

Anxiety, depression, and stress in hospitalized high-risk pregnant women: health promotion actions

Ansiedade, depressão e estresse em gestantes de alto risco internadas: ações de promoção de saúde

Ansiedad, depresión y estrés en mujeres embarazadas de alto riesgo hospitalizadas: acciones de promoción de la salud

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Abstract

Objective: To determine the levels of stress, anxiety, and depression among high-risk pregnant women admitted to a leading obstetrics hospital in southern Brazil. **Methods:** A pilot cross-sectional study was conducted to assess psychological distress using the Depression, Anxiety, and Stress Scale (DASS-21) in pregnant women hospitalized with blood pressure abnormalities.

Results: The sample consisted of 24 pregnant women, and changes were identified in 87.5% of these women, with anxiety and stress presenting higher levels within the moderate to extremely severe ranges, and only 12.5% of pregnant women showing no psychological changes.

Conclusion: It was possible to determine the levels of maternal psychological distress. Thus, it is understood that the study raises awareness about the mental health of pregnant women hospitalized with blood pressure changes and the importance of planning interventions to prevent and mitigate the short- and long-term impacts of psychological distress.

Descriptors: Mental Health; Pregnancy, High-Risk; Hypertension; Women's Health.

Resumo

Objetivo: conhecer os níveis de estresse, ansiedade e depressão de gestantes de alto risco internadas em uma obstetrícia referência na região Sul do Brasil. **Métodos:** Estudo com delineamento transversal, na forma piloto, que avaliou sofrimentos psíquicos com o uso da escala breve de depressão, ansiedade e estresse (DASS-21) em gestantes hospitalizadas com alteração pressórica. **Resultados:** A amostra foi de 24 gestantes, identificou-se o aparecimento das alterações em 87,5% destas mulheres, sendo que ansiedade e estresse apresentaram níveis mais elevados dentro dos graus moderado a extremamente severo e apenas 12,5% das gestantes não apresentam nenhuma alteração psíquica. **Conclusão:** Foi possível conhecer os níveis de sofrimento psíquico materno. Desta forma, compreende-se que o estudo traz um alerta acerca da saúde mental de gestantes internadas com alteração pressórica, e sobre a importância de planejar intervenções a fim de prevenir e amenizar os impactos dos sofrimentos psíquicos a curto e longo prazos.

Descriptores: Saúde Mental; Gravidez de Alto Risco; Hipertensão; Saúde da Mulher.

Resumen

Objetivo: Conocer los niveles de estrés, ansiedad y depresión en mujeres embarazadas de alto riesgo ingresadas en una unidad de obstetricia de referencia en la región sur de Brasil. **Métodos:** Se trata de un estudio transversal, en forma de estudio piloto, que evaluó el sufrimiento psíquico mediante el uso de la escala breve de depresión, ansiedad y estrés (DASS-21) en mujeres embarazadas hospitalizadas con alteraciones de la presión arterial. **Resultados:** La muestra consistió en 24 mujeres embarazadas, identificándose la aparición de alteraciones en el 87,5% de estas mujeres. La ansiedad y el estrés mostraron niveles más elevados, dentro de los grados de moderado a extremadamente severo, y solo el 12,5% de las embarazadas no presentaron ningún trastorno psíquico. **Conclusión:** Fue posible conocer los niveles de sufrimiento psíquico materno. De este modo, se entiende que el estudio alerta sobre la salud mental de las mujeres embarazadas hospitalizadas con alteraciones de la presión arterial y subraya la importancia de planificar intervenciones para prevenir y mitigar los impactos del sufrimiento psíquico a corto y largo plazo.

Descriptores: Salud Mental; Embarazo de Alto Riesgo; Hipertensión; Salud de la Mujer.

Introduction

The gestational period is marked by a series of physiological changes in the

physical and emotional spheres, which directly affect a woman's mental health. It is known that this is a period of



transformation, often seen as a period of crisis, as the transition from woman to mother occurs, and with this, the feelings and concerns of this metamorphosis become clear and evident from the beginning.¹

Therefore, in addition to expected changes during pregnancy, hormonal changes can also lead to the emergence of mental illnesses, such as depression. Therefore, prenatal care is essential for recognizing symptoms, providing appropriate treatment, and preventing the severity of the condition.²

That said, data from the Ministry of Health indicate that approximately one in four pregnant women experience some type of psychiatric disorder during pregnancy, with depression being the most commonly reported disorder. Risk factors for depressive symptoms include a personal history of depression, a family history of psychiatric illness, a current diagnosis of pregnancy complications, a poor obstetric history, multiple births, alcohol and illicit drug use, socioeconomic factors, poor family and social support, absence of a partner, domestic violence, and unplanned and/or unwanted pregnancies. Therefore, changes in pregnant women's mental health contribute to poorer obstetric outcomes, posing high risks to both mother and baby.³

