

## **Psychiatric disorders associated with childbearing, especially the field of the maternity blues**

### **The aims of the thesis**

Nowadays there is no doubt that psychiatric diseases have to be regarded as significant medical problems, because of their high prevalence. Depression is the most frequent mental disease; it ranks as the fourth leading cause of disability and untimely death worldwide and the World Health Organization (WHO) estimates that it will raise to second place by the year 2010.

Depression is not connected to gender however incidence of this disease is twice higher in women than men and the perinatal period emerges as a time of increased vulnerability for women to develop depression. One of the most interesting fields of the affective disorders is the psychiatric problem associated with childbearing. Maternity is usually the most rewarding experience in a woman's life. At the same time psychological problems may overshadow this joyful period. In postnatal weeks – beside the dramatic change of hormonal system – the woman has to adapt to the new role, too. Her relationship with her husband and her parents is transforming, her body-image and self-knowledge is changing, too. So it is not surprising that during this short period of life a lot of serious mental diseases might develop.

Psychiatric problems associated with childbearing are psychotic or non-psychotic disorders which occur during the first postnatal year. Its various types include:

- maternity blues
- postpartum depression
- postpartum psychosis.

Besides the above-mentioned ones, there might be the form of the psychiatric problems connected with childbearing. This form is the post-traumatic stress disorders associated with childbearing. It is the caesarean section or perinatal death that causes this serious psychological trauma. Today, researchers focus mostly on the antenatal depression because

depression during pregnancy is a very important risk factor related to the development of postpartum depression.

Perinatal depression impacts the mother, the neonate, the developing infant and child, and the family as a whole. We have to emphasize the disastrous possible consequences of illness: the suicidal and homicidal thoughts and intentions. Due to the mood disturbance the parenting relationship is damaged. Furthermore among those men, whose wife suffers from perinatal depression, mood disturbance occurs more frequently. Postpartum depression impacts the developing child in a myriad of ways. The quality of attachment, or bonding, between mother and child can be seriously damaged by mental illness. As a result, children of postnatal depressed mothers experience behavioural and cognitive difficulties into toddler stage and further on in childhood. For this reason, screening and treating maternal depression may be the best approach to preventive medicine.

Studies consistently suggest that the prevalence of depression during pregnancy and the postpartum is roughly 80 %. Unfortunately, there are no Hungarian datasets available since no research has been carried out to study the prevalence of psychiatric problems associated with childbearing in our country. In Debrecen and its district (Borsod-Abaúj- and Zemplén, Hajdú-Bihar, Heves, Jász-Nagykun- and Szolnok, Szabolcs-Szatmár-Bereg, and Nógrád County) our study is the first to investigate the prevalence and risk factors of postpartum mood disorders in a large number of participants with the Hungarian version of the Edinburgh Postnatal Depression Scale (EPDS).

The aims of the study are to identify the socio-demographical and obstetrical risk factors connected with the postpartum depression. In the centre of our study we investigate the maternity blues and postpartum depression. In case of postpartum psychosis medication plays the leading part in Hungary as well as in other countries; so the psychological approach of illness and treatment is played down.

We expect that Hungarian results will match the well-known foreign data. Accordantly our main aims are the following:

1. In this study we estimate the prevalence of postpartum depressive disturbances in our region. We suppose that Hungarian results are concordant with the data of

- connected literatures, so in Hungary the prevalence of mood disorders with childbearing is 10-15 %.
2. We clarify the factors, which play crucial role in the development of postpartum depressive disorders. We suppose that the socio-demographical and obstetrical factors are equally determinative elements. Since these diseases are of multi-factorial and multi-causal types, separately etiological connection is unlikely.
  3. We aim to devise the Hungarian version of EPDS and start the statistical work in connection with the standardization of a screening tool as well.

