

Current Trends in Prediction of Early Postpartum Depression

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ABSTRACT

During the postpartum period, mothers undergo physiological and mental changes that range from minor changes to visible psychosis. Psychiatric disorders in postpartum women include anxiety, depression, and psychosis. Postpartum depression is a significant medical and social problem that affects the health of many mothers, burdens the health care system and causes marital conflict. This article presents a review of the literature on issues related to the state of postpartum depression.

Relevance. Postpartum depression is one of the most frequent complications of the postpartum period [Makarova M.A. et al., 2021]. According to statistical data, its prevalence ranges from 5% to 60.8%, depending on socio-demographic and ethno-cultural characteristics [Klainin P. et al., 2009; Howard Louise M. et al., 2014; Di Florio A. et al., 2017]. According to the results of a number of studies, postpartum depression remains undetected in almost half of the cases [Ross L. E. et al., 2006; Hegde S. et al., 2012]. There is also a high probability of developing prolonged depression - about 20% of women suffer from depression within a year after giving birth, and up to 13% of women within two years [Stein A. et al., 2014; Stewart D.E. et al., 2016; Rasmussen M.L.H. et al., 2017]. The risk of relapse is high - up to 40% of women re-experience a depressive episode during the next pregnancy or later in life [Stein A. et al., 2014; Stewart D.E. et al., 2016; Rasmussen M. L. H. et al., 2017]. Affective disorders in the postpartum period lead to negative consequences for the mental and physical health of both mother and child [Stein A. et al., 2014]. It has been suggested that postpartum depression can disrupt the formation of a bond between mother and infant, which, in turn, leads to disruption of the emotional, social and cognitive development of the child [Stein A. et al., 2014]. Based on the results of the analysis of scientific literature, several groups of risk factors associated with the development of depressive symptoms after childbirth were identified - socio-psychological, biological, obstetric-gynecological and aggravated psychiatric anamnesis [Klainin P. et al., 2009; Davey H.L. et al., 2011; Di Florio A. et al., 2017]. However, there is no consensus on which predictors are key in the development of affective disorders in the postpartum period. The issue of treatment is also controversial. In the case of moderate to severe depression, it is recommended to use the same standard approaches as in the treatment of depression not

associated with pregnancy and childbirth. At the same time, in most cases, it is recommended not to breastfeed, although some studies show that the very fact of not breastfeeding can exacerbate or even provoke the development of depressive symptoms [Wouk K. et al., 2017; Vieira E.S. et al., 2018]. According to the review article by M. Miniati et al. (2017) individual and group interpersonal psychotherapy are promising treatments for mothers suffering from postpartum depression. Data from clinical trials suggest that the use of psychotherapeutic techniques in monotherapy and in conjunction with drug therapy can reduce the duration of a depressive episode in the postpartum period and reduce the risk of developing depression in the future [Miniati M. et al., 2017]. There is no consensus in the literature about the prevalence of postpartum depression, the influence of various risk factors on its development. Studies of the diagnostic reliability of the Edinburgh Postpartum Depression Scale show a significant variation in sensitivity (from 65% to 100%) and specificity (from 49% to 100%) [Eberhard-Gran M. et al., 2001], which is largely determined by differences in diagnostic approaches and applied scale thresholds. Thus, the developers of the test recommend a cutoff of 9 points or more as a threshold value, as evidence of a high, more than 80%, probability of developing depression in the postpartum period [Cox J.L. et al., 1987], but in various studies, threshold scores vary from 9 to 15 [Eberhard-Gran M. et al., 2001]. Also, methods of prevention and unified approaches to providing medical care to women with affective disorders in the postpartum period have not been developed.

