

ABSTRACT OF THE PHD THESIS

The impact of pregnant women's stress on the newborn

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Introduction: Stress is an unpleasant emotional experience accompanied by biochemical, psychological and behavioral changes, caused by environmental pressure on the body, which exceeds its ability to adapt. The hypothesis that the environment can exceed the ability of an organism to adapt, can lead to the emergence of significant changes both psychologically and biologically, with the potential to represent a threat to the health of pregnant women. Pregnancy involves significant changes in neuroendocrine, cardiovascular and immune function, and stress reactivity during pregnancy can impact both maternal health and fetal and neonatal development.

Main objective: Three studies were conducted with the aim of evaluating: The influence of associated factors on the level of stress experienced by pregnant women; Possible correlations between maternal distress, salivary cortisol measured in the third trimester of pregnancy, and successful initiation of breastfeeding; Prenatal screening in a cohort of pregnant women hospitalized for delivery to assess the prevalence of perinatal anxiety and depression.

Main methods: All the studies described in this paper were carried out in the Obstetrics and Gynecology Clinic of the Mureș County Clinical Hospital between December 2019 and May 2022. All participants included in the studies signed the informed consent, the consent for the inclusion of the newborn in the study and they filled in the questionnaires, which contained the necessary data for conducting the studies. The following scales were used: Attitudes and Beliefs Scale 2 ABS II; Hospital Anxiety and Depression Scale (HADS); Hamilton Anxiety Scale – HAMA; Hamilton Depression Rating Scale (HDRS); Hamilton Depression Rating Scale (HAMD); EDPS scale; Depression Scale (CES-D) and LATCH Score.

Study 1. A prospective study that included 215 pregnant women in the third trimester of pregnancy and hospitalized in the Obstetrics and Gynecology II Clinic in Târgu-Mureș, a study where we followed the influence of associated factors on the stress level, and the identification of the women that present an increased frequency of stress in the last trimester of pregnancy.

Conclusions for study 1: The study revealed significant differences in the level of stress and irrationality according to the environment of origin, with women from the urban environment showing higher levels. Imminence of abortion and pregnancy planning were also associated with higher levels of irrationality, suggesting that emotional state may influence irrational thinking. The type of birth was also related to the level of irrationality, with women who desided pregnancies, showing a higher level. The study emphasizes the need for periodic assessment of stress and irrationality during pregnancy and suggests the implementation of a screening and psychological counseling program in prenatal care, highlighting the importance of family support, marital harmony, and childbirth education in managing stress and pregnancy-related irrationality.

Study 2: The study was of prospective observational type and took place between January and May 2022, and included a sample of 60 pregnant women in the third trimester of pregnancy. The recruitment of the participants took place in the Obstetrics and Gynecology Clinic of the Mureș County Clinical Hospital. The aim of the study was to detect possible correlations between maternal distress, the level of salivary cortisol measured in the third trimester of pregnancy and the successful initiation of breastfeeding.

Conclusions study 2: An important result of the study was that early skin-to-skin contact, increased support and education of mothers during pregnancy and immediately after birth can improve breastfeeding initiation. Although the study focuses on the impact of cortisol on successful initiation of breastfeeding, salivary cortisol measured in the third trimester was not associated with delayed breastfeeding at 24 hours nor at 48 hours postpartum. Increased salivary cortisol in the last trimester of pregnancy was not associated with delayed initiation/absence of breastfeeding. The mechanisms explaining the relationship between cortisol levels during pregnancy, maternal psychological distress, and suboptimal breastfeeding outcome remain unclear.

Study 3: Is a prospective study, included a sample of 215 pregnant women in the third trimester of pregnancy and hospitalized for childbirth at the Obstetrics and Gynecology Clinic of the Târgu-Mureș County Clinical Hospital and

was conducted between December 2019 and December 2021, and aimed to perform prenatal screening in a cohort of pregnant women hospitalized for delivery to assess the prevalence of perinatal anxiety and depression.

Conclusions study 3. The study highlights the importance of monitoring mental health throughout pregnancy and identifying relevant risk factors to provide appropriate care to expectant mothers. Manifestation of anxiety and depression during pregnancy is often influenced by several factors. By recognizing and understanding these associated factors, we can facilitate the early implementation of measures to monitor mental health throughout pregnancy. Demographic and health-related factors are closely interconnected and can have a significant impact on maternal psycho-affective status. Analysis of relevant risk factors revealed that younger maternal age is associated with antenatal depressive symptoms, and anxiety is a common problem during pregnancy. The results obtained in our study demonstrated that age and home environment are the strongest predictors of mental health during pregnancy. Therefore, it is important to consider these factors when evaluating and providing prenatal care. Introducing a screening program that also includes psychological counseling as part of prenatal care can be extremely helpful for women who experience stress, anxiety or are in socially disadvantaged situations. This program could be implemented at the level of the health system, and medical staff could be trained to provide appropriate counseling and support to these women. Our results highlight the need to implement interventions aimed at supporting the mental well-being of pregnant women. These interventions may include social support, psychological counseling, and other therapeutic strategies tailored to women's individual needs. It is important to address mental health during pregnancy as an integral part of antenatal care and to provide appropriate support and preventive interventions to ensure the well-being of both mother and child during the perinatal period.