THE NEED FOR REGULAR SCREENING OF POSTPARTUM DEPRESSION

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Abstract
Aim: The aim of this study was to examine the level of depression during the first week of the postpartum period in a sample of women hospitalized for childbirth at the University Obstetric Clinic in Skopje and correlate it with some demographic characteristics.
Method and sample: The sample comprised 150 randomly selected women with a mean age of 29.23 years (SD ± 5.11).
As a psychometric test the Beck Depression Inventory was used. It is a multiple choice, self-report inventory for measuring the severity of depression.
For statistic evaluation (descriptive analysis and correlations) software Statistica 7 was used.
Results: The random study showed that 68% of postpartum women have minimal, 25% mild and 5% moderate depression. Fortunately only 2% manifested severe depression.
Our findings showed that depression is negatively correlated with the level of education (r = -0.17), as well as with age (r = -0.15).
The comparison of the level of depression with a group of chronic dialyzed patients showed that PPD is not so serious a problem.
However, this study shows that PPD is under diagnosed.
Conclusion: As a common mental health problem PPD is not systematically screened in our country. The study showed the presence of minimal (68%) and mild (25%) depression in the examined women.
The age of the woman is important for PPD; younger women are more susceptible to depressive reactions. The level of education is negatively correlated with depression.
It was pointed out that PPD must be recognized, treated and followed for a long period because it is a risk not only to the mental health of the mother but also for the development of child.

Key words: postpartum depression, risks, screening, Beck Depression Inventory.

Introduction
Postpartum depression (PPD) is a complex combination of physical, emotional, and behavioural changes that happen in a woman after giving birth. According to DSM IV there are three types of mood change in this period: "baby blues", PPD and postpartum psychosis.
"Baby blues" occur in most women in the days right after childbirth and are considered as a normal reaction. This condition includes mood swings and crying spells that fade quickly. The baby blues may last only a few hours or as long as one to two weeks after delivery. The "baby blues" does not usually require treatment. Postpartum depression can happen a few days or even months after childbirth. PPD can happen after the birth of any child, not just the first one. A woman can have feelings similar to the "baby blues" but she feels them much more strongly. PPD often keeps a woman from doing the things she needs to do every day. When a woman's ability to function is affected, she needs psychological treatment. If a woman does not get treatment for PPD, symptoms can get worse. Postpartum psychosis is a very serious mental illness that can affect new mothers too. This illness can happen quickly, often within the first three months after childbirth. Women can lose touch with reality, having auditory hallucinations and delusions. Visual hallucinations are less common. Other symptoms include insomnia, feeling
agitated and angry, and strange feelings and behaviour. Women who have postpartum psychosis always need medication. Sometimes women are put into hospital because they are at risk of hurting themselves or someone else. But experience has shown that the separation of the mother from the baby is not good for overcoming the illness.

The diagnosis of postpartum depression is based not only on the length of time between delivery and onset, but also on the severity of the depression. Generally, the incidence worldwide is supposed to be 10–20% [1]. In Hispanic women the prevalence of significant symptoms of PPD was found to be much higher (54.2%) [2].

No single cause for PPD is identified, but rather it could be the consequence of a combination of hormonal, biochemical, environmental, psychological, and genetic factors. There is some evidence of biological changes associated with the development of depression in the postpartum period, including ovarian steroids, the hypothalamic-pituitary-adrenal axis, the serotonergic neurotransmitter system, the thyroid system and inflammatory markers. Also, some findings of candidate genes associated with PPD have been published [3, 4].

The chemical changes involve mainly a rapid drop in hormones after delivery. The actual link between this drop and depression is still not clear. But what is known is that the levels of oestrogen and progesterone increase even tenfold during pregnancy and then, they drop sharply after delivery. In addition to these chemical changes, social and psychological changes associated with having a baby create an increased risk of depression [4].

A number of factors can increase the risk of postpartum depression, including: a history of depression during or before pregnancy, age at time of pregnancy (the younger the women is, the higher the risk), ambivalence about the pregnancy, number of children, having a history of premenstrual dysphoric disorder (PMDD), limited social support, living alone, marital conflict, and especially domestic violence [3–7].