According to the work of Filonenko A.V., the violation of maternal-child relationships is a prerequisite not only for behavioral and psychopathological abnormalities, but also for somatic pathology in children [Filonenko A.V., 2012]. Data on the prevalence of postpartum depression in epidemiological and clinical studies, depending on geographical, ethno-cultural, socio-economic parameters, as well as the diagnostic approaches used, vary widely - from 5 to 61% [Di Florio A, Putnam K, Altemus M, et al., 2017]. According to the diagnostic criteria of the International Classification of Diseases of the 10th revision (ICD-10), the diagnosis of postpartum depression is established with the development of depressive symptoms within 6 weeks after childbirth. Unlike the ICD-10, the Diagnostic and Statistical Manual of Mental Disorders 5th edition (DSM-5) limits the onset of postpartum depression to 4 weeks postpartum [2015]. According to the literature, up to 20% of women continue to suffer from depression within a year after childbirth and up to 13% of women within two years [Rasmussen MH, Wohlfahrt J, et al., 2017]. The risk of recurrence during the next pregnancy or later in life after an episode of postpartum depression reaches 40%. Epidemiological studies show that among the causes of maternal death in the postpartum period, up to 20% are suicides [Richard A, Pinoit J-M, Perriot G, et al., 2020]. In addition to the negative impact on the mental health and physical well-being of the mother, depression in the postpartum period can lead to adverse effects on the health of the child. Postpartum depression disrupts the bonding between mother and baby; children of mothers suffering from postpartum depression are less attached to their mothers, they have a reduced ability for general cognitive and language development [Thorsteinsson EB, Loi NM, Moulynox AL., 2014]. According to A.V. Filonenko [10], violation of maternal-child relationships is a prerequisite for the development of not only behavioral and psychopathological abnormalities, but also somatic pathology in children. From infancy, they have a delay in psychomotor development, diseases of the autonomic nervous system, gastrointestinal tract, organs of the respiratory and immune systems occur [10]. Some authors express the opinion that the violation of the connection between mother and child can lead to attempts at infanticide [9,

11]. Currently, there is no consensus on the causes of postpartum depression. It is assumed that many biological factors, including hormonal, immune and genetic factors, are involved in the complex pathophysiological mechanism of the disease [12, 13]. Among the predictors of the development of postpartum depression, social, psychological, burdened psychiatric and obstetric-gynecological anamnesis are distinguished. The question of treatment of postpartum depression remains ambiguous. At the moment, in domestic clinical practice there are no standards for providing medical care to women with postpartum depression. The use of standard therapeutic algorithms for postpartum depression is difficult due to the lack of evidence for the safety of most psychotropic drugs for pregnant women and nursing mothers. Prescribing pharmacological agents for severe or moderate depression in most cases will require the termination of breastfeeding. At the same time, some studies show that the very fact of not breastfeeding can exacerbate or even provoke the development of depressive symptoms [Vieira ES, Caldeira NT, Eugenio DS, et al., 2018]. In the case of mild depression, non-drug methods are considered the first line of therapy. Clinical trial data suggest that the use of psychotherapeutic techniques can reduce the duration of postpartum depression, as well as prolong the time spent in clinical remission [Miniati M, Callari A, Calugi S, et al., 2014]. Postpartum depression is characterized by three features that distinguish it from other mental disorders that occur and occur in the postpartum period: first, PPD develops between 4 and 6 weeks after the birth of a child and lasts for at least 2 weeks; second, PPD has at least five symptoms of depression; and third, PPD can disrupt a woman's life after childbirth, both in terms of her daily responsibilities and in terms of caring for her baby (1). Clinical manifestations of PPD include depressed mood, apathy or anxiety, sometimes reaching suicidal thoughts, reduced care and alienation towards the child, disruption of family interactions, sleep disturbance, both its duration and quality, decreased appetite, weight loss. (12). Most publications on PDP note that its frequency ranges from 10% to 20%, although there are variations in these rates for different countries and geographic areas. The observed frequency of PPD may also reveal differences depending on the questionnaires and scales used for diagnosis. A very comprehensive review of the literature on the incidence of PDD notes that it ranges from 1.7% to 82.1% in developing countries, with lowest rates in Pakistan and highest in Turkey. For developed countries, the frequency of PDD varies from 5.2% to 74.0%, with the lowest rates in Germany and the highest percentage in the USA (2). When used to diagnose PPD, the Edinburgh Postnatal Depression Scale, the incidence of PPD in developed countries ranges from 5.5% to 34.4%, and for developing countries, the frequency of PPD is higher. In an extensive literature review by Norhayati et al (2015), on the frequency of PPD, information is provided on the frequency of this mental disorder depending on the time of birth. In developed countries - up to 4 weeks - from 5.5% to 24.4%, from 4 to 8 weeks - from 2.6% to 35.0%, up to 6 months - from 2.9% to 25.5% and up to 12 months - from 6.0% to 29.0%. In developing countries - up to 4 weeks - from 12.9% to 50.7%, from 4 to 8 weeks - from 4.9% to 50.9%, up to 6 months - from 8.2% to 38.2% and up to 12 months - from 21.0% to 33.2% (3). The etiology of PPD is unknown. There are separate studies on this issue, such as Kraus et al. (2014). These authors found that in the prenatal and postpartum periods there are immunological changes with a significant increase in neopterin and reactive T-lymphocytes. Established immunological changes associated with depressive symptoms have been reported to occur in mothers with PPD and these immunological markers may predict the onset of PPD (4). Another study suggests that vitamin D deficiency in mid-pregnancy may be a factor in the development of PPD (5). Parker et

