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Pregnancy depression – a potential factor for postpartum depression

Urszula Sioma-Markowska (ABDEF)
Department of Nursing in Obstetrics and Gynaecology, Department of Women's Health, Faculty of Health Sciences in Katowice, Medical University of Silesia in Katowice, Poland

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SUMMARY

Interest in the mental health of women in the perinatal period has increased significantly in recent years. The number of publications treating postpartum depression as a mental disorder requiring early diagnosis and therapy has grown. Until now, few researchers have addressed the impact of pregnancy on a woman's mood. The term pregnancy depression is not widely known. According to literature data, 15-20% of women develop depression during pregnancy. In Poland, from 2019, according to the guidelines of the organizational standard of perinatal care, it is mandatory to monitor mental health during pregnancy and after childbirth. The publication briefly and synthetically summarizes the reports on the issue of pregnancy depression - risk factors and symptoms of pregnancy depression and the initial diagnosis of depressive disorders in pregnancy.

Keywords: pregnancy depression; risk factors; symptoms; diagnosis

Address for correspondence:
Urszula Sioma-Markowska
Department of Nursing in Obstetrics and Gynaecology, Department of Women's Health, Faculty of Health Sciences in Katowice, Medical University of Silesia in Katowice
12 Medyków Street, 40-752 Katowice-Ligota, Poland
e-mail: urszula.markowska@sum.edu.pl

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INTRODUCTION

The World Health Organisation predicts that in 2030, depression will take first place among social diseases. It is estimated that around 1.5 million people in Poland suffer from depression. The age at which depression is most commonly diagnosed is 20-40 years, affecting pregnant women. The term pregnancy depression is not widely known in Poland. According to literature data, depression in pregnancy affects from 10% of pregnant women [1] to 15-20% [2-4], and even 25% of pregnant women [5]. Therefore, nowadays, the greatest interest is aroused by cases related to pregnancy and childbirth. This is due not only to the focus of scientific research but also to recognising the needs of pregnant women seeking to maintain their mental health. Modern society demands women a triple role in life: wife/partner, mother and worker. Several studies have painted a picture of a woman in the 21st century, lonely and often isolated. Social context and assigned tasks are some of the important causes of mental health disorders. Besides, increased levels of stress and anxiety in pregnant women are influenced by the current COVID-19 pandemic, which has been ongoing since March 2020.

Depression most often has an unseen, insidious, chronic course that can lead to severe mental health problems in pregnancy, labour and the postpartum period. According to *the National Institute of Clinical Excellence* (NICE) guidelines, mental disorders should be detected and diagnosed as soon as possible in pregnant and postpartum women [6]. Important tasks of obstetricians and midwives include screening to detect mental disorders of pregnancy and the postpartum period and providing psychoeducation in this area. The Regulation of the Minister of Health on the organisational standard of perinatal care, in force since January 2019, indicates a 3-fold assessment of the emotional state and the risk of severity of depressive symptoms. In the 11.-14th week of pregnancy (1st trimester), in the

33.-37th week of pregnancy (3rd trimester) and after delivery during a midwife visit in the place of residence stay of the mother and child. Pregnancy and postnatal depression are areas that have not yet received thorough treatment in Poland. The care of women's mental health during pregnancy, labour and puerperium requires management procedures. In the UK, there are specific management procedures developed by NICE. In addition to healthcare facilities, support groups and voluntary organizations play an important role.

MENTAL HEALTH DURING PREGNANCY

In the field of perinatal mental health, postpartum depression has received the most attention. Few researchers have investigated the effects of pregnancy on a woman's mood. In 1968, Pitt was the first psychiatrist to draw attention to atypical postpartum depression complicating the puerperium [7]. Since then, the focus has been on assessing a woman's mental health after childbirth. The view has also become established that pregnancy protects a woman from negative emotions such as sadness, depression, discouragement or despair. A wide swathe of society believed that a pregnant woman experiences a positive and joyful mood during pregnancy. However, parenthood is a challenge that requires maturity, material stability and much preparation. The adaptation to being a parent is not easy. A woman becoming a mother adapts to a new life situation, sometimes difficult somatic and psychological problems concerning the mother, the child and other family members. Studies show that 90% of women experience their motherhood differently than they anticipated, and emotional disturbances occur at this time far more often than at other times in a woman's life [8].

