

PANIC DISORDER IN PREGNANCY –
SOCIO-DEMOGRAPHIC CORRELATES
AND COMORBIDITY WITH DEPRESSION

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Abstract

Pregnancy is a time of increased vulnerability to the development of anxiety and depression or of exacerbation of pre-existing psychological distress in women. Sociodemographic factors, severity of anxiety and depression were assessed in 40 pregnant women in outpatient setting during worsening of panic disorder. Most of the patients are with first pregnancy (77.5%), without prior psychiatric history (75%), and 57.5% are in their first three months of pregnancy, while 37.5% have a comorbidity with depression and 20% with agoraphobia. Primiparous women ($r_s = -0.341$, $p = 0.016$), with lower age ($r_s = -0.537$, $p < 0.01$) and lower education ($r_s = -0.362$, $p = 0.011$) report more severe anxiety symptoms, assessed by subjective scale. Higher lunar month is connected with higher scores of depression ($p = 0.002$). In the first trimester predominantly women with anxiety seek help and if no adequate intervention is made, more severe course of the disease could be developed with comorbidity of depressive symptoms.

Key words: panic disorder, pregnancy, anxiety, depression, comorbidity

Introduction. Panic disorder and depression during pregnancy are significant mental health concerns that can impact both maternal and fetal well-being [1–3]. Panic disorder is characterized by sudden and recurrent panic attacks,

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while depression is marked by persistent feelings of sadness and hopelessness. The perinatal period encompasses conception through pregnancy (prenatal/antenatal), childbirth, and the first year of life (postnatal/postpartum). These times increase vulnerability to anxiety and depression, which can coincide with the onset of affective and anxiety disorders or exacerbate pre-existing psychological distress in women.

In high-income countries, about 5% of mothers experience clinical depression, and 13% experience clinical anxiety perinatally [4], with some studies reporting antenatal depression rates between 7–20% [5]. Despite high comorbidity between anxiety and depressive disorders and the increased vulnerability during the perinatal period, the exact prevalence of this comorbidity is not well known [6]. A meta-analysis found that the prevalence of anxiety disorder and depression is 9.3% during pregnancy, while postnatal comorbidity of anxiety and depression averages 7.9% [7]. This suggests that comorbid perinatal anxiety and depression are prevalent and require clinical attention due to potential negative consequences on child development if untreated.

Early identification of mental health issues in pregnant and postpartum women is crucial for both the women and their children's future neuropsychological development. These conditions cause considerable stress for expectant mothers and pose risks like premature birth, low birth weight, and issues in early biological development of the newborn [8–10]. Contributing factors include hormonal changes, psychological stress, and a history of mental disorders. Addressing these conditions through appropriate screening and treatment is essential to ensure the health and safety of both mother and child.

The perinatal period is a time of unprecedented growth and sensitivity, where intrauterine exposures and early life experiences can significantly influence development. Prenatal depression and anxiety increase fetal cortisol concentrations, affecting the hypothalamic-pituitary-adrenal axis and brain function of the fetus, reducing placental blood flow, and the delivery of oxygen and nutrients. Furthermore, prenatal depression and anxiety can disrupt the neuropsychological changes that prepare mothers to respond sensitively to their babies. Postnatal depression and anxiety can delay offspring development by diminishing maternal responsiveness and secure attachment in the baby. Postnatal depression is linked to maternal disengagement, while postnatal anxiety is associated with overprotective parenting [11].

The aim of the study is to analyze socio-demographic factors among pregnant women and their influence on their mental status as well as assessing anxiety and depression during the antenatal period in women with panic disorder.

Methods. The study sample consists of pregnant women, at the age of > 18 years, with a confirmed diagnosis of panic disorder, who were assessed in outpatient setting in the ambulatory psychiatry service of “Aleksandrovska” University hospital for active treatment in the time period 2015–2017. Informed consent was

obtained by each participant before study assessment and the patients' anonymity is preserved.

Inclusion criteria are pregnancy and clinical symptoms of anxiety disorders, which is objectified by the usage of Mini-international neuropsychiatric interview (M.I.N.I). A patient's questionnaire including socio-demographic variables, clinical characteristics is completed. For evaluation of severity of clinical symptoms the following scales have been used: Hamilton Depression Rating Scale (HAM-D), Hamilton Anxiety Rating Scale (HAM-A), self-reported clinical scales for anxiety and depression (HADS-A/HADS-D).

Statistical analyses. Descriptive methods, Kolmogorov–Smirnov test, Student's *t*-test, One-way ANOVA, correlation analyses, multiple linear regressions were performed as a *p*-value of ≤ 0.05 was set as statistically significant.

Results. For the time frame of the study, 40 pregnant women have been assessed in outpatient services during an exacerbation of panic disorder in different periods of the pregnancy.

