

## ABSTRACT

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A prospective cohort study carried out on all women, registering antenatal clinic, professorial unit; De Soysa Maternity Hospital for the duration of six months, by the aid of questionnaire to develop customized growth charts for Sri Lankan babies by examining physiological variables, influencing fetal growth, to determine cut off point for small for gestational age babies in Sri Lanka and to examine relationship between birth weight and several physiological variables.

Antenatal mothers, registered for booking visit prior to 25 weeks gestation was 1636. Data of 88.38% (1446) mothers who delivered in the same unit was available at the end of study. The variables included, was maternal height, booking weight, parity, race of mother, gestational age at delivery and sex of the baby. Final analysis was done on 11.04 uncomplicated pregnancies.

The mean height of mother was 152.4 cm with SD of 5.3cm. The average weight of the mother at booking visit was 53.7 + 8.36 kg. The mean birth weight of new born was 2.950kg with SD of 0.0502 kg. The heights of 57% of mothers were 150-159cm. The mean birth weight increased with increase height of mother. The difference between the groups were highly significant ( $P=0.001$  at  $df4$ ) and a positive correlation was seen ( $R=0.124$ ). The mean birth weight of baby increased with maternal weight booking

weight and birth weight of baby was well correlated ( $R = +0.343$ ). Maternal weight alone causes 11.7% variation in birth weight.

90% of babies delivered at term. The mean birth weight of new born increased with gestational duration at delivery. The difference between groups were highly significant ( $P < 0.001$  at  $df 8$ ). The mean birth weight of babies born to primies were lower than multipara. There was significant difference in mean birth weight of primi and other pregnancies ( $P < 0.001$  at  $df 4$ )

82% babies were born to Sinhala mothers. The mean birth weight of them was 2.947 kg. The study population consisted of 56% male babies and 44% of females. The mean birth weight of males was higher than female new born. This difference was statistically significant. ( $P = 0.027$ ).

19.5% of babies were below 2.5kg birth weight. Low birth weight was higher in small women.

This present study examined a variety of physiological birth weight determinants and assessed their relative importance. This study population is insufficient to develop growth centile charts. This study can be used as preliminary study for future survey.