Pregnancy is an event of great significance. It can't be an emotionally indifferent event. The process of psychological and biological adaptation to pregnancy and motherhood is individual. It depends on many factors, including the woman's age, family situation, current life plans, husband's/partner's attitude to pregnancy, previous procreative experiences, social and emotional maturity, social and living situation.

There is a description of the phases of the pregnant woman's emotional state in the literature, depending on the trimester of pregnancy. In the first trimester of pregnancy, there is an adjustment phase. The ambivalence of feelings and changeable mood dominate – this period can be dominated by anxiety and emotional tension. In the second trimester, a phase of hormonal and emotional stabilization takes place. In the third trimester, anxiety increases again, mainly due to the approaching birth. Anxiety, as a negative emotional state, usually remains unrecorded and may go unnoticed. Its presence affects the way of thinking, acting and interacting between the parturient and her caregivers. Anxiety reduces the ability to reason, leads to stressful relationships, lowers perception and affects behaviour. It can be one of the elements that interfere with childbirth. Parturients experiencing negative emotional states are found to have longer labour duration, a stronger need for analgesics and epidural analgesia, higher risk of elective and emergency caesarean section [9,10]. Anxiety and fear is often the reason for requesting a caesarean section without medical indications [11,12].

Birth phobia has been described by Hofberg and Brockington, among others [13]. The symptoms of primary phobia may already appear in adolescence. It is sometimes so strong that the woman avoids pregnancy. Another manifestation of phobia is a persistent desire to avoid natural childbirth and request a caesarean section. Tocophobia is an incompletely understood phenomenon; hence there is little data on its prevalence. It is estimated that tocophobia may affect up to 10% of pregnant women, of which 2% are extremely intense and require specialist care. The Scandinavian countries have pioneered research into tocophobia. Most of them have multidisciplinary clinics that extensively investigate and treat women experiencing tocophobia [14]. A large study involving 7200 women living in six European countries found significant differences in the prevalence of tocophobia between countries, ranging from 1.9% to 14.2%. Residents of Sweden and Estonia were more fearful of childbirth than residents of Belgium [14]. Increased social and clinical knowledge about tocophobia has contributed to a decrease in the prevalence of tokophobia in Sweden over the past decade from 6-10% to 2.5-4.5%. The percentage of multiparous women with knowledge of tocophobia in 1997 was 1.5% vs 7.8% in 2010, the percentage of firstborn women in 1997 1.1% vs 3.6% in 2010. [14]. Heimstad et al. report the prevalence of severe fear of childbirth at 5.5% [15]. In Poland, there are no data in this respect. There are no unambiguous diagnostic criteria

that would make it possible to determine the presence of tocophobia. The study by Sioma-Markowska et al. attempted to assess the severity of anxiety/tocophobia and to analyse its causes in a group of Polish pregnant women [16]. *The* prospective study involved a group of pregnant women in the third trimester of pregnancy hospitalised in the clinical department of obstetrics and gynaecology. The standardised Childbirth Anxiety Questionnaire (KLP II-Revised Version) developed by Putyński and Paciorek and published in 1997 was used to assess the level of labour anxiety. A very high level of childbirth anxiety was found in 6.7% of the examined women. The level of childbirth anxiety was the highest in women over 30 years of age ($p = 0.00422$). The experience of consecutive deliveries was found to impact the severity of labour anxiety ($p=0.04217$). Primiparous showed the highest degree of anxiety. In 85% of pregnant women, fear of labour pain was the cause of labour anxiety, 56.7% of pregnant women did not use professional help in preparation for labour and motherhood. The Childbirth Anxiety Questionnaire II is a reliable and accurate tool for measuring the intensity of childbirth anxiety. It can be used for screening purposes to estimate the level of anxiety experienced during childbirth and to quickly implement psycprophylaxis interventions and provide appropriate support to parturients, resulting in increased quality of delivery.

The pregnancy and perinatal period is a stage in a woman's life when the risk of mental disorders increases several times [17]. Mental disorders may appear as the only episode closely related to pregnancy, occurring perinatally, the first episode of an incipient disease process, or recurrence of chronic disorders [18].

