# 88113_Auto_Edited.docx

*Observational Study*

**Postpartum depression and partner support during the period of lactation: Correlation research and its influencing factors**

Ruan JM *et al*. Postpartum depression and partner support relationships

Ji-Ming Ruan, Ling-Juan Wu

**Abstract**

BACKGROUND

Postpartum depression (PPD) not only affects the psychological and physiological aspects of maternal health but can also affect neonatal growth and development. Partners who are in close contact with parturient women play a key role in communication and emotional support. This study explores the PPD support relationship with partners and its influencing factors, which is believed to establish psychological well-being and improve maternal partner support.

AIM

To explore the correlation between PPD and partner support during breastfeeding and its influencing factors.

METHODS

Convenience sampling was used to select lactating women (200 women) who underwent postpartum examinations at the Huzhou Maternity & Child Health Care Hospital from July 2022 to December 2022. A cross-sectional survey was conducted on

the basic information (general information questionnaire), depression level (Edinburgh Postnatal Depression Scale [EPDS]), and partner support score (dyadic coping inventory [DCI]) of the selected subjects. Pearson's correlation analysis was used to analyze the correlation between PPD and DCI in lactating women. Factors affecting PPD levels during lactation were analyzed using multiple linear regression.

RESULTS

The total average score of EPDS in 200 Lactating women was ($9.52 \pm 1.53$), and the total average score of DCI was ($115.78 \pm 14.90$). Dividing the EPDS, the dimension scores were: emotional loss ($1.91\pm0.52$), anxiety ($3.84\pm1.05$), and depression ($3.76\pm0.96$). Each dimension of the DCI was subdivided into: pressure communication ($26.79\pm6.71$), mutual support ($39.76\pm9.63$), negative support ($24.97\pm6.68$), agent support ($6.87\pm1.92$), and joint support ($17.39\pm4.19$). Pearson's correlation analysis demonstrated that the total mean score and individual dimension scores of EPDS during breastfeeding were inversely correlated with the total score of partner support, stress communication, mutual support, and co-support ($P < 0.05$). The total mean score of the EPDS and its dimensions were positively correlated with negative support ($P < 0.05$). Multiple linear regression analysis showed that the main factors affecting PPD during breastfeeding were marital harmony, newborn health, stress communication, mutual support, negative support, co-support, and the total score of partner support ($P < 0.05$).

CONCLUSION

PPD during breastfeeding was associated with marital harmony, newborn health, stress communication, mutual support, negative support, joint support, and the total DCI score.

**Key Words:** Lactation period; Puerpera; Postpartum depression; Partner support; Correlation

Ruan JM, Wu LJ. Postpartum depression and partner support during the period of lactation: Correlation research and its influencing factors. *World J Psychiatry* 2023; In press

**Core Tip:** Lactating women face both physical and psychological pressures and are prone to postpartum depression, bipolar disorder, and other mental disorders. The partner is a close contact for the mother during this time, and their communication with the mother or behavioral decisions are crucial. Through this study, we found that during breastfeeding, mothers' postpartum depression, degree of marital harmony, newborn health situation, and partner support were associated.

## INTRODUCTION

Given the implementation of China's three-child policy, women's mental health status is of great significance to family and social development. Postpartum depression (PPD) is a common non-psychotic depression in women that persists for a certain period after childbirth. Studies have reported that the incidence of PPD in China is approximately 10.9% ~ 18.6% [1-2]. In addition, there is evidence that PPD may impair infant development, increase children's distraction and antisocial or neurotic behaviors, and affect their cognition and play choices [3]. Moreover, by comparing the incidence of depression in women at 35–60 days and 18–30 mo postpartum, it was found that PPD continues to affect women's mental health [4]. As a unique physiological period for women, lactation is accompanied by changes in personal factors, such as role conversion, irregular work and rest, decreased resistance, and abnormal hormone secretion. In addition, there may be negative external factors such as a shift in the family's attention, preference for the baby's gender, a lack of understanding, and disrespect caused by differences in the perceptions of relatives and elders. Therefore, breastfeeding women are faced with both physical and psychological pressures and are prone to PPD, bipolar disorder, and other mental diseases [5-6]. For lactating women who lack the daily attention of relatives and friends as well as normal social

interactions, the need for care from relatives and friends as well as social support, social trust, and partner support is critical.