However, some pregnancies qualify as high-risk prenatal care due to individual

factors, sociodemographic conditions, obstetric history, and previous medical history.³ High-risk pregnancies require more medical evaluations and hospitalization to ensure optimal gestational development. However, this increases stress levels, negative emotions, anxiety, emotional lability, and feelings of uncertainty, compared to low-risk pregnancies.^{4,5} Therefore, being able to experience feelings of fear and suffering are more intense, due to concerns related to conditioned restrictions.⁶ Some situations may require bed rest and restriction of activities, factors that are associated with depression and anxiety. Furthermore, hospitalization increases stress due to the change in the comfort of their homes, which can contribute to the worsening of psychological distress.⁷

Furthermore, the development of anxiety and depression contributes to negative outcomes, such as prematurity, miscarriage, low birth weight, postpartum depression, delayed neuropsychomotor development, and even hypertensive conditions, such as gestational hypertension and preeclampsia, conditions that have an even more negative impact on physical and mental health.^{8,9,10} Furthermore, stress and depression during pregnancy can lead to difficulties in language development, impulsivity, attention deficit disorder, and, when left untreated, increase the risk of



postpartum depression, which harms the mother-child relationship.⁸

In short, this study aims to understand the levels of stress, anxiety, and depression of high-risk pregnant women admitted to a high-risk obstetrics referral center in southern Brazil. This is intended to determine how preventive and health-promoting actions can be required regarding the mental health of these women, and thereby contribute significantly to reducing complications resulting from the impact on the mental aspect.

Methodology

The sample consisted of pregnant women with blood pressure changes admitted to the obstetrics ward of the teaching hospital. Eligible participants were women aged 18 or older who presented with a description of some blood pressure change (hypertension, gestational hypertension, hypertensive peaks, or preeclampsia) upon admission. A healthcare professional from the hospital specializing in obstetrics was responsible for reviewing the obstetric admissions chart twice a week and verifying which pregnant women were considered eligible to participate in the study. These pregnant women were then invited to participate. After agreeing to and signing the informed consent form, they completed a brief questionnaire with

sociodemographic data (education level, family income, having a partner), health data (number of pregnancies, planned pregnancy, use of tobacco, alcohol, and/or drugs before and during pregnancy, physical activity before and during pregnancy, screen time before and during pregnancy, sleep quality), and knowledge of and interest in integrative practices at their primary care unit. They were also administered two visual analogue scales for pain and perceived general well-being: the Brief Depression, Anxiety, and Stress Scale (DASS-21), validated for Portuguese.¹¹ They also had their blood pressure, temperature, saturation, and heart rate measured. For this study, we will only analyze data from the DASS-21. Data collection took place from September 15, 2022, to January 5, 2023, twice a week, except on days when there was only one pregnant woman hospitalized eligible to participate in the study.

Stata® version 14 was used for descriptive analysis, using means and standard deviations for continuous data and frequencies and proportions for categorical data. Data from the DASS-21, which consists of a 21-item, four-point Likert-type scale ranging from "0" (not at all) to "3" (very or most of the time), regarding perceptions of the past week, was analyzed. The results for each subscale were summed. Questions 1, 6, 8, 11, 12, 14, and 18



constitute the stress subscale. Questions 2, 4, 7, 9, 15, 19, and 20 constitute the anxiety subscale. Questions 3, 5, 10, 13, 16, 17, and 21 form the depression subscale. To conform to the values of the original scale (DASS-42), as recommended, the values were multiplied by two¹¹, with the results categorized as follows: for stress: normal, 0-14; mild, 15-18; moderate, 19-25; severe, 26-33; extremely severe, 34-42. For anxiety: normal, 0-7; mild, 8-9; moderate, 10-14; severe, 15-19; extremely severe, 20-42. For depression, normal values are considered 0-9; mild, 10-13; moderate, 14-20; severe, 21-27; and extremely severe, 28-42.¹²

Results

Forty-one pregnant women hospitalized with some type of blood pressure change (arterial hypertension, gestational arterial hypertension, pre-eclampsia, hypertensive peaks) were invited to participate in the study. Eight refused to participate, and there were five losses due to transfer, delivery, or discharge, and another four due to interference, others such as the influence of the accompanying person on the patient's

responses, other care procedures such as recently returning from a bath, or even having received pain medication or interference in the patient's state of wakefulness that could be distorting the information. Therefore, the sample analyzed for this study was 24 pregnant women, with an average age of 33.3 ± 5.5 years (20-46 years), with a gestational age between 27+3 and 38+6 weeks (on average 34 ± 3 weeks), with a partner, with a planned pregnancy in 58.3% of cases. All of them had been hospitalized for a maximum of one week, the majority (62.5%) experiencing their first or second pregnancy, non-smokers (79.2%), who did not use tobacco, alcohol or drugs during pregnancy (75%), inactive both before and during pregnancy, with a family income of up to three minimum wages (62.5%), and a low level of education (incomplete elementary education (20.8%), complete elementary education (20.8%), high school (41.7%), higher education (16.7%).