### **Material and methods**

#### Survey description

Our research consists of two parts. In the first part 725 volunteers take the EPDS and our survey on the third day of postnatal period in the maternity unit. The psychological assistant informs the mother the aim of the study and assures them of their rights of personality and privacy. The midwife of this unit collects the tests before the hospital discharge. The survey is carried out with the permission of the Ethical Committee of the University of Debrecen. The Hungarian version of EPDS could be realized with support from the Hungarian Scientific Research Fund (Hungarian abbreviation: OTKA, T 032208).

In the second part of the study 165 participants received the letter with EPDS and BDI tests between the 3<sup>rd</sup> and 6<sup>th</sup> months after their delivery. These scales were posted only those of the 725 participants, whose delivery was at a crucial period. Since in the second part of the study we examine the prevalence of postpartum depression, the time factor is the most important aspect in the selection of the participants. Response rates were high: we had sent out 300 questionnaires and 165 completed tests were returned (55 %).

## **Questionnaires**

A special questionnaire has been made for our survey. The questionnaire consists of 16 items connected to the marital status, educational level, age and the financial status of the family. The crucial obstetrical data were collected from the medical chart.

### **Edinburgh Postnatal Depression Scale (EPDS)**

Edinburgh Postnatal Depression Scale originally developed by Cox et al. to detect postpartum depression, is a well-known and easy to use tool. This self-rating scale assesses mental state during the previous 7 days. According to the literature a cut-off value of 10 or more indicates the presence of depressive disorder. In Hungary it was not use so far. The Hungarian version was made with the support of professional translators.

### **Beck Depression Inventory (BDI)**

The Beck Depression Inventory is another common depression screening tool, was developed by Beck in 1961. Although commonly used by mental health specialists, it may have less use in a postnatal population because of its emphasis on somatic symptoms in detecting depression. More assessment is known, we use the 9/10 cut-off level.

## **Data management and analysis**

The analysis is performed with the SPSS statistical packages results are visualized with Microsoft Excel. Odds ratios (OR) with confidence intervals were calculated as risk measures to determine the impact of factors on disorders in the postnatal period. The effect of covariates such as age, education and marital status was also estimated using odds ratios with one group as reference level.

## **Characteristics of study participants**

725 women participated in the first part of the study. The mean age was 27 years. Nearly all of them lives in the permanent relationship, only 3,9 % is single. The majority lives in a city (e.g. Debrecen), 16 % lives in rural areas. More than half of the group has middle education level, and one in four has a university degree.

49,1 % of the women is primiparous. The primiparous and multiparous rate is nearly equal (345:358). 9,7 % of the deliveries were premature, 25 % of them involved surgical procedure (caesarean section or vacuum extraction).

165 participants took part in the second part of the research. The mean age was 28 years. 1,8 % of the group is single. The city/rural ratio is the same as in the first part of the study. More than half of the group has middle education level, and one third of the women have a university degree. At the repeated investigation the rate of unemployed women is significantly lower than that of the first part of study (6,1%).

## **Results**

The PhD thesis discusses the results due to the two periods of investigation, so now we summarize the outcomes according to this previous structure.

### **The results of the first study**

At the study we use first the Hungarian version of EPDS, which is a well-known screening tool connected postpartum depression all over the world. The Hungarian version's Cronbach Alpha Coefficient score is 0,821. Cronbach Alpha Coefficient scores belonging to the items of EPDS are between 0,7-0,8. According to these data it can be stated that the Hungarian version of EPDS that we devised by our team is statistically reliable and can be used at a wide scale to screen the postpartum depression.

We verified the maternity blues in 29,8 % out of 725 women. The results did not differ significantly between the different age groups. The tendency of the data illustrates that mothers over 35 years old have the highest EPDS scores: above 10 (37 %). Nowadays, when primiparous over 35 years old is a more frequent occurrence, we have to take notice of the results.

The lack of social support and relational stressors result in the very high EPDS rate (51,9 %). Our results confirm the relationship well-known from the literatures: a single mother – correlating to a mother who lives in permanent relationship – is 3 times as much frequently at risk to develop maternity blues.

