



Factors Affecting Perinatal Mental Health in Postpartum Mothers

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Article Info

Article History:

Submitted September 2023

Accepted January 2024

Published January 2024

Keywords:

Postpartum; Risk Factors;
Mental Health

DOI

10.15294/ujph.v13i1.74497

Abstract

Untreated postpartum mental health (PMH) will have serious consequences for mothers, children, their families, and society as a whole. This study utilized the Systematic review method by analyzing articles from PubMed, Scopus, and Science Direct as a database with a range of publications between 2018-2023 and using postpartum keywords of risk factors and mental health. Twelve articles were included base on inclusion criteria. Based on these articles analyzed the findings reveal that risk factors influencing the occurrence of PMH in postpartum mothers are violent factors (physical, psychological, and sexual violence), type of childbirth, history of childhood trauma, history of PMH during pregnancy, social factors (husband, family, community support), economy, demographics (age, marital status, education, family type, number of children), breastfeeding satisfaction, obstetric history, medical illness, food insecurity, and life-threatening events. Based on these risk factors, proactive efforts are required to provide an early understanding of interventions to pregnant women related to PMH to prevent it from occurring in postpartum mothers. Therefore, the impacts caused by PMH during the postpartum period can be prevented.


INTRODUCTION

Mental health problems during pregnancy and postpartum affect a considerable number of women, with WHO estimating that approximately one in five women experiences such challenges. These issues represent a significant burden on women's overall well-being and health. Mental health disorders in pregnant and postpartum women are called Perinatal Mental Health (PMH) (WHO 2022). Several mental health disorders in PMH include Postpartum Depression, Bipolar Disorders, Anxiety Disorders, Obsessive-Compulsive Disorders, Sleep Disorders, Eating Disorders, Puerperal Psychosis, Stress, and Post-Trauma Stress Disorders in Perinatal (PTSD) (Percudani et al. 2022). Among those kinds of

PMH, postpartum depression is the most common disease. The results of a study in 2021 in the Southeast Asia region show that mothers are at risk of experiencing PMH 26-85%, while in Indonesia it ranges from 50%-75%. There was an increase from the results of the National Riskesdas in 39.8%-64.8% (Amandya et al. 2021)(Kementarian Kesehatan RI 2018). The results of the study stated that one of the factors that most influence the occurrence of PMH is husband and family factors. The absence of support from husband and family factors can worsen mental health in mothers. It is crucial to be able to know the risk factors for PMH to reduce the harm caused (Garman, Schneider, and Lund 2019). Serious consequences will be found in untreated PMH, parti-

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Open Access  pISSN 2252-6781
eISSN 2548-7604

cularly for mothers, children, and their families, as well as society. During pregnancy, untreated depression is associated with a higher incidence of preterm labor, preeclampsia, low birth weight, behavioral disorders in infants at birth, and maternal suicide. When perinatal depression varies, the mother's symptoms may develop into the idea of self-harm or harm to the baby. Suicide is the second leading cause of mortality for women postpartum, causing 20% of deaths during the first year after birth (Van Niel and Payne 2020).

In 2012, the World Health Organization (WHO) introduced the International Classification of Diseases for Maternal Mortality (ICDMM), which recommended several essential changes to better classify suicides occurring during pregnancy and up to 12 months after giving birth. It aimed to reduce underreporting and improve data collection in this area. The U.S. National Violent Death Reporting System has found that suicide is the leading cause of death during the perinatal period, accounting for 5 to 20% of maternal deaths. The risk of suicide is mainly associated with significant depression, with a risk factor of 40.44. Women with diagnoses such as bipolar disorder, schizophrenia, and personality disorders may experience a lower frequency of suicide. It is worth noting that death by suicide tends to occur more often in the second half of the first postpartum year. Recent studies have brought attention to the fact that women experiencing mental health challenges may not receive adequate psychiatric care at their death (Howard and Khalifeh 2020).