Symptoms of PPD may include: irritability or hypersensitivity, difficulty concentrating, anxiety and worry, crying or tearfulness, anger, negative feelings such as sadness, hopelessness, helplessness, or guilt, loss of interest in activities which are usually enjoyable, difficulty sleeping (especially returning to sleep), fatigue or exhaustion, changes in appetite or eating habits, headaches, stomachaches, muscle or backaches, etc.

On the other hand, many women after delivery can manifest a different form of anxiety or panic. Recent research has shown that about 10 percent of postpartum women suffer from clinical anxiety [5]. Anxiety symptoms usually appear in the first two to three weeks after the birth of a baby, but may not reach a distressing level until several weeks later. There is some overlap between depression and anxiety, and some women may have symptoms of both.

Symptoms of anxiety and panic may include: extreme anxiety or irritability, restlessness and agitation, shortness of breath, chest pains or discomfort, sensations of choking or smothering, dizziness, tingling in hands or feet, trembling and shaking, sweating, faintness, hot or cold flushes, fear of dying, of going crazy, or of losing control. Some women with postpartum anxiety have recurrent fears about harm coming to their children, or other loved ones, or themselves.

Generally, postpartum depression is a major health issue for many women from diverse cultures. In developed countries there is a systematic screening for postpartum depression [8–11]. In our country it seems that this condition is still underestimated.

While pharmacological interventions are an effective treatment for depression, mothers are often reluctant to take antidepressant medication due to concerns about breast milk transmission or potential side-effects. However, the effects of antidepressant medications on nursing babies are still disputable. Many doctors feel that the benefits of breastfeeding are so great that they generally outweigh the possible risks of using an antidepressant while nursing. Breastfeeding itself may be good for the well-being if it is a satisfying activity for the mother. In addition, other non-chemical therapeutic methods are recommended such as psychotherapy, relaxation, biofeedback training, etc [12].

The aim of this study is to examine the level of depression in the postpartum period in a sample of women hospitalized for childbirth in the University Obstetric Clinic in Skopje and correlate it with some demographic characteristics.

Method and sample

The examined patients were recruited from the University Obstetric Clinic in Skopje. The sample comprised 150 randomly selected women, examined within the first week after delivery. The survey was finished within a three month period (November 2012 – January 2013). The psychometric instrument used for the evaluation of depression was the Beck Depression Inventory [13–16].

The Beck Depression Inventory (BDI) is a multiple choice, self-report inventory for measuring the severity of depression. The original BDI was firstly published in 1961 by Aaron Beck, and consisted of twenty-one questions about how the subject has been feeling in the last week. When the
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The BDI has been revised twice, in 1978 and 1996, in response to the American Psychiatric Manual of Mental Disorders – IV. We used the 1996 revised version which also contains 21 questions.

Depression can be described as being composed of two components: an affective (mood) one and a physical (somatic) one (e.g., loss of appetite). In participants with concomitant physical illness, the BDI’s reliance on physical symptoms such as fatigue may artificially inflate scores due to symptoms of illness, rather than those of depression. For this reason, there are several precautions that must be taken when interpreting the results. However, the BDI has been shown to be valid and reliable with results corresponding to a clinician rating of depression in more than 90% of cases.

Results

As mentioned previously, the total number of examinees was 150. The mean age of women was 29.23 years (SD ± 5.11). In the majority this was the first childbirth (mean 1.34). In their histories practically no earlier abortions were noted (mean value of abortion in the total sample was 0.13). No earlier mental, social or family problems were noted.

The duration of the pregnancy was estimated to be 38.97 weeks (SD ± 2.28). Concerning the mode of birth, 35% of women in this survey had a section Caesarea; the others had a normal vaginal birth. From the ethnicity point of view the examined women were 50% Macedonian, 25% Albanian and 25% Roma ethnicity.

The level of education is shown in Fig. 1. As can be seen, the majority of women have high school education.

The level of depression obtained with BDI is presented in Fig. 2. It is obvious that the most frequent state is that of minimal depression.

No differences between mode of birth/ethnicity were found in depression scores.

For comparison of obtained results, we used scores for depression obtained for patients on chronic maintenance dialysis (Fig. 3). The evaluation of these chronic patients was made with the same psychometric instrument.