As a close contact of lactating women, the partner's communication with the women and their behavioral decisions are crucial. Supportive coping is an effective way for partners to relieve individual stress through a series of measures, such as providing emotional support or helping solve problems after receiving specific stress signals [7]. Good partner support can not only help postpartum women physically but also provide psychological support, help them gain positive strength and a sense of hope about PPD, and prevent the deterioration of the marriage [8-9]. Currently, there are few studies on the factors influencing PPD among breastfeeding mothers in China, and the correlation between PPD and dyadic coping inventory (DCI) remains unclear. This study analyzed the correlation between PPD and DCI in women during lactation and explored the influencing factors to provide evidence for improving the mental health status of postpartum women.

## MATERIALS AND METHODS

### Object

Convenience sampling was used to select lactating women (200 women) who underwent postpartum examinations at the Huzhou Maternity & Child Health Care Hospital from July 2022 to December 2022. The inclusion criteria were as follows: women who were (1) lactating, (2) between 18 and 40 years of age, (3) in a legal marriage or de facto marriage, and (4) willing to voluntarily participate in the investigation. The exclusion criteria were as follows: (1) serious physical disease or disability, (2) accompanied by malignant tumors and mental abnormalities, and (3) dyslexia.

### Methods

The relevant questionnaires were completed under the guidance of professional investigators trained in the hospital, who explained the purpose and significance of the

study to the postpartum women and their families and informed them of the matters that needed attention. The questionnaire could only be issued with the consent of the postpartum woman and her family. The questionnaire was completed after on-site verification and retrieval.

### Survey tool

(1) General information questionnaire: This included age, education level, planned pregnancy, parity, prenatal sleep, marital harmony, newborn health status, and mode of delivery.

(2) The Edinburgh Postnatal Depression Scale (EPDS): This scale was developed by Cox et al [10] and translated into Chinese by Lee et al [11] at the Chinese University of Hong Kong. The scale includes three independent structural subscales (10 items in total): the affective deficit, anxiety, and depression subscales. Each item was scored on a scale of 0–3 points, with a total score of 0–30, which was proportional to depression.

(3) DCI: The DCI compiled by Bodenmann et al [12] was used in this study. The questionnaire has five dimensions (35 items in total): stress communication, negative coping, agent coping, mutual support, and joint support. All entries are self-assessed on a scale of 1-5, and the total score ranging from 35-175 for negative support responses is reversed. The score was proportional to partner-supportive coping.

### Statistical analysis

The Chinese version of the Epi Data 3.1 was used for two-person input of the scale data. SPSS Statistics for Windows, version 26.0 (Armonk: NY, IBM Corp), was used to analyze the project data. Counting variables are expressed as [n(%)] and compared using the $\chi^2$ test. Continuous variables are reported as mean±sd. Comparisons were performed using the t-test or one-way analysis of variance (ANOVA). This study employed multiple regression analysis to explore the factors influencing lactating women's PPD score; inspection level $\alpha = 0.05$. Statistical significance was set at $P < 0.05$, on behalf of the difference was statistically significant.

**RESULTS**

***Single factor analysis of EPDS scores of women during lactation and EPDS scores of women with different characteristics***

The total score of EPDS in 200 Lactating women was (9.52±1.53). Dividing the EPDS for all dimensions resulted in the following scores for emotional loss (1.91±0.52), anxiety (3.84±1.05), and depression (3.76±0.96). The results are presented in Table 1. ==There were significant differences in PPD scores among those with different marital harmony and newborn health conditions ($P < 0.05$).== The results are presented in Table 2.