The Healthy Indonesia Program (Indone-

sia Sehat) is one of the government programs that aim to improve the quality of life of Indonesian people. One of the things that have been carried out to achieve a healthy Indonesia program is promotional and preventive efforts. In carrying out these efforts in PMH, information related to influencing factors is required, making sure that the intervention program provided can be based on the target. Therefore, this research aims to identify factors that influence PMH from previous research observations.

METHOD

This study used the research method of Systematic review with three databases, including Pubmed, Scopus, and ScienceDirect. The data were taken until December 2018. The inclusion criteria involved the article study with English publications for the last five years, from 2018 to 2023. The keywords used in the study were postpartum, risk factors, and mental health. Research methods were taken in Cross-sectional research, Cohort analysis, and Randomized Controlled Trials (RCTs) from various countries, including China, Spain, Indonesia, Netherlands, Africa, Ethiopia, India, France, Brazil, and America. Some risk factors affecting Perinatal Mental Health (PMH) in postpartum mothers are presented in Table 1.

The article selection process for this study followed the PRISMA stages, which involved investigating the factors that impact the mental health of postpartum mothers. The first stage of the PRISMA process focused on conducting a

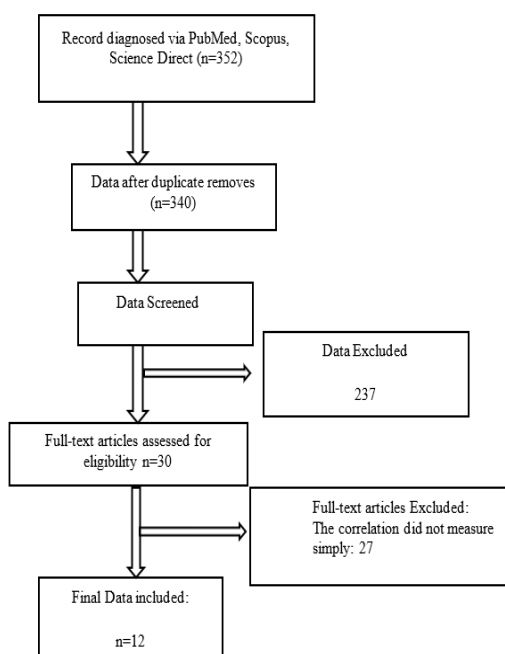


Figure.1 Prisma Stage

search using three keywords over the past five years, resulting in a total of 352 articles. The research team utilized Mendeley Desktop and Mendeley Web Importer applications for data screening. After removing duplicate data, they obtained 340 articles. Subsequently, the researchers screened and eliminated 237 articles that did not apply to their purpose and research questions. The final number of eligible articles was 30, of which 27 met the predetermined criteria. The last stage involved ensuring the articles were accessible and assessing the data quality. Last, the study utilized twelve articles for its final results.

RESULT AND DISCUSION

This research is presented in a narrative descriptive analysis following the inclusion criteria, sourced from articles in the last five years (2018-2023). Research methods were taken from original research, cross-sectional research, Cohort analysis, and RCT Articles indexed by Scopus Q1, Q2, Q3, and Q4, as well as Sinta 1 and 2. The exclusion criteria included an article review or systematic scoping literature review. Articles are published without peer review or gray literature, such as theses, dissertations, research reports published by universities/libraries, manuscripts, and books. Most articles contain, on average, (n=875).

The results of factors that affect PMH in postpartum mothers are divided into several groups, namely violence factors (physical, psychological, and sexual violence), type of childbirth,

history of childhood trauma, history of PMH during pregnancy, social factors (husband, family, community support), economy, demographics (age, marital status, education, type family, number of children), satisfaction breastfeeding, obstetric history, medical illness, food insecurity, life-threatening events, and illicit drug use.