Figure 1 – Level of education (1 – primary school; 2 – high school; 3 – university degree)

Figure 2 – Level of depression obtained with BDI
If we compare data obtained for women in the postpartum period and those for dialysis patients the differences are very significant. In dialysis patients we obtained an important percentage of severe and moderate depression which is influenced by a serious chronic illness (the difference is significant: \( p < 0.05 \)).

We calculated the correlation between the level of depression and the level of education (Fig. 4) as well as the level of depression and the age of the women (Fig. 5).

It can be seen from Fig. 4 that a minimal negative correlation between depression and education was obtained. It means that higher education has an influence as a beneficial factor for PPD.

Fig. 5 shows that the calculated Pearson’s coefficient \( r = -0.15 \) was a minimal negative correlation. It means that younger women are more susceptible to depressive reaction. This finding corresponds to the findings from other studies [1].
Discussion

Being a mother is one of the hardest jobs anyone can do, and having a mood disorder can make the job practically impossible. Many women experience some form of postpartum mood disorders. Hormones, genetics and brain chemistry all play a huge role in the onset of mood disorders. Environmental factors and personal experiences also impact an individual's mental health. It is especially important for the postpartum period of women.

However, having a mental illness is not a measure of any worth, social status, race or religion. Unfortunately, mental health in many societies is still often surrounded by misinformation and stigma. It must be pointed that getting treatment is not a sign of weakness, but a sign of strength and bravery.

Studies concerned with this issue have shown that systematic screening for mental health problems especially in the reproductive period of women is very important.

In our country there are no systematic screenings for PPD, which implicates the possibility of under diagnosis of this condition in the postpartum period of women. To our knowledge, this is the first study concerned with PPD in a random sample in R. Macedonia. Our results showed that PPD is present in various forms. It seems that minimal depression is the most frequent (68%), but mild and moderate forms must be also taken into account (30%). If we compare the incidence of depression in the general population, which is estimated to be 5.6%, with this one for postpartum women, it can be concluded that PPD is much more present than we are aware of.

Georgiopoulos et al. refereed the results obtained for 342 women which were tested by universal screening with the Edinburgh Postnatal Depression Scale (EPDS) in community postnatal care sites [8]. The results showed that 20% have documented diagnosis of postpartum depression, resulting in an estimated population rate of 10.7%. The conclusion of this survey was that a high EPDS score was predictive of a diagnosis of postpartum depression, and the implementation of routine screening at 6 weeks postpartum was associated with an increase in the rate of diagnosed postpartum depression in the community.

In our study we used BDI as a psychometric instrument well established for the evaluation of depression. The reason for the use of this instrument is that it is adapted for our language and also validated for the ex-Yugoslav population. It is also used in some other studies [16]. In addition, we have experience with BDI applied in other, different groups of patients. In some other studies the EPDS has been used for checking the PPD.

In this context, an exploratory study design was proposed to explore the feasibility and acceptability of online screening for PPD with postpartum women in the first 2–3 months after delivery [9]. The goal of this study was to develop innovative methods of screening women for the symp-
symptoms of PPD and to facilitate referral and treatment. PPD was measured using an online version of the EPDS. The efficacy of the Internet in reaching out to postpartum women in the convenience and privacy of their own homes, particularly those in rural and underserved areas, showed good results. In this way the fear and stigma associated with postpartum depression as a major challenge in the treatment of this disease have been overcome.

As was mentioned in introduction, many different risk factors are discussed as a possible trigger for PPD.

Prenoveau et al. [5] investigated the influence of general anxiety disorder as a risk factor for PPD. They concluded that postpartum anxiety and PPD are relatively stable conditions, and that general anxiety is a risk factor for PPD but not vice versa. Both conditions are estimated to have potential negative effects on child development. Their findings clearly highlight the need for screening and treatment of general anxiety in addition to PPD during the postpartum period.

It has been published that postpartum depression is a public health problem with high prevalence in Chile. In a study by Dois et al. [4] it was found that the perception of family functioning, overcrowding and number of siblings were significantly associated with postpartum depressive symptoms.

In a study by Budhathoki et al. [6] the association between postpartum depression and violence against women was evaluated in a prospective cohort study among the Nepalese population. The study showed that practically all women with bad communication or conversation with the husband had some form of postpartum depression. In addition, some form of violence against women had a statistically significant association with postpartum depressive symptoms.