STRESS DURING PREGNANCY

Many researchers pay more attention to the subjective manifestations of childbirth stress while underestimating the objective exponents of pregnancy stress. The stress experienced by a pregnant woman can have different forms - acute, caused by a sudden major life change, or chronic. A stressor is any factor (event) that causes psychological or physiological stress, e.g. noise, heat, loss of a job, death of a close person. A stressor can also be a positive situation, such as getting married or becoming pregnant. Studies have shown a positive correlation between the impact of prenatal stress and an increased risk of depression in postnatal life. A link between chronic stress in pregnant women and the development of eating behaviour in their children has also been observed [19].

Women who are neurotic, hypersensitive, have a pessimistic view of the world and themselves, are anxious, or perfectionist is more likely to experience pregnancy and postnatal mood disorders. Sometimes, a woman who is lost and anxious if she is not very in touch with her emotions may not notice or deny that she is experiencing something difficult. It can also happen that the young mother thinks that her behaviour is the norm and that she cannot change the situation. The more a woman tries to hide her emotional state, the more difficult it becomes. Such attempts to cope with pregnancy or childbirth stress can result in increased tension and symptoms of anxiety, irritability, or low mood. The reaction mechanisms triggered in a stressful situation in the mother have a multidirectional effect on the foetus. This is due to the ease of transplacental passage of hormones such as adrenaline and cortisol, secreted in large quantities into the mother's bloodstream during stress. These induce similar feelings in the child as in the mother, so the effects of chronic stress in the mother significantly impact the quality and length of life of their offspring [20].

DEPRESSION DURING PREGNANCY

Hormonal changes during pregnancy can contribute to the deterioration of a woman's mental health. The most frequent disorders concern the emotional sphere and occur in mood swings, a tendency to irritability, anxiety, sleep disorders.

Gestational depression is a depressive disorder that begins during pregnancy. It often precedes the onset of postpartum depression. According to Kembra and Ornoy, it affects 7.4% of women in the first trimester of pregnancy and 12.0-12.8% in the second and third trimesters [21]. Pregnancy can lead to a recurrence of symptoms, exacerbating an already existing disorder or triggering a first depressive episode [21,22].

The diagnosis of depression in pregnancy is based on the same diagnostic criteria of a depressive episode as in other periods of a woman's life, i.e. according to the classification of mental disorders: DSM-5 and ICD-10. Nevertheless, inadequate diagnosis and treatment still

occur, resulting in negative consequences of pregnancy or fetal development [23].

Episodes of low mood, occasional periods of sadness or apathy lasting up to a few days are normal in response to stress, fatigue and frustration. A pregnant woman may be more exposed to more frequent mood swings, but as long as she can function normally, this should not be a cause for concern.

Depression in pregnancy may be a continuation of the woman's disorder before pregnancy, or it may be a phenomenon arising during pregnancy. In the first case, the psychiatrist and the obstetrician's cooperation in charge of the pregnancy are necessary. Together, they should decide on the continuation of the treatment of depression, the modification of the medication taken, and psychotherapy's commeement. In a situation where pregnancy is a trigger for depression, it is necessary to involve close relatives, who are the first to notice the disturbing symptoms, which the pregnant woman may suppress from consciousness.

Gestational depression is a disorder with a complex etiology involving numerous and varied biological (medical), social and psychological factors, which include, inter alia, young age, history of mental disorders, including depression in the past or at present, a heavy family history of mental illness, addictions or suicide, negative life events, lack of a stable job, financial problems, marital conflicts, lack of social support, use of psychoactive substances, unplanned pregnancy, ambivalence about the desire to have children. Another group increasing the risk of perinatal emotional disorders are obstetric factors (perinatal complications in the current or previous pregnancy, premature birth, the birth of a sick child, miscarriage, abortion, death of a child, difficulties in getting pregnant) and personality factors (hypersensitivity, lack of flexibility and difficulties in adapting to changes, anxiety, lowered self-esteem, difficulties in social contacts, obsessive-compulsive or dependent personality) [24].