In Indonesia, factors such as violent situations, with a sample size of n=232, were found to affect postpartum maternal health (PMH) (Sandy et al. 2020). In Spain, the type of childbirth (n=955) was identified as a factor influencing PMH (Martinez-Vázquez et al. 2021). In America, a history of childhood trauma (n=1426) was found to have an impact on PMH (Roubinov et al. 2022). Social factors in Africa and China (with sample sizes of n=384, n=4813, n=87) were also influential (Garman, Schneider, and Lund 2019), (Peng et al. 2021), (Comrie-Thomson et al. 2022). Other factors that played a role in PMH included a history of PMH during pregnancy, demographics (such as maternal age, gestational age, education, marital status, and family type) (Peng et al. 2021), (Bante et al. 2021) in China, Ethiopia, and India (with sample sizes of n=4813, n=347, n=676), breastfeeding satisfaction in Brazil (n=123) (Leavy et al. 2023), obstetric history in the Netherlands (n=187) (Leavy et al. 2023) medical illness and food insecurity in Ethiopia and Africa (Leavy et al. 2023) (n=676, n=959), and the number of children in Africa (n=676) (Bante et al. 2021).

The Perinatal Mental Health (PMH) study

Data Extraction Results

Table 1. Analysis of PMH Systematic Review

| No | Title | Objective | Method | Results |
|----|--|--|--|--|
| 1 | Domestic Violence and Postpartum Depression Indonesia (Sandy et al. 2020). | To determine the relationship between domestic violence and postpartum depression. | The type of quantitative research used Cross-sectional design through secondary data. The population sample involved postpartum mothers who had children <2 years. Data analysis using Chi-square statistical test and binomial regression test. | There is a relationship between domestic violence and postpartum depression. Correlation between postpartum depression and physical abuse (PR = 1.7; 95% CI = 1.23-2.38) Correlation between postpartum depression and psychic urgency (PR = 1.9; 95% CI = 1.44-2.54) Correlation of postpartum depression and sexual violence (PR-2.0; 95% CI = 1.54-2.65). |

| No | Title | Objective | Method | Results |
|----|---|---|---|--|
| 2 | Factors Associated with Postpartum Post-Traumatic Stress Disorder (PTSD) Following Obstetric Violence: A Cross-Sectional Study Spain (Martinez-Vázquez et al. 2021) | To find out the factors associated with Post Traumatic Stress Disorder (PTSD), review the violence experiences. | The research method used Descriptive analytics with a Cross-sectional research design. The population in the study was postpartum mothers within the past 12 months—the Perinatal Post-traumatic Post-traumatic Stress Disorder (PPQ) questionnaire was administered online. | The most influential risk factor for PTSD is the type of emergency delivery. Mothers who gave birth in an emergency were 3.58 times more likely to increase PTSD (CI:1.83, 6.99). |
| 3 | Intergenerational Transmission of Maternal Childhood Adversity and Depression on Children's Internalizing Problems America (Roubinov et al. 2022) | To identify the relationship of childhood trauma with prenatal depression. | The research method used observational analysis with a Cohort study research design. The population involved postpartum mothers. | There was a correlation between childhood trauma and prenatal TM III and postpartum depression at 36 months $p < 0.01$. |
| 4 | Perinatal Depressive Symptoms among Low-income South African Women at Risk of Depression: Trajectories and Predictors Africa (Garman, Schneider, and Lund 2019) | To identify symptoms and factors affecting Perinatal Mental Health (PMH) | Research method with Randomized Controlled Trial (RCT). The population involved pregnant women. Samples sourced from TM III pregnant women followed until postpartum. Screening used the Edinburgh Postpartum Depression Scale (EPDS). Identifying symptoms with the Hamilton Depression Rating Scale (HDRS). | Factors that affect PMH are social factors (support of husband, family, community), economy, age, gestational age, and education. The most influential family factors are OR = 0.91, 95% CI: 0.86, 0.96; $p = 0.001$. |

