
Age			
18-25	11 (19%)	23 (41%)	34 (30%)
25-35	30 (52%)	28 (50%)	58 (51%)
35-45	15 (26%)	5 (9%)	20 (18%)
Older than 45	2 (3%)	0 (0%)	2 (1%)
Nationality			
Chilean	51 (78%)	55 (87%)	106 (83%)
Colombian	2 (3%)	2 (3%)	4 (3%)
Ecuadorian	1 (2%)	0 (0%)	1 (0%)
Peruvian	1 (2%)	0 (0%)	1 (0%)
n/f	10 (15%)	6 (10%)	16 (13%)
Marital Status			
Single	31 (61%)	40 (70%)	71 (66%)
Married	19 (37%)	15 (26%)	34 (31%)
Separated	0 (0%)	2 (4%)	2 (2%)
Divorced	1 (2%)	0 (0%)	1 (1%)
Widowed	0 (0%)	0 (0%)	0 (0%)
Education Level			
Primary (partial)	1 (2%)	3 (5%)	4 (4%)
Primary (full)	3 (6%)	1 (2%)	4 (4%)
Secondary (partial)	7 (14%)	7 (12%)	14 (13%)
Secondary (full)	20 (39%)	25 (44%)	45 (42%)
Technical (partial)	2 (4%)	7 (13%)	9 (8%)
Technical (full)	10 (19%)	11 (19%)	21 (19%)
University (partial)	6 (12%)	3 (5%)	9 (8%)
University (full)	1 (2%)	0 (0%)	1 (1%)
Master's	1 (2%)	0 (0%)	1 (1%)
PhD	0 (0%)	0 (0%)	0 (0%)
Lives with Children	44 (86%)	55 (98%)	99 (93%)

Procedure

With the support of the Director of the Hospital San Juan de Dios and the Head Midwife of the Obstetrics and Gynecology Service, daily postnatal hospitalization visits were scheduled between February and June 2016. On those occasions, a psychologist from our research team invited mothers and fathers, or only the mothers when the father was not present, to participate in the study. The mothers and fathers who agreed to participate signed an informed consent and provided their contact information (e-mail and telephone number), because they would be contacted again 8 weeks later to administer the questionnaires online or over the phone.

Instruments

Sociodemographic characteristics and family networks questionnaire. A specific questionnaire was created to collect information about the child's development and the family's sociodemographic background (family structure, education level, and occupation, among other aspects).

*Beck Depression Inventory (BDI-I)*³⁴ Self-report questionnaire with 21 items that assess current depressive symptomatology in adults. In this test, the subject must choose, from a set of 4 options ranked from least to most severe, the statement that best describes his/her state during the last week. Each item can be assigned a score from 0 to 3 points, for a total score ranging between 0 and 63. Higher scores reflect more depressive symptomatology. Regarding the psychometric properties of the instrument, there was an adequate internal consistency in both the Spanish version with $\alpha = .90$ ³⁵ and in the Chilean version with $\alpha = .92$.³⁶ The Chilean version presented an adequate fit to the structure with a single factor, and a score of 13/14 was proposed as a cut-off point to distinguish between a sample with known symptomatology and the sample without known symptoms.³⁶ In the current sample, $\alpha = .90$ was calculated for the total sample, with $\alpha = .86$ for fathers and $\alpha = .91$ for mothers, which is considered to be adequate.