In terms of psychological suffering, as shown in Table 1, it is possible to observe the presence of stress, anxiety and depression at different levels.



Table 1. Stress, anxiety, and depression levels among high-risk pregnant women admitted to a hospital obstetrics unit

Classification	Stress		Anxiety		Depression	
	n	%	n	%	n	%
Normal	7	29.2	3	12.5	11	45.8
Light	4	16.7	3	12.5	6	25.0
Moderate	2	8.3	8	33.3	4	16.7
Severe	7	29.2	4	16.7	2	8.3
Extremely Severe	4	16.7	6	25.0	1	4.2

Discussion

This study analyzed the levels of stress, anxiety, and depression among high-risk pregnant women, especially those with blood pressure changes and hospitalized patients. In this context, these symptoms were observed in 87.5% of the sample, making this an extremely important topic to observe, consider, and monitor.

According to the data, pregnant women presented varying levels of psychological distress, with anxiety and stress presenting higher levels within the moderate to extremely severe range. Relatedly, a study also conducted in Rio Grande do Sul using the DASS-21 presented similar data when comparing pregnant women with some blood pressure alteration with other pregnant women without this comorbidity, and found that patients with preeclampsia had even higher levels of severity.¹³ Interestingly, another author presented similar data when

comparing hypertensive and non-hypertensive pregnant women, in which the former group presented significantly higher scores in all segments of the DASS-21 assessment.¹⁴

Furthermore, it is important to emphasize the presence of extremely severe levels of any of the suffering shown in this analysis and consider the consequences of the psychological impact on these pregnant women and their children. It is known that this can negatively influence the development of the mother's relationship with her baby, the process of adapting to motherhood, and the unfavorable impact on the postpartum period. These and other complications can be avoided with early detection and appropriate treatment.¹⁵

Other studies have sought to assess symptoms of prenatal depression or anxiety in hospitalized pregnant women. For example, a meta-analysis found that one in three women would have a positive



depression or anxiety screening test or diagnostic interview during hospitalization.¹⁶ Similarly, a study using a different scale found high levels of anxiety and depression in the same group.

In light of this, another analysis found that mothers with unfavorable DASS-21 scores gave birth to children with lower birth weights than desired.¹⁸ Although the scale is not diagnostic and is rarely used in the perinatal period, some items lack appropriateness, which can occur physiologically and thus generate a false positive result.⁹ However, given its brevity of application, it may be an option for assessing psychological distress in hospitalized high-risk pregnant women.

On the other hand, the results show that only 12.5% of women do not experience any psychological changes, and that mild levels of anxiety and stress can be considered expected during pregnancy under high-risk conditions and hospitalization. Preventive measures should not be neglected, and these can even contribute to a more humane and welcoming hospital environment.

The main limitation of this study is its small sample size. However, other studies with larger samples demonstrate similar results. This finding is relevant to the service in which it was conducted and encourages a closer look at this topic in obstetric services. Furthermore, it is

necessary to identify physiological aspects that may be present during pregnancy, especially in the last trimester, in order to better categorize women at risk for emotional disorders that can be harmful to mother and baby in the short and long term. Conversely, few studies consider hospitalized women with blood pressure changes, making this a population that still lacks care.

It is suggested that further research be conducted to understand the emotional profile of hospitalized pregnant women. Understanding the patterns of mental health symptoms in women facing adversities during pregnancy can contribute to more effective responses aimed at improving the individual, family, and social harm resulting from maternal mental illness.^{19,20} Furthermore, based on the data presented and the theoretical framework presented, the importance of this topic and the need for care measures for pregnant women during the prenatal period are evident.

Conclusion

This study aimed to understand the levels of psychological distress by assessing anxiety, depression, and stress in hospitalized high-risk pregnant women. Given the above, these aspects were observed in the sample analyzed, ranging from mild to extremely severe. The study showed that most pregnant women



experienced more severe levels of anxiety and stress, while a smaller proportion had mild levels of anxiety and stress, which can appear at some point during pregnancy as a physiological response of the body.

The study is understood to be a warning about the mental health of pregnant women, especially those hospitalized. Therefore, it highlights the need for future research on psychological distress in this population and strategies for implementing interventions to prevent short- and long-term impacts.

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