Three groups of psychopathology in terms of ICD-10 were formed (Fig. 1):

- Women with panic disorder – 42.5%
- Panic disorder with agoraphobia – 20%
- Panic disorder with depression – 37.5%

The age range is between 20 and 36 years and more than 50% are between 25 and 30 years old. Almost equivalent percentage of women are with medium (52.5%) and higher education (47.5%). Most of the patients are with first pregnancy (77.5%), are without prior psychiatric history (75%), and 57.5% are in their first three months of pregnancy (Fig. 2, 3).

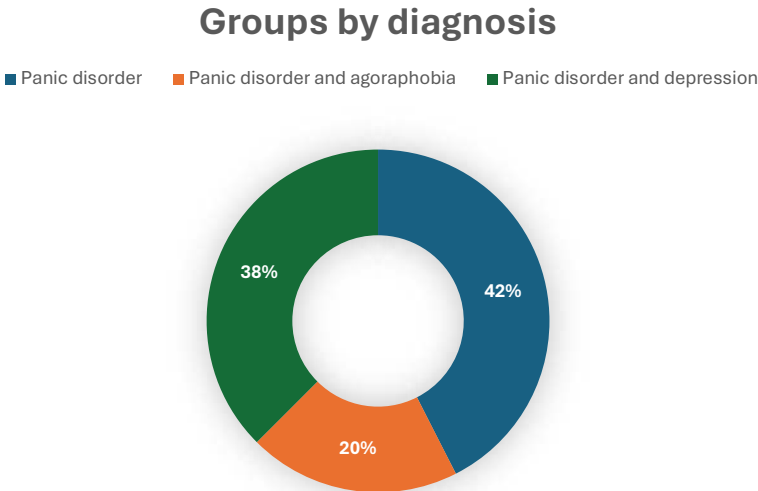


Fig. 1

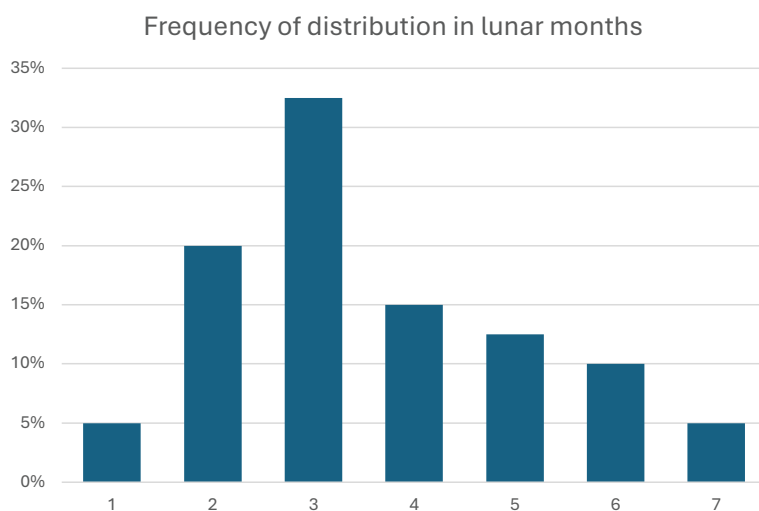


Fig. 2

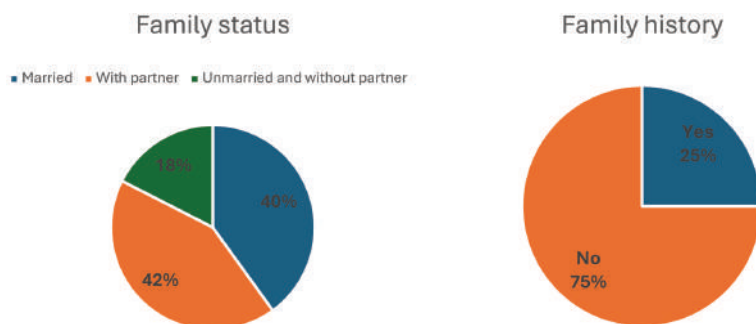


Fig. 3

From a conducted correlation analysis:

- Prior history of anxiety disorder is correlated with lower education ($r_s = -0.318$, $p = 0.023$) as well as with lower rates of becoming a mother (women with only one pregnancy) ($r_s = 0.175$, $p = 0.025$).
- In terms of HAM-A there is a correlation with the educational status – higher education relates to higher scores of this scale ($r_s = 0.269$, $p = 0.047$). There is no connection with age.
- However, using a self-reported scale for anxiety (HADS-A) there is an inverse relation with education ($r_s = -0.362$, $p = 0.011$), age ($r_s = -0.537$, $p < 0.01$), and number of pregnancies ($r_s = -0.341$, $p = 0.016$). Primiparous women, with lower age and lower education report more severe anxiety symptoms by this assessment.

- There is no significant correlation with these measures and the HADS-D scale. There is a correlation with higher scores of HAM-D and higher lunar month ($r_s = 0.353$, $p = 0.013$).