EPDS. Self-report instrument that contains 10 items and can be completed in approximately 5 minutes. It is an effective tool for screening depressive disorders during pregnancy and the postpartum period. Its

maximum possible score is 30, with 10 or more points indicating a possible depression of variable severity. The scale was validated in Chile for women during the postpartum period and displayed good internal consistency ($\alpha = .77$),³⁷ with the highest sensitivity being achieved with a 9/10 threshold.³⁸ This value is the most suitable cut-off score for screening studies.³⁹ It has also been validated during pregnancy, displaying a one-factor structure, high internal consistency (.914), and strong correlation with the BDI-I, with a Spearman's rho value of .85 ($p < .001$).⁴⁰ In the sample used in this study, $\alpha = .86$ was calculated for the total sample. This value reached .83 in the fathers' sample and .86 in that of the mothers; thus, its internal consistency for each sample is adequate. The male sample collected here showed an adequate fit to the structure with a single factor ($\chi^2 [35] = 54.5$, $p = .02$, CFI = .96, RMSEA = .095), when performing a Confirmatory Factor Analysis (Manuscript in preparation). Most of the studies that have employed this scale in male populations have reported good sensitivity and specificity; however, the evidence is still inconclusive.⁴¹⁻⁴⁵

Data Analysis

In order to meet the set objectives, descriptive statistical values were calculated both for the main sociodemographic variables and for the studied variables. The differences between men and women in the symptomatology scales were assessed through nonparametric tests of differences in means (Wilcoxon test), given the characteristics of the sample. In the clinical sample, the differences in proportions between the sexes were assessed with the Chi-square test. Finally, bivariate Pearson correlations were calculated between the father's symptomatology and that of the mother. All analyses were performed with version 3.1.2 of the R statistical software package.⁴⁶

RESULTS

Presence of Depressive Symptomatology in Fathers and Mothers

The percentage of men who displayed depressive symptomatology above the cut-off scores was 18.5% according to the EPDS and 10.5% according to the BDI, while in women these percentages reached 50.8% and 31.4% respectively. Similarly, the percentage

of men with symptomatology above the cut-off score was lower than the percentage of women, in both scales (EPDS: $\chi^2 [1] = 13.25, p < .001$; BDI: $\chi^2 [1] = 5.98, p = .01$).

The fathers and mothers who participated in this study obtained a mean score in the symptomatology scales below the threshold for each instrument (EPDS: $M = 7.67, SD = 6.03$; BDI: $M = 8.04, SD = 7.74$ – See Table 2). Mothers scored significantly higher than fathers in the EPDS ($W = 1140, p < .001$). The same was true of the BDI ($W = 887, p < .001$).

Relationship Between Paternal and Maternal Symptomatology

A total of 24 dyads made up by both parents completed the EPDS. These data we used to calculate the bivariate association between the symptomatology of fathers and mothers. The correlation between the EPDS and the BDI-I scores was high, positive, and significant when considering the total sample ($r = .84, p < .01$). Table 3 shows the correlations between scores in the symptomatology scales, divided into fathers and mothers. It can be observed that, even though the

correlation between the father’s and the mother’s BDI scores is significant and high ($r = .70, p = .01$), that between their EPDS scores is not significant ($r = .11, p = .60$). The association between the father’s and the mother’s BDI was significant even when controlling for education level, age of the mother, and presence or absence of complications during birth ($\beta = 0.43, p = .03$).

DISCUSSION

First of all, it is important to highlight that this study is an exploratory approximation to the topic, given the small and very specific sample, so the conclusions drawn from these results should be taken with caution.

In this sample, one in 10 fathers displayed PDS according to BDI-I scores, a figure that nearly doubles when considering EPDS scores. These numbers appear to be higher than those reported by the Chilean National Health Survey, according to which only 8.5% of men displayed depressive symptomatology.⁴⁷ However, the different methodologies used make it impossible to conduct a direct comparison. On the other hand, the EPDS scores obtained are higher than

TABLE 2 Description of Depressive Symptomatology in Fathers, Mothers, and the Total Sample

	Fathers	Mothers	Total
EPDS			
Score (M-SD)	5.61 (5.10)	9.87 (6.20)	7.67 (6.03)
Above cutoff score (N-%)	12 (18.5%)	31 (50.8%)	43 (34%)
BDI			
Score (M-SD)	5.49 (5.75)	10.90 (8.69)	8.04 (7.74)
Above cutoff score (N-%)	6 (10.5%)	16 (31.4%)	22 (20%)