***Maternal DCI score***

The average DCI score of 200 Lactating women was (115.78±14.90). Each dimension of the DCI was separated into pressure communication (26.79±6.71), mutual support (39.76±9.63), negative support (24.97±6.68), agent support (6.87±1.92), and joint support (17.39±4.19) scores. The results are presented in Table 3.

***Correlation analysis of PPD and DCI during lactation***

Pearson's correlation analysis showed that the total average score of the EPDS and its dimensions during lactation were inversely proportional to the total scores of partner support, stress communication, mutual support, and common support of lactating women ($P < 0.05$). The total average score and each dimension of the EPDS were positively correlated with negative support ($P < 0.05$). The results are presented in Table 4. Among them, the relationship between the EPDS total mean score and each dimension and the total DCI mean score is shown in Figure 1.

***Stepwise regression analysis of different characteristics and DCI on PPD during lactation***

Multivariate linear regression analysis was undertaken with the total mean score of PPD as the dependent variable, and the characteristics of puerpera and each dimension and the total score of the DCI as the independent variables (see Table 5 for more details). Setting $α_{in}$ =0.05, and $α_{out}$ =0.10 in the multiple linear regression analysis, the results showed that the main factors affecting PPD in lactating women were marital harmony, newborn health, pressure communication, mutual support, negative support, common support, and the total average score of the DCI ($P < 0.05$). The results are presented in Table 6.

**DISCUSSION**

PPD refers to mothers with no previous history of mental disorders showing symptoms of depression, postpartum within six weeks of the first onset; depression, boredom, crying and emotional irritability are the main characteristics of PPD. Severe cases may manifest as hallucinations and even self-harm, harming the baby, and other violent episodes [13]. PPD is a common abnormal psychological behavior in gynecology that seriously endangers the physical and mental health of pregnant women and affects the growth and development of infants. The incidence of PPD is slightly different between countries, with a prevalence of more than 20% in Western countries and 10%-20% in China [14-15]. The total average score of EPDS in 200 Lactating women in this study was (9.52±1.53), indicating that the EPDS of lactating women were at a moderate level. This may have been affected by different PPD evaluation time points and different evaluation tools. In addition, PPD is related to other factors such as regional economic development, population structure, cultural background, and so on.

The total partner support score of 200 cases during lactation was (115.78±14.90), and the partner support level for PPD during lactation was moderate. This indicated that women were more willing to face the illness with their partners. Regarding communication and mutual support pressure, the score was relatively high, showing that mothers with PPD tend to communicate and take the initiative to talk about their

psychological problems to obtain their partner's support and understanding, when facing pressure. By encouraging and supporting each other, both parties can reduce psychological pressure and create a good spiritual environment [16-17]. Korotkin *et al* [18] believed that the expression of emotions in the process of patients seeking social support can significantly improve their psychological pressure of patients. Studies have found that a good family atmosphere can provide sufficient material and spiritual support, enhance patients' sense of self-esteem, and reduce pressure when they are ill [19]. These findings provide guidelines for interventions in PPD.

This study found that the total average score and each dimension of the postpartum EPDS were inversely related to the total score of partner support, pressure communication, mutual support, and common support, and positively related to negative support (P < 0.05), suggesting that good relationships with the partner can lower the mother's bad mood. Eastwood [20] found that emotional support from a partner was closely associated with PPD and was an important indicator to measure partnerships. Razurel *et al* [21] noted that pregnant women had different expectations and requirements from family members. Partners can provide strong support for lactating women with depression in terms of their financial and psychological well-being as well as disease-related care, which can reduce their psychological burden, relieve patients' negative emotions, and greatly improve their quality of life [22-23].

