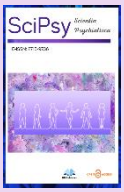

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Maternal Postpartum Depression Consequences towards Mother-child interaction Outcomes: A Systematic Review

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ABSTRACT

Postpartum depression is a psychiatric disorder that starts from the second to the sixth week after birth. Postpartum depression has been shown to have an association with infant growth, nutrition, bonding, temperament and ultimately childhood mental wellbeing. This paper reviews overall outcomes of untreated maternal postpartum depression towards the mother-child interactions consequences. Systematic review was conducted in the online databases Google Scholar and PubMed using the index terms "postpartum depression" and "maternal outcomes" or "children outcomes". Total of 10 studies (out of 112 references retrieved from bibliographic databases) were included in this systematic review. The results of the studies were synthesized into mother–child interactions, including bonding, breastfeeding, and the maternal role. The results suggest that postpartum depression creates an environment that is not conducive to the mother-child interaction thus regressing personal development of mothers or the optimal development of a child. It therefore seems important to detect and treat depression during the postnatal period as early as possible to avoid harmful consequences.

1. Introduction

Postpartum depression (PPD) is a psychiatric disorder that starts from the second to the sixth week after birth. Postpartum depression characterized by a reduced concentration, sense of sadness, loss of interest, loss of energy.1 PPD is a serious mental health problem and one of the sources of suffering for both the mother and her offspring. The Diagnostic and Statistical Manual of Mental Disorders (4th ed.; DSM-IV) defines PPD as a specifier for major depressive disorder (MDD). The prevalence of PPD is 9.6% among women living in high-income countries [9,10] and 19.6% in low-income and middle-income countries.[2]

The adverse impacts of PPD are not limited to mothers; PPD also affects other family members and influences family dynamics.3 Recent studies have shown that PPD can also lead to significant language, cognitive and emotional processing problems in children[3]. The partners of women with PPD also tend to have depression more frequently than expected.[4] Some studies have indicated that maternal depression has adverse effects on mother–child bonding and child development, and these examine a variety of factors; however, there is an urgent need to determine the influence of maternal depression on the development of the attachment security of the child and to identify the factors that play crucial roles in this process.5 This paper reviews overall outcomes of untreated maternal postpartum depression towards the mother-child interactions consequences.

2. Methods

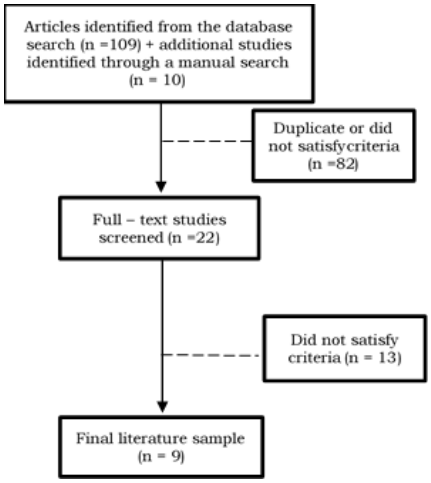
Systematic review was conducted for all studies published between 01 January 2011 and 01 August 2021, using Google Scholar and PubMed. The following keywords were applied during the literature search: “postpartum depression” AND “maternal outcomes”, “puerperal depression” OR “postnatal depression” AND “outcomes” AND “children” OR “mother”. The researcher added additional studies through a manual search, which is relevant to this review. The inclusion criteria were studies that describe qualitative individual studies, studies that included mothers who suffered from PPD, and studies about health and/or social outcomes of PPD in the results. The exclusion criteria were meta-analyses, systematic and nonsystematic reviews, randomized controlled trials, and studies that included mothers who initially received treatment for PPD.

Adjusted results were used and discussed in this article when available. In the first step, the researcher assesses the titles and abstracts of the studies to exclude reports based on the criteria. In the second step, the researcher read and evaluated the full-text studies that met the requirements.

3. Results

The PubMed and google scholar search results identified 119 potential studies, with 82 remaining studies after removing duplicates. After reviewing the titles and abstracts from 82 studies, 22 studies were identified for possible inclusion in the review. After examining the full text of the 22 studies against the inclusion criteria, 13 studies were excluded (Figure 1).

Figure 1. The process of search results



Total of 9 studies demonstrated a negative effect of maternal depression on mother-to-infant bonding (Table 1.) these studies showed that maternal depression might be a risk factor in the development of the mother-infant relationship. For example, O’Higgins et al.[5] demonstrated that women who scored ⩾13 on the EPDS at week 4 were five times more likely to be experiencing poor bonding at the same time as women who scored <13 on the EPDS. In addition, women with depressive symptoms showed less closeness,2 warmth, and sensitivity2 and a significantly lower level of mutual attunement (with regard to emotional availability)[4] and experienced more difficulties in their relationships with their child2 during thefirst year than women without depressive symptoms. mothers who were diagnosed as depressed were more likely to have an insecure state of mind regarding attachment, they had more negative perceptions of their relationship with their infant than nondepressed mothers. Depressed mothers appeared to be more likely to engage in less-healthy practices with their infant compared to nondepressed mothers.[5]