| No | Title | Objective | Method | Results |
|----|---|---|---|--|
| 5 | Prevalence and risk factors of postpartum depression in China: A hospital-based cross-sectional study China (Peng et al. 2021). | To determine the prevalence and factors associated with postpartum depression in puerperium women. | The research method of the cross-sectional study was conducted at the Maternal and Child Health Hospital. The Chinese version of the Edinburgh Postpartum Depression Scale (EPDS) is used for PPD screening—postpartum maternal population. | Among family factors, living with in-laws, anxiety during pregnancy, depression during pregnancy, and social pressure, the most significant was a history of pregnancy depression OR = 4.25; 95% CI, 3.28-5.50; P <0.001). |
| 6 | Engaging Women and Men in the Gender-Synchronised, Community-based Mbereko+Men Intervention to Improve Maternal Mental Health and Perinatal Care-seeking in Manicaland, Zimbabwe: A Cluster-randomized Controlled Pragmatic Trial Africa (Comrie-Thomson et al. 2022) | To evaluate the effectiveness of husband support for postpartum maternal mental health. | Research method with Randomized Controlled Trial (RCT), with samples of postpartum mothers in 0-6 months. | Husband support is evidenced to be effective in reducing PMH with a risk ratio of 0.66; 95% CI= 0.48 -0.90, P = 0.008. |
| 7 | Correlation between Maternal Satisfaction between Breastfeeding and Postpartum Depression Symptoms Brazil (de Avilla et al. 2020). | To evaluate the correlation between breastfeeding satisfaction and Postpartum Depression (PPD) in the first month after giving birth. | The research method used a cross-sectional approach. Samples of postpartum were mothers in the first week. | Mothers' satisfaction with breastfeeding becomes a protective factor for overcoming postpartum depression (PR 1.47; 95%CI 1.01–2.16). |
| 8 | Disrespect during Childbirth and Postpartum Mental Health: A French Cohort Study France (Leavy et al. 2023). | To identify the relationship between obstetric history and postpartum maternal mental well-being. | The research method used a Cohort study and postpartum maternal samples. | A history of obstetric treatment during childbirth has a significant relationship with the mental health of postpartum mothers (R2 = 0.11, p < 0.001). |
| 9 | Severe Postpartum Hemorrhage Increases Risk of Post-traumatic Post-Traumatic Stress Disorder: A Prospective Cohort Study Netherland (van Steijn et al. 2021). | To recognize the risk factors for post-traumatic stress disorder (PTSD). | The research method used a Cohort study and postpartum maternal samples. | History of obstetric (postpartum hemorrhage) is a risk factor for stress with an OR value of 4.45, 95% CI (0.99-20.06). |

| No | Title | Objective | Method | Results |
|----|---|--|--|--|
| 10 | Identification of Clinical and Psychosocial Characteristics Associated with Perinatal Depression in the South Indian Population India (Badiya et al. 2020). | To identify some factors related to Perinatal Mental Health (PMH). | Research methods used cross-sectional study. | Demographic-related factors (age, marital status, maternal education, husband's education, family type), obstetric history (type of delivery and parity), and unplanned pregnancy with $p < 0.001$. |
| 11 | Comorbid Anxiety and Depression: Prevalence and Associated Factors among Pregnant Women in Arba Minch Zuria District, Gamo Zone, Southern Ethiopia (Bante et al. 2021) | To assess comorbid anxiety and depression (CAD) as well as the factors that influence it. | The research method used a cross-sectional study with samples of pregnant women. | Risk factors affecting CAD are marital status, medical illness, food insecurity, and experiencing life-threatening events. Factors most influencing food insecurity are OR: 3.51, 95% CI: 1.85, 6.64]. |
| 12 | Factors Associated with Household Food Insecurity and Depression in Pregnant South African Women from A Low Socio-economic Setting: A Cross-sectional Study Africa (Abrahams et al. 2018) | To examine factors associated with food insecurity and depression in a sample of South African pregnant women. | Cross-sectional research method on samples of visiting pregnant women. | Risk factors that influence depression include food insecurity, number of children, and drug use. The most significant factor is food insecurity, with a value of OR 5.30; CI (1.63–17.30). |

results indicate that it is more prevalent in postpartum mothers. The most dominant risk factors affecting PMH are social factors consisting of husband, family, and community support. The following results of the research findings are as follows:

