

1. Abstract

Objective: To determine the relationship of parental height, weight, BMI, age, and parity on the weight and length of the neonate.

Design: Prospective cohort study.

Setting: Obstetrics and Gynaecology units Castle Street Hospital for Women, Colombo 08.

Subjects: 825 women with uncomplicated singleton pregnancies, their partners and newborn babies in the indexed pregnancy.

Main outcome measures: Birth weight, birth length, Ponderal index, and placental weight.

Results: We studied 825 expecting women, 53.5% nulliparous, 29.8% para 1, 12.7% para 2 and 4.0% para three or more. Age distribution was Mean \pm SD= 28.9 \pm 5.1 years, Median=29 years and ranged from 18 to 43 years. Their height weight and BMI were 156,1 \pm 6.5cm, 53.1 \pm 9.6kg, and 21.8 \pm 3.7 respectively. In the BMI groups there were 64.4% normal, underweight17.8% overweight 14.5% and 3.3% obese. First trimester Hb concentration was 11.7 \pm 1.4g/dl. First trimester USS was done in only 25.5% and by 22 weeks 53.1% had USS. Gestation at delivery was 273.1 \pm 18.1 days. Paternal age, height, weight and BMI were 32.3 \pm 5.5 years, 162.2 \pm 7.2cm, 63.6 \pm 11.8kg, and 22.5 \pm 4.0. 62.8% delivered vaginally out of which 4.7% were instrumental and 37.2% had caesarean delivery. There were 52.7% male babies delivered. Mean birth weights for all was 2987 \pm 400g and for male and female babies 3032 \pm 397g and 2936 \pm 399g respectively. Mean length of the babies was 51.62 \pm 3.9cm. Birth weight correlated with maternal

height ($r=0.21$, $p=0.001$, 2-tailed), maternal weight, weight gain ($r=0.09$, $p=0.005$, 2-tailed), maternal BMI category ($F=7.5$, $p<0.001$).

Conclusions: Maternal and paternal height, weight, and BMI and parity influence the birth weight in uncomplicated term pregnancies. Maternal parameters have more effects than the paternal.

Key words: Maternal height, maternal weight, BMI, paternal height, paternal weight, Ponderal Index.