Table 1. Summary of studies

Outcomes	Referensi	Design Study	Main Results
Maternal emotional bonding to the infant	Edhborg1 et al	Cohort	Maternal depressive symptoms showed a direct association with the other's emotional bonding to the infant, indicating a negative impact on maternal bonding to the infant if the mother shows depressive symptoms 2–3 months postpartum.
Women' s mood over the first year postpartum; women's relationship with their infant; women' s relationship with their partner	Lilja2 et al	Cohort	The mothers who scored high on the EPDS 10 days postpartum rated their relationship less positive on the infant relationship scale throughout the entire first year (at 6 months and 1 year) compared with the mothers who scored low on the EPDS 10 days postpartum. Mothers who scored high on the EPDS on day 3 scored significantly lower on the infant relationship scale on day 3 ($t = -4.269$, $p < 0.001$) and day 10 than mothers with low EPDS scores on day 3 postpartum ($t = -4.074$, $p < 0.001$). This relationship was not found at 6 and 12 months postpartum. In addition, women with depressive symptoms showed less closeness and warmth and experienced more difficulties in their relationship with their child during the first year.
Emotional involvement bonding	Figueiredo3 et al	Cross-sectional	Lower emotional involvement with the newborn was observed when the mother was unemployed, unmarried, had less than a grade-9 education, had previous obstetrical/ psychological problems, or was depressed, and when the infant was female, had neonatal problems, or was admitted to the intensive care unit. Lower total bonding results were significantly predicted when the mother was depressed and had a lower educational level; being depressed, unemployed, and single predicted more negative emotions toward the infant as well.
Maternal depression treatment after hospitalization life events relationships	Vliegen4 et al	Cohort	Regarding emotional availability, a significantly lower level of mutual attunement was observed, but no differenceswere found in the other indices of emotional availability.
Mother–infant bonding	O'Higgins5 et al	Cohort	A comparison of the bonding scores between the depressed and the nondepressed groups showed a difference in the early weeks (1–4 weeks, $p < 0.001$), at 9 weeks ($p = 0.001$), at 16 weeks ($p < 0.5$), and 1 year postnatal ($p < 0.05$). Women who scored $\geqslant$13 on the EPDS at week 4 were 5.13 times more likely to experience poor bonding (MIBQ $\geqslant 2$) at the same time ($p <$ 0.01).
Mother-to-infan t bonding	Orün6 at al	Cohort	The PBQ score was significantly correlated to depression ($r = 0.225$, $p = 0.002$). The MIBS score was correlated with the depression subscales of the BSI ($r = 0.150$, $p = 0.041$). Significant correlations were also found between the MIBS and EPDS scores ($r = 0.377$, $p < 0.001$) and between the PBQ and EPDS scores ($r = 0.449$, $p < 0.001$).
Infant attachment	Tomlinson7 et al	Cohort	Postpartum depression at 2 monthsand indices of poor parenting at both 2 and 18 months were associated with insecure infant attachment. The critical 2-month predictor variables for insecure infant attachment were maternal intrusiveness and remoteness, and early maternal depression. When concurrent maternal sensitivity was considered, the quality of the early mother–infant relationship remained important, but maternal depression was no longer predictive.
Postpartum bonding	Dubber8 et al	Cohort	Maternal education, MFAS, PRAQ-R, EPDS, and STAI-T were significantly correlated with the PBQ-16. The final regression mode revealed that maternal–fetal bonding ($B = -0.076$, $SE = 0.026$, $p < 0.01$) and postpartum depressive symptoms ($B = 0.529$, $SE = 0.183$, $p = 0.01$) remained significant for explaining postpartum bonding. The results support the hypothesized negative relationship between maternal–fetal bonding and postpartum maternal bonding impairment as well as the role of postpartum depressive symptoms.
Maternal attachment representations (balanced, disengaged, and distorted)	Korja9 et al	Cohort	The relationship between the EPDS score and the main three representation categories (balanced, disengaged, and distorted) showed that the mean score on the EPDS was higher for the mothers in the distorted category ($M = 8.69$, $SD = 6.42$) than for the mothers in the disengaged ($M = 5.50$, $SD = 3.00$) and balanced ($M = 5.27$, $SD = 3.9$) categories ($x2 = 6.62$, $p = 0.037$).

4. Discussion

The purpose of this study was to evaluate the mother- child interaction consequences of maternal PPD.

Concerning mother–child interaction, the majority of studies found a significant association between maternal PPD and the care that mothers provide their children. it is reasonable to assume that maternal PPD has a real impact on how a mother cares for her child. Maternal PPD seemed to be associated with poor maternal care, which influenced bonding difficulties and insecure attachments. In addition, difficultiesin mother-to-infant bonding could reduce the quality of parenting practices. Maternal PPD created a vicious circle around the mother–child couple. Maternal PPD causes more negative perceptions of mother relationship with their infant.[4,5,6]

It is interesting to note that successful treatment of PPD may not be sufficient to improve infants' attachment, temperament, and cognitive development. Study identified a significantly negative effect of maternal depressive symptoms on breastfeeding and/or its parameters (e.g.discontinued breastfeeding, less- healthy feeding practices, breastfeeding problems, lower satisfaction, or reduced confidence).[7,8]

It is normal for mothers to be worried about the safety and well-being of their child. Given all the identity disturbances related to the arrival of a baby, it is not uncommon for women to encounter episodes of psychological distress of varying duration and degrees of severity during the postnatal period. Nevertheless, efforts to screen and prevent maternal PPD are critical.[4,6,9]

5. Conclusion

Maternal postpartum depression has negative consequences for mother-child interaction. Depressed women are the cause that they become sad and angry and have lower perceptions of their competence.[5,6] These elements createsan environment that is not conducive to the development of mother's mental health nor the development of a child's mental health.[5] It seems important to detect and treat as early as possible toward depression in the postnatal period to avoid harmful consequences. The risks are greater for mother and children in low-income society.[9] Furthermore, a comprehensive approach to screening and prevention of postpartum depression is critically needed, in order to reduce mother-child interaction consequences.

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