Mothers who have lower educational level significantly more frequently give the pathological EPDS rate. This result could be explained by the fact that in case of maternity blues the higher educational level is the most effective protective factor.

The financial hardships, the unemployment of the mother or her partner have an obvious negative effect on the postpartum mood of women. Most of the unemployed mothers live in the rural area and have low educational level. In this subgroup the rate of pathological EPDS score (38,9 %) is the highest. The odds ratio signs that an unemployed mother has nearly twice as much risk for the development of maternity blues.

The women's state of health during the pregnancy plays a very serious role in the development of maternity blues. In our survey it can be proved that in case of pathological pregnancy the risk of the depressive disorder is nearly twice frequent.

The negative life events, the mother's anxiety connected to the future raises the risk of development of maternity blues. Our results check up with the previous data that mother's anxiety towards the newborn enhances the risk of maternity blues.

Our results accordingly the international data show that the method of the birth and process of the delivery determine significantly the mood of the new mothers. After the operative birth (caesarean section or vacuum extraction) the prevalence of maternity blues is higher than in case of spontaneous birth.

The risk of the maternity blues is raising if the mother's partner less accepts the pregnancy, if during the pregnancy and postpartum he gives a less physical and emotional support to the mother in the looking after the newborn. In our investigated group that women who bear alone show higher EPDS score than those who has the husband-participating delivery. The Hungarian data confirm the results of the international researches that the social support is a very serious protecting factor towards the development of maternity blues.

When the mother experiences her own delivery hard or very hard the maternity blues develops nearly three times frequently. In the case when the mother has more negative judgment about her own delivery the birth is the straining event, which with other factors together causes pathological EPDS score.

### **The results of the second study**

We verified the postpartum depression in 31,5 % out of 165 women with BDI. The mean age was 28 years. When analyzing the data it appears to us that in the postnatal subgroup the psychological state are worse than in the normal population. One the more important reason for this could be that the women on have the worse behavior relating the health during the postpartum period.

The previous researches verify the strong correlations between the development of postpartum depression and the adverse economical status of the family. Our experiences are similar to the previous data. The tendency of the results indicates that the adverse financial status is due to the development of postpartum depression, although the results are not significant due to the small number of the investigated group.

The EPDS scale's sensitivity (0,77) and specificity (0,87) are very good. On the score of the odds ratio we can come to the conclusion that the mother who has pathological EPDS score on the third day of postpartum has nearly four times risk for the development of postpartum depression 3-6 month after the birth.

The final step of our study was to investigate how the two screening tools compare with each other. As compared with two other screening tools it is verified that the only 10-items EPDS is reliably measure the vulnerability of the depressive disorders.

### **The new findings**

1. The prevalence of the maternity blues is not higher than in other countries. Contrary the prevalence of the postpartum depression, however, is twice as frequent in Hungary than in the literature.
2. The serious risk factors connected to the development of postnatal mood disturbances are as follows: low educational level and unemployment of the mother, if the mother is primiparous and single, if she has the premature delivery or/and operative birth, and if she judges her delivery hard and if she gives birth to her child without her partner.
3. We developed a Hungarian version of the worldwide used and well-known EPDS. We verify the reliability of this new Hungarian form with statistical analysis, so this could be used to screen the depressive disorders connected to the childbearing.

- The test's sensitivity and specificity are high. We also verify that the EPDS score on the third postnatal day could estimate which mother has a risk connected to the development of postpartum depression 3-6 month after the birth.
4. We revealed the special reasons of the pathological mood disturbances. During the postpartum period the mother's shame, unreal fears, self-reproach and blame make the diagnosis of depression more difficult. We suggest to the medical team that they should support a good mother-infant relationship, to improve the competency of the new mother and to give her standardized information.

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**Thesis connected to the topic**

*Szülés utáni hangulatzavarok etiológiája*

Papp Noémi DE OEC Általános Orvosi Kar, 2007

Témavezető: **Dr. Török Zsuzsa**