TABLE 3 Bivariate Correlations between the Variables Studied

	Mother’s EPDS	Father’s BDI	Mother’s BDI
Father’s EPDS	.11	.58*	.38
Mother’s EPDS		.46*	.68**
Father’s BDI			.70**

Note: * $p < .05$, ** $p < .001$

what Paulson and Bazemore report,⁵ which could be expected given that the sample assessed has a mid-low-SES and that there is evidence for a link between poverty and depression.^{48–50}

Different authors have explained the presence of paternal PDS. For men, the pregnancy and childbirth stage is also a time of psychological restructuring that forces them to deal with their personal and family history.^{51,52} New fathers may feel that the child is monopolizing the mother and they may feel excluded from or jealous of this relationship.⁵³ Preserving the pre-childbirth interaction and sex life becomes hard or impossible, which can cause insecurity⁵⁴ or exhaustion, while the new responsibility and the psychological maladjustment can result in a depressive disorder.⁷

In line with prior research, mothers are more than twice as likely to suffer from peripartum depressive symptoms. It has been suggested that this figure is due to the fact that the male population is being underdiagnosed as a result of the atypical symptomatology being expressed: aggressiveness and irritability instead of sadness.⁵⁵ In this regard, one of the scales used to assess fathers was originally intended to assess maternal symptomatology; thus, there are certain masculine depressive manifestations, such as avoidant behavior and substance use, that are not taken into account. Thus, the rates observed may be underrepresenting the percentage of fathers with concealed depressive disorders.

On the other hand, the strong correlation found between the BDI scores of mothers and fathers appears to contradict the weak and non-significant correlation between the EPDS scores of both progenitors. This inconsistency could be explained considering the fact that the BDI includes items related to somatic components of depression, such as sleep and fatigue, whereas the EPDS only refers to elements of a more emotional nature. Therefore, these somatic elements may be the source of the association between the parents' BDI scores, not the emotional elements, which are also measured by the EPDS. It must also be stressed that aspects of everyday life such as sleep and appetite can be strongly affected by the arrival of a newborn; therefore, a certain level of association between these elements is to be expected.

It must be noted that the present study has several limitations. First, its cross-sectional design makes it impossible to obtain more information about the course of the studied phenomenon. Second, the criteria for selecting the sample preclude any conclusions about the total population of parents in Chile, given its low representation. Another major limitation pertains to the fact that, even though postpartum hospitalization was expected to be a good time to establish the first contact with the participants, the e-mail or phone assessment 2 months after this first contact proved to be rather inviable: only 25% of the parents initially contacted actually participated in the study. This was due to the fact that parents were unreachable or unwilling to respond to the instrument battery. Therefore, it is necessary to think of more efficient strategies to conduct testing in the fathers. Lastly, even though the selection of instruments was based on international studies and the research being conducted by the Millennium Institute for Research in Depression and Personality (MIDAP), it must be highlighted that the EPDS has only been validated in Chile to be used with mothers and not fathers.

Future research must be more critical both conceptually and methodologically. It is necessary to plan cohort studies that consider representative samples and start the assessment in the prenatal stage in order to identify the course of paternal depression along with risk and protective factors. It would be useful to create and validate acceptable screening and diagnosis instruments specifically for paternal postpartum depression. Making them available to health professionals in charge of pre and postnatal checkups could test for PDS in mothers and fathers.

CONCLUSION

Our findings warrant expanding our mother-child dyadic view and considering fathers in perinatal checkups, thus acknowledging the fact that mental health does not exist in isolation but is fundamentally a contextual and relational phenomenon. A systemic view is fundamental for assessment and implementing interventions, especially during this stage, because the groundwork for the baby's future mental health is laid during the first year of life. Early diagnosis and timely intervention, not only of maternal but also of

paternal PPD, regardless of the type of relationship of the parental couple, is key to fostering responsible parenting and family well-being.

DISCLOSURE

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