

The relationship between anxiety levels and cortisol concentrations in young and elderly primigravida women at Makassar, South Sulawesi, Indonesia

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ABSTRACT

Introduction: Pregnancy, particularly in young (<20 years) and elderly (≥35 years) primigravidas, is often associated with increased psychological stress. Anxiety during pregnancy is a common condition that may affect maternal well-being and fetal development. Cortisol, a key stress hormone, has been suggested as a biological marker of anxiety. However, limited studies have explored the relationship between anxiety and cortisol levels specifically in these age groups. **Objective:** To determine the correlation between anxiety levels and cortisol concentrations in young and elderly primigravidas. **Materials and Methods:** This cross-sectional analytical study involved primigravida patients meeting inclusion criteria at two referral hospitals. Anxiety levels were assessed using the Perinatal Anxiety Screening Scale (PASS), while serum cortisol levels were measured using enzyme-linked immunosorbent assay (ELISA). Data were analysed using Pearson's correlation and linear regression. **Results:** Elderly primigravidas showed significantly higher PASS scores compared to young primigravidas. A statistically significant positive correlation was found between anxiety levels and cortisol concentrations ($p < 0.05$), with moderate correlation strength. Linear regression indicated that anxiety levels were a significant predictor of increased cortisol concentrations, particularly among elderly primigravidas. **Conclusion:** There is a significant positive correlation between anxiety and cortisol levels in both young and elderly primigravidas, with a higher impact observed in the elderly group. Monitoring psychological well-being and cortisol biomarkers during pregnancy, especially in high-risk age groups, is important to anticipate complications and support maternal-fetal health.