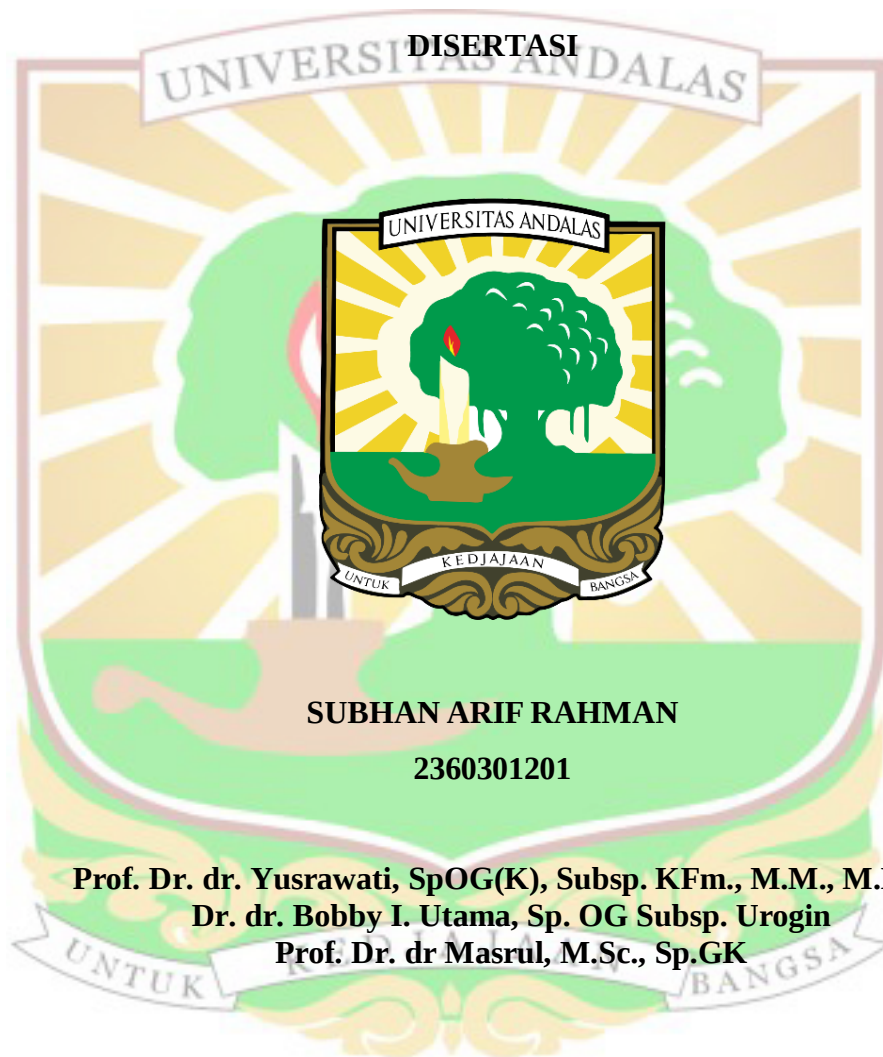


**ANALISIS 5-HYDROXYTRYPTAMINE TRANSPORTER-LINKED
POLYMORPHIC REGION, SEROTONIN TRANSPORTER,
SEROTONIN MATERNAL DAN TALI PUSAT, BIOMETRI
KEPALA JANIN PADA IBU HAMIL ATERM DENGAN
OBESITAS DAN BMI NORMAL**



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ABSTRACT

Introduction

Maternal obesity has the potential to alter maternal and fetal serotonergic biological conditions through metabolic and inflammatory changes that may affect serotonin transporter biomarkers, maternal and cord serotonin, as well as fetal biometry. This study compared 5-HTTLPR, maternal serum serotonin transporter (SERT) and serotonin, cord blood serotonin, as well as fetal biometry (head circumference and transcerebellar diameter) in term pregnancies with obese BMI and normal BMI.

Methods

Comparative analytic observational study was conducted in term pregnancies with obesity (n=40) and normal pregnancies (n=40). Numerical variables were compared using the independent *t*-test or Mann–Whitney *U* test according to data distribution, while categorical variables were analyzed using Fisher's exact test. Maternal age and parity were included as covariates in the analysis.

Results

Maternal age in the obesity group was higher than in the normal group (31.82 vs 30.08 years; $p=0.042$), multiparity was higher in the obesity group (29/40 vs 17/40; $p=0.013$). The distribution of 5-HTTLPR was not significantly different between the two groups ($p=1.000$). Maternal SERT levels were not significantly different statistically between the two groups (median 11.663 ng/mL vs 12.900 ng/mL; $p=0.497$). Maternal serotonin levels were significantly higher in the obesity group compared with the normal group (411.374 ± 205.303 vs 283.651 ± 173.725 ng/mL; $p=0.004$). Cord blood serotonin levels were higher in the obesity group (214.564 ± 162.189 vs 145.664 ± 113.902 ng/mL; $p=0.013$). Fetal head circumference and transcerebellar diameter showed no significant differences between the two groups.

Conclusion

In term pregnancies, maternal obesity is associated with higher maternal serotonin and cord blood serotonin levels compared with the normal group. However, maternal obesity showed no significant differences in 5-HTTLPR distribution, maternal SERT levels, or fetal biometry.

Keywords: maternal obesity; serotonin; serotonin transporter; 5-HTTLPR; cord serotonin; head circumference; transcerebellar diameter.