Symptoms of depression in pregnancy are typical of this disorder. Lowered mood (tearfulness, sadness or irritability), lack of energy, slowness or agitation, more rapid fatigue, disturbances of daily rhythms (sleep and wakefulness). The pregnant woman complains of feeling worse in the morning-difficulty falling asleep, excessive sleepiness or interrupted sleep. Changes in appetite: decreased or increased appetite, combined with weight loss or gain. Cognitive dysfunction may occur – problems with attention, memory problems-negative evaluation of self and reality – feelings of guilt and worthlessness. Often the first symptom is the loss of ability to experience pleasure (anhedonia). The pregnant woman cannot enjoy what previously brought her joy; a decrease in interests is visible. Anxiety occurs - fear of pregnancy. Suicidal thoughts - the woman thinks about the meaninglessness of life, about death, plans to commit suicide [25].

Characteristic of the behaviour of women affected by perinatal depression is the inclusion of pregnancy and child-topics in their symptoms. Anxieties usually relate to the course of pregnancy and the baby's health; depressive thoughts are associated with the anticipation of failures and complications. Many symptoms can be overlooked in pregnant women, and untreated depression is associated with more pregnancy complications. Studies have confirmed that depression in pregnancy doubles the risk of preterm birth [26-28], preeclampsia [29], diabetes [30], and caesarean section [31,32]. In the long term, it also negatively affects the emotional and social development of the child.

In addition to psychiatric disorders, maternal depression may be associated with other adverse effects of the disease: low maternal weight gain due to poor nutrition, smoking, alcohol use, use of psychoactive drugs and herbal preparations as part of self-medication, which adversely affects the condition of the fetus [17].

HOW TO RECOGNISE DEPRESSION IN PREGNANCY?

So far, Poland lacked a systemic solution for screening and treating a woman suffering from pregnancy or postpartum depression. Since 1 January 2019, the Ministry of Health has introduced changes that bring the Polish health policy closer to the health policy conducted in most European countries. It is the duty of those taking care of pregnant women to perform screening tests. For the first time in the first trimester of pregnancy, another one a month before delivery and a month after delivery.

In obstetric-gynaecological practice, it is crucial for the doctor and midwife caring for the pregnant woman to detect depressive disorders as early as possible during pregnancy. However, due attention is not always paid to the pregnant woman's mental health, and screening tests are rarely used. It can be difficult to identify the moment when mood swings, irri-

tability or sleep disturbances should be considered to be beyond the limits of the norm typical for this period. How to distinguish where physiological sadness ends and disorder begins? Which of the available mental health assessment tests can be used during pregnancy? When should I suggest contacting a psychologist or psychiatrist?

The assessment of mental health and emotional status in pregnancy has not been addressed in past years. The detection rates for emotional disorders have been and continue to be low. Early detection of depressive disorders is enabled by systematic and careful observation of pregnant women. Several screening tests are known to predict the onset of depression, including postpartum depression. Many national and international centers use the *Edinburgh Postnatal Depression Scale* (EPDS) as a screening tool to identify a group of women at risk of developing *postnatal depression* [33]. The EPDS is easy to interpret and has high sensitivity and specificity. Although this scale's usefulness during pregnancy is not widely described, most women and medical staff accept screening with the EPDS [34].

The Polish Society of Midwives recommends the EPDS for assessing the risk of depression during pregnancy. The algorithms proposed in the Recommendations of the Polish Society of Midwives for monitoring and assessing the risk of depression and mood disorders in the first and third trimester of pregnancy indicate specific step-by-step actions concerning the assessment of the mental health of the pregnant woman by gynaecologists-obstetricians, midwives and other medical professionals (family doctors, neonatologists, paediatricians) and psychologists [35].

The question arises whether, in addition to the Edinburgh Postnatal Depression Scale, other scales can be used to assess mood during pregnancy, e.g. the Beck depression Scale-II (BDI-II) or the Hospital Anxiety and Depression Scale (HADS)?

