

Study of Blood Pressure, Serum Lipid Profile and their Relationship with the Body Mass Index of Pregnant Mothers in Jaffna District

Yoganathan T.^{1*}, Arasaratnam V.², Hettiarachchi M.³ and Liyanage C.³

¹Nuclear Medicine Unit, Faculty of Medicine, University of Jaffna, Sri Lanka

²Department of Biochemistry, Faculty of Medicine, University of Jaffna, Sri Lanka

³Nuclear Medicine Unit, Faculty of Medicine, University of Ruhuna, Sri Lanka

* thiruyoganathan@yahoo.co.in

Abstract

Objective of this study was to determine the association between the blood pressure and serum lipid profile with the body mass index (BMI) of pregnant mother. In this study, systematic sampling technique was used and 500 mothers were selected. Mean BMI of the pregnant mothers was 26.24 (± 4.39) kg/m². BMI was categorized on the basis of BMI as obese (BMI ≥ 30 kg/m²) and non-obese (BMI ≤ 30 kg/m²). Among the mothers 14.6 % ($n=73$) were obese. Mean systolic blood pressure (SBP) and diastolic blood pressure (DBP) were 105.53 (± 10.30) and 69.40 (± 7.05) mm Hg respectively. Mothers were considered hypertensive if SBP was ≥ 140 mm Hg or DBP was ≥ 90 mm Hg. In this study, only 1.0 % ($n=5$) of mothers had hypertension. Mean serum concentration of TC, TG, LDL-C and HDL-C of the mothers were 262.08 (± 52.79), 273.15 (± 97.03), 168.82 (± 42.80) and 77.00 (± 21.17) mg/dL respectively. Normal range of LDL-C, HDL-C, TG and TC were <100 mg/dL, 42.0-88.0 mg/dL, 35.0 -135.0 mg/dL and <200 mg/dL respectively. In this study, normal range of serum TC, TG, LDL-C and HDL-C were observed in 9.6 ($n=48$), 4.6 ($n=23$), 3.4 ($n=17$) and 70.6 % ($n=353$) of mothers respectively. These results indicated that most of the mothers in third trimester of gestation had elevated lipid profile level. Both SBP ($r=0.336$, $p=0.001$) and DBP ($r=0.230$, $p=0.001$) showed significant positive correlation with BMI of the mother. Based on this study, serum lipid profile and SBP & DBP of mothers in Jaffna District influence the BMI in third trimester of gestation.

Key words: Blood pressure, Lipid profile, Pregnancy and Body mass index