The folate status and dietary folate, B6 and B12 intakes before and during pregnancy are shown not to be a risk factor for postpartum depressive symptoms [17]. Additionally, a history of mental illness, however, was confirmed to be a strong risk factor.

Sylvén et al. [7] found that women manifesting PPD in 7.1% had a history of premenstrual syndrome and 2.9% a history of premenstrual dysphoric disorder. Previous premenstrual syndrome/premenstrual dysphoric disorder were associated with self-reported postpartum depression at five days.

Symptoms of nausea and vomiting are commonly experienced during early pregnancy and have been associated with stress, anxiety, and depression in pregnancy. However, nausea and vomiting in late pregnancy is a phenomenon which is poorly studied. The purpose of the study [18] was to examine the prevalence, severity, and psychosocial determinants of nausea and vomiting during early and late pregnancy and to correlate it with PPD. It was found that severity of symptoms was associated with earlier gestation, antiemetic medication use, employment status, and especially with symptoms of major depression.

It is well known that affective disorders are common in women, with many episodes having an onset in pregnancy or during the postpartum period. It is interesting to analyse the relationship between PPD and mood disorder in women in general. In a study by Di Florio [19] the aim was to investigate the occurrence and timing of perinatal mood episodes in women with bipolar disorder and recurrent major depression. They report the lifetime occurrence of perinatal mood episodes, the rates of perinatal episodes per pregnancy/postpartum period, and the timing of the onset of episodes in relation to delivery. Mood episodes were significantly more common in the postpartum period in women suffering bipolar disorder and recurrent major depression. Most perinatal episodes occurred within the first postpartum month, with mania or psychosis having an earlier onset than depression.

For a better understanding of mood changes in pregnancy and postpartum, Bowen et al. [20] evaluated mood instability in a group of perinatal women compared with a group of normally menstruating non-pregnant women. Perinatal women showed higher mean levels of depressed, irritable, anxious, and high mood instability than the non-pregnant women. It was concluded that a wider fluctuation in mood in pregnant and postnatal women is consistent with the common belief that perinatal women are moodier than non-pregnant women.

It has been confirmed in many studies that physical and psychological problems after childbirth are common, and may have a significant negative and long-term impact on women's wellbeing and daily functioning. Also, the method of birth may be a particularly important factor influencing women’s health and wellbeing following birth. A national survey of women’s experiences of maternity care in England examined women’s postnatal wellbeing in the first three months after birth, and whether these varied by mode of birth [21]. Mode of birth was associated with differences in outcomes at three months. By comparison to women who had unassisted vaginal births, the risk of reduced postnatal health and wellbeing was higher amongst the women who had forceps-assisted vaginal births but not amongst women who had ventouse-assisted vaginal births. This finding sug-
suggests that it is important to differentiate the types of instrumental birth in outcome studies. In addition, it is suggested that women who have forceps-assisted births should be monitored carefully by health professionals in the postnatal period, and in the months after childbirth, when they could be offered the opportunity to discuss their labour and birth. In our study no differences in depression scores and mode of birth were found. In addition, no differences in depression scores and ethnicity were found either.

A parental history of mood or anxiety disorders is one of the strongest and most consistent risk factors for the development of these disorders in offspring. In the study by Low et al. [22] it was shown that maternal, but not paternal mood/anxiety disorders were associated with diagnosed psychiatric disorders, as well as symptoms of specific anxiety disorders in offspring. The authors encouraged efforts to detect mood and anxiety disorders in offspring with a maternal history. In this context, anxiety and PPD in the postpartum period should be followed up for a long period, and could be a risk for offspring.

Many studies have confirmed that the postpartum period is characterized by complex hormonal changes. On the other hand, longitudinal studies on neural correlates of cognitive function across the postpartum period are lacking. The aim of the study by Bannbers et al. [23] was to examine response inhibition, as a measure of executive function, during the postpartum period and its neural correlates in healthy postpartum women. Generally, postpartum women displayed lower activity during response inhibition in the bilateral inferior frontal gyri and the precentral gyri compared to non-postpartum controls. The study discovered that brain activity in prefrontal areas during a response inhibition task decreases throughout the course of the first postpartum weeks and is lower than in non-postpartum controls. These findings suggest that normal adaptive brain activity changes that occur during the postpartum period must be studied more profoundly.

