MAR Clinical Case Reports (2023) 8:2

Research Article

What are the Risk Factors of Postpartum Psychosis?

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Received: 25 August 2023

Published: 01 September 2023

Abstract

***Objective**: To identify the risk factors of postpartum psychosis*

***Methodology:** The literature was searched using electronic databases Google Scholar, PubMed, and Cochrane Library to find studies related to our topic.*

***Conclusion:** Multiple risk factors can predict the development of postpartum psychosis. Among them, hormonal disturbances, previous psychological disorders, and genetics play an important role.*

Background

Postpartum psychosis is a rare but severe mental health condition that affects women following childbirth. It affects 1-2 of every 1000 mothers shortly after childbirth **(**Davies, 2017**)**. In general, postpartum can affect mothers, infants, and families' quality of life which is why it must be treated as a psychiatric emergency. Since mothers with postpartum psychosis must be hospitalized in specific units, the mother-baby bonding can be affected significantly. It is necessary for physicians to minimize the duration of hospitalization and use effective treatments to minimize this negative effect.

It is crucial to understand the nature of postpartum psychosis. Risk assessment and appropriate treatment of postpartum psychosis must be taken into consideration since it can put the mother/infant's life in danger.

It must be kept in mind that the majority of women who developed postpartum psychosis have had no history of severe psychiatric illness. Studies suggest a strong relationship between postpartum psychosis and bipolar disorder.

Postpartum psychosis typically manifests within the first two weeks following childbirth, with the peak onset occurring during the initial postpartum period. There are multiple underlying etiologies and risk factors through which postpartum psychosis can occur. Among them, hormonal changes have been a major focus of research. During pregnancy, a woman's body experiences significant hormonal changes. In addition, genetic factors also play an essential role in the etiology of postpartum psychosis.

Women with a family history of psychiatric disorders such as bipolar and schizophrenia, are at higher risk for developing postpartum psychosis.

Understanding the mechanisms by which postpartum psychosis occurs is crucially important for risk prediction and effective management of these episodes **(**Peri, et al., 2021**)**. Here in this paper, I decided to focus on the etiological and risk factors of postpartum psychosis and figure out which populations are at higher risk for developing postpartum psychosis. By knowing these factors, physicians can easily provide better treatment plans and even prevent its development.

Method

For preparing this research paper, I searched through online libraries and websites, especially Google Scholar, PubMed, and Cochrane Library. The first filter for finding relevant studies on this topic was the year in which the papers were published, I chose articles that were published between 2015-2023. The next factor was the relevancy of articles to our topic, so I started reading the abstracts of the chosen articles. Furthermore, I only chose the articles that were originally published in English, and they were free. After applying all these filters, I was able to choose the most relevant studies and I started reading them even in more detail so I could use their data in this research paper.

Discussion

Multiple underlying factors can increase the risk of postpartum psychosis. The most significant risk factor for postpartum psychosis is a personal or family history of bipolar or other psychotic disorder which is seen in about 40% to 50% of women who have developed postpartum psychosis. Other risk factors that have been suggested as modulators of PPP risk include: Primiparity, maternal age, stress levels in the puerperium, and maternal sleep problems; in contrast to postpartum depression, adverse early-life events do not appear to significantly enhance the risk of developing PPP in women with bipolar disorder **(**Davis, 2017**)**.

Postpartum psychosis has a rapid onset, which is why hormone fluctuations must be taken into consideration. In addition, it must be kept in mind that estrogen and progesterone alone are not responsible for developing postpartum psychosis but other hormonal factors such as prolactin also play an important role, in general, abrupt drop in the level of estrogen and progesterone after giving birth, is occurring simultaneously with the onset of postpartum psychosis. In multiple studies conducted regarding hormonal

factors, women who had higher prolactin levels were experiencing more severe psychotic symptoms **(**Delgado-alvarado et al., 2019**)**. Unfortunately, I was not able to find many studies related to the relationship between plasma prolactin levels and the risk of postpartum psychosis.