Violence Factor

Based on the results of research, violence in women shows that there is a significant relationship between the mental health of postpartum mothers and PMH. The existence of domestic violence in the form of physical, psychological, and sexual violence can trigger PMH (Sandy et al. 2020). As stated in the Law of the Republic of Indonesia in 2004, it is explained that Domestic Violence is any act against someone, especially women, which results in physical, sexual, psychological, and domestic misery or suffering, including threats to commit unlawful acts, coercion, or deprivation of independence within the scope of the household. Family factors in which post-

partum mothers live can also significantly impact their PMH. Mothers who get adequate support from their husbands and family members can play a crucial role in helping mothers overcome mental health challenges. Other literature studies explained that someone who experiences violence from his partner will be at risk of experiencing PMH, although other factors will also influence it. In this case, screening, psychological services, and legal and medical assistance are required to overcome the problem of PMH caused by violence (Pilav et al. 2022). With the impact caused by violence on PMH, preventive anticipation steps are required, including the role of authorities and health workers to handle cases of sexual violence that occur in postpartum mothers (Sandy et al. 2020).

Social Factors

Social factors that have been identified from the results of the study are husband, family, and community support. Emotional support

obtained by postpartum mothers from the closest people will affect PMH (Garman, Schneider, and Lund 2019). So far, their families and communities have ignored postpartum mothers who experience PMH. A need for more understanding of PMH causes the neglect of families and communities. This causes postpartum mothers to experience worries about getting health services (Pilav et al. 2022). Family factors, where postpartum mothers live, will also affect PMH. Mothers who live with in-laws or in extensive types of families will be more at risk of experiencing PMH than small family types.¹⁰ In addition, the role of the husband towards the postpartum mother is very important. However, in this case, a husband has strong mental resilience to be able to support his wife in carrying out the role of a mother (Hanley and Mark Williams 2020). Other research results indicate that postpartum mothers with low support from the family have a greater potential for suicide and are more likely to have a current or lifetime diagnosis of depression (Garman, Schneider, and Lund 2019).

Factors of Previous Mental Health History during Pregnancy

Based on the results of previous history, mental health factors, both pregnancy, and childhood, are risk factors for PMH in postpartum mothers. The history of childhood trauma will be interrelated and integrated with mental health during pregnancy. Besides, these impact postpartum mothers and children born and the mother's condition. Mothers who have previously experienced mental health problems tend to suffer from the pressure of adapting to achieving motherhood (Roubinov et al. 2022), (Peng et al. 2021). Psychological changes found in pregnant and postpartum women, if ignored or untreated, will worsen the mental health condition of postpartum mothers. Baby blues and postpartum blues are psychological changes experienced by postpartum mothers before becoming PMH if this situation cannot be adequately handled (Kemenkes RI. 2018).

Demographic Factors

Factors related to demographics from the study's results that can be risk factors for PMH are age, marital status, maternal education, and family type. The age of mothers who experience more PMH is mainly at a young age of less than 24 years, and the age of first marriage is included in the category of early marriage, namely marriage under 18 years (Badiya et al. 2020). Age is very influential in regulating the number of children. The right age to manage children and care for children is at the age of 20-35 years, whe-

re the level of maturity is ready to become a mother (Sarwono Prawirohardjo 2016). Regarding the educational aspect, the study results show that postpartum mothers experience more PMH in educated mothers and large family types where postpartum mothers still live with in-laws. Postpartum mothers who live with in-laws are more at risk of becoming PMH (Badiya et al. 2020). Meanwhile, educated mothers tend to have low fertility rates. Education will affect the mother's attitude towards pregnancy and the child born so that it becomes one of the factors of PMH (di Giacomo et al. 2021).