al (2015) are investigating changes in essential and saturated fatty acids as possible predictors of PPD in women in late pregnancy (6). Other publications focus on inflammation as a factor in the development of PPD in parturients. Treatment of inflammatory diseases in the third trimester of pregnancy and postpartum, as well as breastfeeding the baby, has been reported to help the mother's mental health (7). It has already been pointed out that the etiology of PPD remains unknown, but there are numerous studies and publications on the risk factors for depressive symptoms that occur during pregnancy and the postpartum period. A study by Cloud and Brown (2015) identified some significant predictors of PPD such as stressful situations, anxiety and restlessness, especially in the third trimester of pregnancy and 4 to 6 months postpartum, proposed or performed caesarean section, maternal sleep disorders and child health problems (8, 9). These data are confirmed by other studies. When considering the socio-demographic risk factors for PPD, special attention is paid to the age of the mother. On this issue, the opinions of the authors differ. Some authors argue that young maternal age predisposes to depressive symptoms. Other publications claim that older women giving birth for the first time are at greater risk. For the third authors, the age of the mother is not related to the appearance of a depressive syndrome. The authors are completely unanimous about the lack of social support during pregnancy and the postpartum period as an important risk factor for PPD. Here we are talking about the support of pregnancy and childbirth and from her mother, husband, family, friends and colleagues. Low family income and low maternal education are also significant risk factors for PDD (10, 11). When looking at pregnancy-related risk factors for PPD, women with unexpected or unwanted pregnancies were found to be at high risk for PPD - Chan et al. (12). According to Makarov M.A. et al (2021) used clinical-psychopathological and clinical-catamnestic, psychometric methods to assess postpartum depression using the Montgomery-Asberg Depression Rating Scale (MADRS), the Clinical Global Impression Scale (CGI)), Hamilton Anxiety Scales (HAM-A). Women were examined on days 0–3 after delivery, then every 2 weeks for 6 months of observation. When depression was detected, women were examined weekly. The diagnosis of postpartum depression was established in accordance with the ICD-10 criteria for a depressive episode developing in the postpartum period (F53). Clinical and psychopathological examination revealed clinical depression within 6 weeks after childbirth was detected in 17 (11.3%) women. Most (94.2%) of depressive conditions corresponded to mild severity, 5.8% - to moderate severity. The frequency of occurrence of symptoms was: hypothymia - 100%, anxiety - 64.7%, fears and fears, mainly related to the health of the child - 58.8%, sleep disturbances - 52.9%, fatigue - 52.9%. Feelings of guilt (29.4%), anhedonia (29.4%), tearfulness (29.4%) were less frequently observed. Only 17.6% of women with depression complained of a recurring feeling of shallow melancholy. In the psychometric assessment of the severity of depressive symptoms according to MADRS, the highest values in the group of depressive patients were obtained for symptoms of anxiety (2.64 ± 0.49 points), hypothymia (2.23 ± 0.44 points), sleep disorders (2.17 ± 0.39 points), concentration of attention (2.05 ± 0.66 points) and increased fatigue (1.94 ± 0.65 points). When assessed by the Hamilton Anxiety Scale in the group with depression on days 0-3 after birth, the average score was 10.58 ± 3.48 , which corresponds to the level of mild anxiety. However, during the clinical and psychopathological examination of women in the postpartum period and during the next 6 months of observation, no syndromologically outlined anxiety disorder was detected. In the group of women without affective pathology, when assessed using MADRS, the highest scores were obtained for anxiety symptoms (1.28 ± 0.56) and sleep disorders (1.34 ± 0.74). The mean

