

ABSTRACT

Introduction: Mean Birth Weight of a baby will vary depending on gestational age, maternal age, parity body mass index and the foetal sex.

Objective: To study the gestational age specific Birth Weights and the effect of age, parity, body mass index and the foetal sex on the Birth Weight.

Design & setting: Cross sectional descriptive study was conducted from October 2007 to April 2008 at Teaching Hospital Mahamodara, Galle, Sri Lanka. Ethical approval was obtained from the ethical review committee faculty of medicine, Galle.

Method: 350 consecutive women with singleton uncomplicated pregnancies who delivered healthy babies between the gestational ages of 28 weeks to 41 weeks, were recruited. Birth Weight was measured to the nearest 10 grams by a digital electronic scale as soon as possible after cleaning the baby. Foetal sex was noted. Maternal age was calculated to the date of delivery. Body mass index was calculated with the height and weight at booking visit which were obtained from the antenatal clinic records. Pearson correlation coefficient (r) was used to see the association between mean Birth Weight and the other covariates- gestational age, maternal age, parity, body mass index and foetal sex. Multiple regression analysis was carried out to identify the strength of the association between Birth Weight and the above variables. With this proportionate contribution was identified for individual factors and derive an equation to predict the birth weight at different gestational ages. Mean Birth weight difference of female and male babies with the distribution of maternal age, parity, body mass index in these two groups were assessed by Independent t test.

Results and Conclusions : Gestational age was the major determinant of Birth weight with the contribution of parity, maternal body mass index, age in descending order. Mean Birth Weight were rising with age till 40 years of age and with advancement of the parity. However teen mothers has delivered their 2nd child little lighter than the 1st one. Foetal sex didn't significantly affect the Mean Birth Weight. Following equation was derived to predict the mean Birth Weight that a baby should have for the relevant gestation

$$\text{Mean Birth Weight} = -2179.82 + 109.66\text{GA} + 35.54\text{BMI} + 36.02 \text{ parity}$$

GA= gestational age

BMI=body mass index