One of the interesting areas of studies related to postpartum psychosis is the relationship between Covid-19 and postpartum psychosis. As reported by Bider et al., 2021, the COVID-19 pandemic, with or without SARS-Cov-2 infection, appears to be a risk factor for the development of postpartum psychosis. In accordance with Bider et al., 2021, another prominent risk factor for mental health complications has been identified with the COVID-19 pandemic, though little data has been gathered at this time—the effect of social isolation in quarantine. Some studies suggest that childhood trauma can increase the risk of postpartum psychosis. In a small prospective study, which was conducted by Aas et al., 2020, comparing those at risk for postpartum psychosis who developed postpartum psychosis versus those who did not, women who experienced postpartum psychosis had higher levels of CRP, cortisol, and severe childhood maltreatment **(**Aas et al., 2020**)**. According to Aas et al., 2020, stress measures and markers of stress and immune response explained 78 % of the variance of in group status between postpartum psychosis and healthy women, and 46 % of the variance of in group status between women at-risk and healthy women. Furthermore, women with first-onset postpartum psychosis had similar bipolar disorder and schizophrenia polygenic risk scores as women who were parous and had a history of bipolar disorder, and both groups had significantly higher risk scores compared to healthy controls **(**Friedman et al., 2023**)**.

Studies indicate that genetic factors are also important in the pathophysiology of postpartum psychosis. Evidence shows that about 40–50% of women with a history of postpartum psychosis screen positive for a family history of mood disorders among first- and second-degree relatives **(**Perry et al., 2021**)**. Based on a case-control study which was conducted by Baur et al. in Denmark, there is a relationship between genetic risk scores for major depression and schizophrenia with postpartum psychosis development while genetic risk scores for bipolar disorder are not associated with postpartum psychosis development.

Another interesting potential etiological factor of postpartum psychosis is genetic variants in folate metabolism. A prospective, longitudinal study was conducted by Morris et al. which shows that there may be a relationship between folate level and postpartum psychosis. This association may be mediated by the MTHFT gene. In the same study, it was noted that high levels of homocysteine may be associated with the development of postpartum psychosis.

Recently research has examined levels of inflammatory markers among women who developed postpartum psychosis. Impressively, IL-6 was found to be elevated in both the women with postpartum psychosis and the healthy postpartum women, compared with those in the non-postpartum group on the other hand, levels of IL-8 were higher among women with postpartum psychosis **(**Sathyanarayanan et al., 2019**)**. Additionally, it was found that women with postpartum psychosis had increased high sensitivity hsCRP when compared with healthy postpartum women. Interestingly, I found that women at risk of postpartum psychosis who were well in the postpartum period had hsCRP levels that were intermediate between those of women with postpartum psychosis and healthy postpartum women, suggesting that hsCRP might represent a trait marker for severe postpartum mental illness, which is then exacerbated in those women who become unwell after giving birth **(**Aas et al., 2020**)**.

Strengths and limitations

Newly published articles were used for writing this research paper, which must be considered its number one strength. Furthermore, multiple types of studies were chosen so a wide range of data was used for this paper and the results can be used as a resource for further research and practice. Also, the chosen studies were conducted by different nationalities all over the world, so the results are reliable.

Regarding the limitations of this research paper, I would like to mention that only free articles were used so perhaps I did not have access to a wide range of data. In addition, there was not enough data related to specific risk and etiological factors which need further practice.

Conclusion

Multiple risk factors were mentioned in this research paper, but not all existing factors.

In conclusion, genetic factors, and a history of other psychiatric disorders such as bipolar and schizophrenia are considered the most important risk factors for developing postpartum psychosis. Physicians must pay attention to the family and past medical history of their patients and warn them to report any symptoms that may be an alarm for postpartum psychosis. For sure appropriate education regarding the symptoms is essential.

Hormonal fluctuations following childbirth should not be neglected. The impact of each hormone on postpartum psychosis is not clear but for sure drop in estrogen and progesterone affects dopamine levels. Moreover, prolactin level plays an important role in the severity of postpartum psychosis, studies show that prolactin level is higher among women who are experiencing more severe postpartum psychosis but there is not enough data which can clarify the relationship between prolactin and the development of postpartum psychosis.

One of the important factors that must be taken into consideration is the immune-HPA axis. Any dysregulation in this axis can increase the risk of postpartum psychosis. It means those with higher levels of inflammatory cytokines and CRP are at higher risk for developing postpartum psychosis compared to those with normal levels. In addition, environmental factors must not be neglected, for example, the quarantine period during COVID-19 negatively affected pregnant women and increased the incidence of postpartum psychosis. Unfortunately, there is not enough data regarding the latter issue, so I recommend researchers do further investigation related to it.

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