Breastfeeding Satisfaction Factors

Based on the results of the study, the prevalence of increasing satisfaction with breastfeeding by mothers is one of the protective factors carried out to be able to overcome the problem of PMH in postpartum mothers. The results of the study have been considered from the aspects of other factors that affect PMH, such as age, skin color, pregnancy plan, type of delivery, exclusive breastfeeding, and the occurrence of breastfeeding problems (de Avilla et al. 2020). Postpartum mothers who have the satisfaction of breastfeeding their babies will increase oxytocin levels in the body. These increased levels in the mother's body can reduce the risk of PMH. Thus, there are differences in oxytocin levels in the mother's body in postpartum mothers who experience mental health problems and do not experience (Leavy et al. 2023).

Obstetric History Factors

Obstetric history factors as the risk factors for PMH include the type of delivery, treatment during labor, history of labor complications, unplanned pregnancies, and the number of children. The type of labor that is at risk of PMH is emergency labor with the Sectio Caesarea (S.C.) delivery method. The treatment during childbirth in question is the treatment of health workers disrespectfully during labor, that makes postpartum mothers feel uncomfortable. History of childbirth complications in the study refers to a history of complications experienced by the mother, one of which is bleeding caused by Hemorrhage Postpartum. In addition, unrefrigerated pregnancies and the number of children are at increased risk for mothers experiencing PMH. Mothers with more than two children are more at risk for PMH. The number of children is limited to the number of needs that must be met with the number of children (Martinez-Vázquez et al. 2021), (Leavy et al. 2023), (van Steijn et al. 2021), (Abrahams et al. 2018).

Medical Disease Factors

From the research results, medical factors suffered by postpartum mothers are one of the risk factors that can affect the occurrence of PMH. Medical diseases suffered by postpartum mothers can increase the risk of PMH compared to mothers who do not have medical diseases. Mothers who experience medical illnesses can cause complications during labor or postpartum (Bante et al. 2021). There are several danger signs in postpartum mothers indicating danger or complication that can occur in postpartum mothers, namely hemorrhage postpartum, infection postpartum, foul-smelling lochia, uterine subinvolution, pain in the abdomen and pelvis, excessive dizziness and weakness, headache, epigastric pain, blurred vision, mother's body temperature >38°C, redness on breasts, heat, and pain, loss of appetite for a long time, pain, red, tenderness and swelling in the face, extremities, and fever, vomiting, as well as pain when urinating (Kemenkes RI. 2018).

Food Insecurity Factors and Life-threatening Events

The factor of food insecurity in the study results is the difficulty of food postpartum mothers obtain to meet their daily needs. PMH will influence postpartum mothers who cannot meet their food needs more. This is further strengthened by the presence of economic factors that can increase the risk of PMH (Bante et al. 2021). Many children with minimal household income make postpartum mothers experience PMH (Abrahams et al. 2018). This kind of community condition requires the government's participation in providing mental health care for underprivileged communities. So that each community receives health services following the health problems experienced in the form of efforts to change the priority scale (Estriplet et al. 2022).

CONCLUSION

From the analysis of the twelve articles, it is evident that several risk factors influence the occurrence of FMD (maternal mental disorders) in postpartum mothers. These risk factors include violent factors, such as physical, psychological, and sexual violence, the type of childbirth, a history of childhood trauma, and a history of PMH during pregnancy. The social factors are support from the husband, family, community, and economic factors. In contrast, demographic factors include age, marital status, education, family type, number of children, breastfeeding satisfaction, obstetric history, medical illness, food insecurity, and life-threatening events.

ACKNOWLEDGEMENT

This work was supported by the Doctoral Program in Public Health at Diponegoro University.

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