score on the Hamilton Scale was 4.78 ± 3.42 . All values presented were statistically significantly lower than in the group with postpartum depression ($p < 0.05$).

Postpartum depression is one of the most significant postpartum problems. According to the results of various studies, data on the prevalence of postpartum depression in different countries vary significantly - from 5 to 61% [1–3]. Such a spread of values is explained by intercultural differences, a significant difference in social and economic characteristics, used diagnostic methods. In the present study, according to the results of a complete examination of puerperas in one of the city hospitals, the incidence of postpartum depression was 11.3%. It should be taken into account that the study did not include women with mental illnesses such as recurrent depressive disorder, schizophrenia and schizoaffective psychoses, addiction diseases, which excluded the influence of mental disorders that developed before pregnancy on the likelihood of developing affective pathology in the postpartum period. Most of the identified postpartum depression was mild. The clinical and psychopathological structure was characterized by a predominance of anxiety and depressive symptoms. Women mainly complained of depression, anxiety, fears (mainly related to the health of the child, fear of not coping with care), sleep disturbances, fatigue, which is consistent with most studies [11, 16]. Anxiety and sleep disorders were also characteristic of postpartum women without depression, however, a comparison of their severity in a psychometric assessment with a group of women with depression reached a statistically significant difference, thus reflecting the psychopathological structure of the depressive syndrome, and not increased anxiety associated with postpartum experiences. . In a comparative analysis of women with depression and without affective pathology, no differences were found in the main socio-demographic characteristics: age, marital status, level of education and employment. No influence was found on the risk of developing postpartum depression of such a factor as psychopathologically burdened heredity, the prognostic ability of which was determined in a number of works [13]. Among the psychosocial factors that predict the development of postpartum depression include the following: difficult financial situation, lack of employment, insufficient support from the family, psychological stress in women during pregnancy, unwanted pregnancy or gender of the child, marital disharmony, moral and physical violence from a partner and psychological internal conflicts of a woman who is not ready to accept a new role as a mother [Milgrom J, Gemmill AW, Bilszta JL, et al., 2018].

According to Makarov M.A. (2022), the clinical picture of depressive disorders was characterized by a predominance of anxiety-depressive symptoms. Along with hypothyroidism, anxiety, sleep disturbances and fatigue, there were obsessive fears regarding the health of the child or associated with fears of not being able to cope with the care of the baby. Postpartum depression developed mainly during the first 6 weeks after birth (11.3% of women). Over the next 6 months of follow-up, depression developed in another 2% of women. The most significant predictors of the development of postpartum depression are: an Edinburgh Postpartum Depression Scale score of 10 or more, traumatic situations experienced during pregnancy, episodes of low mood and / or anxiety during pregnancy, undesirability of pregnancy, absence / refusal of breastfeeding, pathology of current pregnancy and / or childbirth, affective symptoms before pregnancy. Evaluation of the diagnostic characteristics of the Edinburgh Postpartum Depression Scale showed its high efficiency in screening for postpartum depression. The sensitivity indicators of the scale were 64.7%, specificity - 85.7%, diagnostic efficiency - 83.3%. The optimal threshold value predicting the development of postpartum depression was 10 points.

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