

Title :EFFECT OF BODY WEIGHT ON PREGNANCY OUTCOME

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ABSTRACT

Background and Objective

Early pregnancy BMI and gestational weight gain have a strong effect on adverse maternal and neonatal outcomes. Studies have found that Gestational diabetes, Pregnancy Induced Hypertension, emergency caesarean section, postpartum hemorrhage, wound infections, preterm delivery, large for gestational age (LGA), and fetal death in utero were more common in overweight and obese mothers. Likewise underweight women were at a higher risk of developing Anaemia, along with adverse neonatal outcomes like Intrauterine Growth retardation(IUGR) and prematurity thereby elevating the rate of infant hospitalisation and sometimes death.

Many studies have been done in the Western countries whereas only few studies have been done on the Asian population. In India, previously the problems during pregnancy were more related to low BMI but with changing lifestyle, obesity is increasing rapidly especially in urban set ups and may become a major health problem in the future. Hence the need of the study is to evaluate the effect of body weight on pregnancy outcome

in our Indian population. The aim of this study is to analyse the association between early pregnancy BMI and its effect on maternal and neonatal outcomes. The relationship between early pregnancy BMI and maternal weight gain was also studied.

Materials and Methods

A Prospective observational study comprising 253 antenatal women with singleton pregnancies, booked at PSG Hospital within the first 12 weeks of gestation has been conducted. Informed consent was taken. With the help of a pre-designed questionnaire, basic information including weight and height was collected and BMI calculated accordingly. Patients were divided into 4 groups such as Underweight (<18.5 kg/m²), Normal (18.5-24.9), Overweight (25-29.9) and Obese (30 and above) based on their BMI which was calculated using the QUETELET'S Index. Weight gain during each visit was recorded and development of any antenatal complications throughout pregnancy was noted down. Information regarding postnatal complications, gestational age at delivery and also birth weight and Apgar score of the neonate was collected from the case sheets following delivery.

Descriptive analysis has been done using statistical tools with SPSS software. Results on continuous measurements are presented on Mean \pm SD

(Min-Max) and results on categorical measurements are presented in Number (%). Chi-square test has been used to find the significance study parameters on categorical scale between two or more groups. Pearson correlation has been used to find the significance of relationship between early pregnancy BMI, weight gain, maternal and fetal outcomes.

Results

The study showed that there is a statistically significant association between BMI and adverse maternal and fetal outcomes. A statistically significant association was noted between BMI and weight gain. Lower BMI has been noted to be significantly associated with lower weight gain. As BMI increased, weight gain also increased. The risk of developing adverse maternal and fetal outcomes in women with extremes of BMI was also evaluated and found to be significant.

Conclusion

Early pregnancy BMI and gestational weight gain have a strong effect on adverse maternal and neonatal outcomes, which is supported by a huge body of literature.

In the study, it was seen that there was a strong association between BMI and adverse maternal and fetal outcomes. Underweight

women were seen to develop anaemia, reduced liquor volume, increased rate of cesarean sections and deliver SGA with low Apgar score. It was seen that overweight and obese women had a much higher risk of developing adverse maternal outcomes like gestational diabetes, pregnancy induced hypertension, increased liquor volume, PPROM, increased rate of instrumental deliveries and cesarean sections, postpartum complications like post partum haemorrhage delayed wound healing, delivering LGA babies with low Apgar score. It was seen that overweight and obese women gained more weight than women with normal BMI, and least weight was gained by underweight women. The relative risk of various outcomes that a patient with high or low BMI can develop was also evaluated and my results were justified.

Utmost importance needs to be given to BMI and the patterns of weight gain during pregnancy, as they are modifiable risk factors of adverse pregnancy outcomes. By performing this study it was possible to evaluate the association between BMI and its adverse effect on pregnancy outcome. It was also possible to analyse the association between BMI and gestational weight gain in our Indian set up, the results of all of which are alarming.

Key words

Early Pregnancy BMI, obesity, underweight, Gestational Weight Gain, adverse pregnancy outcomes, Birth weight.