PPD is not only a health problem for the wellbeing of the mother, but is also a risk for further child development.

Gaffney et al. [24] examined postpartum depression as a potential risk factor for non-adherence to infant feeding guidelines and subsequent infant weight gain. The conclusion of this research was that screening for PPD at well-child visits may lead to improved maternal health outcomes and the prevention of early life risk factors for childhood obesity.

There is additional evidence for links between poor maternal mental health with negative outcomes on early child development. In a study performed in Crete, Greece [25] the effect of antenatal and postnatal maternal mental health on infant neurodevelopment at age 18 months in a population-based mother-child cohort was studied. The findings revealed that antenatal depressive symptoms were associated with a decrease in cognitive development independently of postnatal depression. High trait anxiety and extraversion of mothers were associated with a decrease and increase, respectively, in the social-emotional development of child. Also, it was found that high trait anxiety and neuroticism had a positive effect on infants' expressive communication. Finally, postpartum depressive symptoms were associated with a decrease in cognitive and fine motor development independently of antenatal depression. These findings suggest that antenatal and postnatal maternal psychological well-being has important consequences on early child neurodevelopment.

It is obvious that screening for PPD and other mental health problems is needed in all countries, and in different social, racial and ethnic populations. For obtaining quicker results, some brief psychometric instruments are suggested as more adequate [26].

However, PPD must be recognized, treated and followed for a long period because it is a risk not only for the mental health of the mother but also for the development of child.

Conclusion
This study confirmed that PPD is present in our population of women. Fortunately, minimal (68%) or mild (25%) depression are the most frequent. But the other more serious forms of depression must be diagnosed as well.

Level of education is negatively correlated with depression.

The age of women is important for PPD; younger women are more susceptible to depressive reactions.

It is pointed out that PPD must be recognized, treated and followed up for a long period because it is a risk not only for the mental health of the mother but also for the development of the child.

Systematic screening for mental health problems is needed in all countries, especially for a vulnerable population such as postpartum women.

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The authors have also declared that no competing interests exist.
REFERENCES


Резиме

ПОТРЕБА ОД СИСТЕМАТСКИ СКРИНИНГ НА ПОСТПАРТУЛНАТА ДЕПРЕСИЈА

Поп-Јорданова Н.1, Марковска-Симоска С.1, Филев Г.2, и Поп-Јорданов Ј.1

1 Македонска академија на науките и уметностите, Скопје, Р. Македонија
2 Клиника за гинекологија и акушерство, Скопје, Р. Македонија

Цел на студијата е да се истражи нивото на депресија во првата недела по породување кај примерок на женки хоспитализирани поради породување на Клиниката за гинекологија и акушерство при Клиничкиот центар во Скопје и наодите да се корелираат со некои демографски карактеристики.

Примерокот се состои од 150 жени, избрани случајно, со средна возраст 29,23 години (СДБ 5,11).

Како психометрски инструмент е користен Беков инвентар за депресија (BDI). Тој претставува само рапортирачки тест којто ја мери силината на депресијата.

За статистичка обработка (дескриптивна анализа и корелации) користен е пакетот Статистика 7.

Студијата покажа дека 68% од постпартулните женки имаат минимална, 25% мала, додека 5% покажаа умерена депресија. За срока, само 2% манифестираа силно изразена депресија.

Наодите покажаа дека депресијата е негативно корелирана со нивото на образование (p = -0,17), како и со возраста (p = -0,15).

Според нивото на депресија со група пациентки кои се на чрномична хемодијализа покажа дека ППД не претставува многу сериозен проблем. Сепак, студијата потвrdи дека ППД се потценета во дијагностиката.

Заключевме дека како општ психолошки проблем ППД не е систематски скринирани во нашата земја. Студијата покажа присуство на минимална (68%) и мала (25%) депресија кај испитуваните женки.

Возрастата на жените е многу важна за ППД: помладите повеќе се подложни на депресивни реакциции. Нивото на образование е негативно корелирано со депресијата.

Истакнато е дека ППД мора да биде препознана, лекувана и следена во подолг временски период зашто таа не е само ризик за менталното здравје на майките, туку претставува ризик и за развојот на детето.

Ключни зборови: постпартулна депресија, риск, скрининг, Беков инвентар за депресија.