From a conducted regression model:

- There is significant relation between lower age and higher scores of anxiety, measured by HADS-A ($p = 0.037$), ($R^2 = 0.371$, $F(6) = 3.241$, $p = 0.013$).
- In terms of depressive symptoms, no relation to age was found. However higher lunar month is connected with higher scores of depression, self-reported by HADS-D ($p = 0.002$), ($R^2 = 0.324$, $F(6) = 2.632$, $p = 0.034$).

There are significant differences between the diagnostic groups and the scores of used scales. Measuring depressive symptoms by HADS-D ($F(2, 37) = 6.05$, $p = 0.005$, $\omega = 0.20$) and HAM-D ($F(2, 37) = 5.71$, $p = 0.007$, $\omega = 0.19$) shows significantly higher results in patients with depression compared to patients with panic disorder with/without agoraphobia.

Using self-reported scale HADS-A there are significant differences between the group with panic disorder ($F(2, 37) = 71.12$, $p < 0.01$, $\omega = 0.78$) in comparison to the group with agoraphobia and depression. Differences between the three groups are not found in terms of HAM-A scale ($p > 0.05$).

Discussion. Most of the sample is assessed during the time of first pregnancy, specifically during the first trimester, and most have no prior history of psychiatric disorders. These results suggest that the primiparous women are at high risk for developing anxiety disorder and this vulnerable time is considered a time frame for early interventions. In addition to this serves the fact that 75% of the sample have no family history of psychiatric disorders and no prior episodes of anxiety disorders. Pregnancy could be interpreted as a provoking factor for developing anxiety or affective disorder.

Almost equivalent percentage of women during their perinatal period develop not only panic disorder (42%), but also more severe clinical picture with mixed states of panic disorder and depression (38%). This is in alignment with literature findings of high levels of comorbidity during the antenatal period [7]. More severe depressive symptoms develop over time during the pregnancy, which is associated with the high incidence of depressive disorders not only in the prenatal period, but also postnatally.

More than 30% of the women seek help during their third lunar month, which implies the vulnerability of this period but also the chance for early intervention. In the first trimester predominantly women with anxiety seek help and if no adequate intervention is made, more severe course of the disease could be developed with comorbidity of depressive symptoms. Another concern is the correct recognition of depressive symptoms during pregnancy and the possibility of minimizing

their impact because of “normal hormonal changes” and as an adjustment reaction to the new existential situation. Unrecognized and untreated anxiety disorder with depressive symptoms, especially at the end of the pregnancy, limits the time frame for intervention and could lead to lower functioning and quality of life of the mother, but also lessening her ability to care for the baby postnatally [11].

Different scales for assessment of depressive and anxiety symptoms in the study are aimed to assist not only the clinician, but the patient perspective by subjective measurement of discomfort. The subjective assessment of anxiety by HADS-A shows significantly higher scores of anxiety in pregnant women with pure panic disorder. No such differences are observed using the gold standard HAM-A [12], which is rated by the clinician. Although the levels of anxiety are identical between groups of women with panic disorder with or without agoraphobia and with depression, there is significant difference when they assess the level of anxiety subjectively. This suggests the subjective feeling of higher distress when more physical symptoms in relation to panic attacks are present, especially in pregnant women. This is probably related to the experience of fear in relation to their physical health due to the wellbeing of the baby, then minimizing their own psychological distress because of depressive symptoms of agoraphobic fear.

Younger women report higher anxiety symptoms probably due to more insufficient coping mechanism for distress. The discrepancy between subjective and objective assessment of anxiety and education could be seen as a result of better verbalization of the problems in people with higher education during clinical interview and, as a consequence, better understanding and higher scores, rated by clinician.

In addition, anxious pregnant women with depression, show equivalent levels of anxiety, but their depressive symptoms are significantly higher than the groups with only anxiety symptoms. This implies the condition of mixed states of anxiety and depression as more severe, especially in pregnancy. The two used scales for depression – both objective (HAM-D) and subjective (HADS-D) – show good discriminative properties in identifying depressive symptoms in the sample of women with anxiety disorders. These results could have an implication in the real clinical practice and present the importance of searching in detail the clinical presentation of anxiety disorder and the recognition of depressivity as a different domain for intervention.

Limitations and conclusions. The sample size and its formation by the outpatient service of one medical institution should be regarded as a limitation of the study as it may not be representative of the general population. However, given the lack of data for mental health problems during the antenatal period in the country, the results of the study could serve as future directions to conduct studies, which include larger groups of women in the perinatal period with mental illness, as well as control groups, to develop clinical protocols for the intervention of anxiety and depressive disorders during pregnancy. If no adequate intervention

for anxiety symptoms during the first lunar months is done, more severe course of the disease could be developed with comorbidity of depressive symptoms.

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