The effect of influential factors of PPD are relatively complex. Multiple linear regression analysis results show that the influence degree of the factors in lactating mothers' PPD include marital harmony, newborn health condition, communication, mutual support, negative pressure support, mutual support, and partner support total score (P < 0.05). According to existing literature, marital disharmony is also a risk factor for PPD [24-25]. Analysis suggests that the capacity of lactating parturients to bear psychological stress is weak, and marital disharmony can increase their psychological burden. Additionally, when newborn health is poor, pregnant women will not only find it difficult to accept,

but also have a large psychological gap, and are therefore prone to serious negative mental well-being, thus inducing PPD [26-27]. Therefore, clinical attention should be paid to postpartum psychological changes and corresponding measures should be taken to reduce PPD as much as possible. Partners are the most important source of social support for patients and an important aspect that affects patients' perceptions of illness. Good partner support can be reflected in the care and understanding of patients' physical and mental well-being and is a positive and strong source of hope for patients [28]. The positive support and communication of partners can alleviate postpartum women's negative emotions and improve the negative cognition of the patients. Contrastingly, negative support can increase a patients' negative awareness, and negative support and awareness promote each other [29].

## CONCLUSION

In summary, PPD during lactation was associated with marital harmony, newborn health, stress communication, mutual support, negative support, co-support, and partner support. Hospitals and relevant departments should pay attention to the level of PPD in parturients, guide them to correctly recognize and understand the disease, carry out targeted individualized nursing interventions for patients and their partners, and improve the support level of their partners to improve the mental health of parturients with PPD.

## ARTICLE HIGHLIGHTS

### Research background

Postpartum depression (PPD) not only causes anxiety, lower self-image, self-guilt, and other conditions in lactating women but also has adverse effects on the health of the baby. PPD can appear in normal life circumstances and negative life events such as marital discord. Good partner support can not only help patients physically but also provide psychological support. Exploring the relationship between PPD and dyadic coping inventory (DCI) in lactating women and analyzing the related influencing

factors of PPD are helpful for clinical interventions from related factors to prevent and alleviate the occurrence of PPD.

*Research motivation*

Negative partner support, marital disharmony, and unhealthy newborns were associated with PPD in lactating women.

*Research objectives*

By exploring the relationship between PPD and partner support and the factors affecting PPD in lactating women, it is helpful to provide a reference for the clinical construction of PPD intervention programs and partner support strategies.

*Research methods*

A general information questionnaire, EPDS scale, and DCI scale were used to investigate the correlation between PPD and partner support during lactation, and to further analyze the factors affecting the level of PPD.

*Research results*

The total average score of EPDS of 200 women during lactation was ($9.52\pm 1.53$), and the total average score of partner support was ($115.78\pm14.90$), both of which were at the medium level. The degree of marital harmony, neonatal health, stress communication, mutual support, negative support, common support, and total partner support score were factors influencing PPD in lactating women.

*Research conclusions*

Through research, we found that the poor psychological health of lactating women is significantly related to their partner support. By analyzing the influencing factors of women's PPD, providing timely psychological help and encouraging partners to

provide maternal support and care will help to improve the PPD level of lactating women.

### Research perspectives

Future research should establish a predictive model based on the factors influencing PPD in lactating women.

# 88113_Auto_Edited.docx

## ORIGINALITY REPORT

# 1%

SIMILARITY INDEX

## PRIMARY SOURCES

1   www.europeanproceedings.com
    Internet                                                    17 words — 1%

2   Xiaojuan Su, Yuezhen Zhang, Meide Chen,
    Huifang Wang, Guihua Liu. "Influencing factors              13 words — < 1%
    and risk prediction modeling of maternal postpartum
    depression: a cross-sectional study in Chinese puerperal
    women of sitting the month", Frontiers in Psychiatry, 2023
    Crossref

EXCLUDE QUOTES          ON          EXCLUDE SOURCES      < 12 WORDS
EXCLUDE BIBLIOGRAPHY    ON          EXCLUDE MATCHES      < 12 WORDS