The Beck Depression *Inventory - Second Edition* (BDI-II) is one of the best known and longest used tools for self-assessment of depressive symptoms [36]. It covers both mental dimensions of depression: emotional state and cognitive functions. It also takes into account somatic complaints, such as sleep disturbances and appetite disorders. The BDI - II allows for the assessment of mood, degree of pessimism, irritability, self-esteem, feelings of guilt, suicidal thoughts, depression, focusing attention and sexual activity. The questionnaire is designed for screening diagnosis and consists of 21 items. Respondents answer each question based on a two-week period before the study.

Tab. 1. Questionnaire *„Risk factors of psychiatric disorders in pregnancy"* Krzyżanowska-Zbucka J. [40]

Questionnaire *„Risk factors for mental disorders in pregnancy"*

RISK FACTORS IN PREGNANCY	YES	NO
1. Has recently undergone psychiatric treatment 2. Has taken any tranquilizers 3. Has taken antidepressants 4. Has taken psychotropic drugs 5. Has a history of suicide attempts 6. Has a history of self-harm 7. Has been in a psychiatric hospital 8. Has recently taken drugs (oral, inhalant, intravenous)	YES	
9. There is someone in the family with a mental illness 10. There has is been suicide in the family 11. Has ever taken drugs (oral, inhalant, intravenous) 12. Had emotional problems in previous pregnancies 13. Ther were any problems in previous births 14. Experienced postpartum depression after previous birth	YES	
NON-MEDICAL RISK FACTORS		
15. Has moved within the last 6 months	YES	
16. Has an ongoing relationship with the child's father 17. Has a good relationship with his/her mother		NO
18. Already has a child with special needs or illness	YES	
19. Has a permanent job		NO
20. Has financial problems	YES	

The *Hospital Anxiety and Depression Scale (*HADS) is a reliable tool for detecting anxiety and depression. Due to its high sensitivity and specificity, the scale is also used to diagnose healthy adults. The HADS-A relates to *anxiety*, and the HADS-D relates to *a depressive* mood [37,38]. The HADS is widely used in studies of various general populations and hospitalized individuals. However, the EPDS is more likely to be used in pregnancy and the postpartum period.

Austin and Lumley [39] showed that the screening tools developed so far are not useful for pregnant women's routine use. The authors highlight that many of them show false-positive or false-negative results. No scale can replace a clinical examination by a specialist. Many studies emphasize that in the care of an individual patient, the most important thing in determining whether she is in a risk group and whether there are risk factors for emotional disturbance in pregnancy and the postnatal period [40].

NICE [6] recommends that the midwife asks some questions during the pregnant woman's clinic visit:

– Are you currently suffering from a more serious mental disorder?
– Have you a history of mental disorders?
– Have you ever been treated by a psychiatrist or psychiatric care team?
– Have you ever had a mental disorder in connection with childbirth?

The questionnaire „*Risk factors of psychiatric disorders in pregnancy*" by Krzyżanowska-Zbucka can be used to assess the risk of emotional disorders *in pregnancy* (Tab.1.). The shaded boxes are important for risk assessment, if answers are placed in them, it confirms the presence of a risk factor for mental disorders in pregnancy. An affirmative answer in one of the points from 1. to 8. should prompt the doctor or midwife in charge of the pregnancy to quickly contact the psychiatrist treating the woman, and if the patient is not currently receiving treatment, she should be urged to seek psychiatric consultation. Once the presence of one of the risk factors described in items 9-14 has been identified, the patient should be observed and her mental state assessed at subsequent visits. The last group of questions (15-20) concerns non-medical risk factors, which are less important compared to the previous ones, but also increase the likelihood of disorders. The finding of two of these may be a warning signal for the obstetrician and midwife [40].

SUMMARY

Depression is one of the most common mental illnesses in the world today. The occurrence of depressive disorders in pregnancy is being reported more and more frequently and boldly. The occurrence of depressive mood in women adversely affects the course of pregnancy, childbirth, the puerperium, and the mother, child, and family's health. The literature shows that the prevalence of pregnancy depression is comparable to the prevalence of postpartum depression and that depressive symptoms in pregnancy are neither less frequent nor less severe than after childbirth. Psychoeducation and prevention of mental disorders in pregnant women, which is emphasised in the standard of perinatal care, is a key intervention. It is necessary to develop a research tool based on empirical data to identify and measure the diverse and numerous aspects of pregnancy stress leading to depressive disorders in pregnancy.

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