



ABSTRACT SAMPLE

Application of a Customised Birth Weight Standard in Identifying Babies with Growth Restriction among Ethnic Chinese Subjects

MW Pang TN Leung DS Sahota AMZ Chang TK Lau

The Department of Obstetric and Gynaecology, Prince of Wales Hospital, the Chinese University of Hong Kong

Objective:

The aim of this study was to compare the ability of customised birth weight standard and population-based birth weight standard in the identification of babies with growth restriction in a Chinese population.

Study design:

A regression model for customised birth weight standard was derived from a cohort of 1564 healthy Hong Kong Chinese women with ultrasound dated singleton pregnancies who delivered at term. In the model, maternal height, weight, parity, gestation at delivery and fetal sex were included as independent variables in predicting the final idealised birth weight for an individual pregnancy. From the same set of women, a population-based birth weight standard was calculated without taking into account of the individual maternal physical and pregnancy characteristics. A different set of 709 Chinese women with singleton pregnancies delivered at term were recruited. Neonatal anthropometric measurements were measured 2 days after delivery. The differences in these measurements were compared between the groups defined small for gestational age (SGA) by population-based birth weight standard and SGA by customised birth weight standard against the normal birth weight group.

Results:

Neonates classified as small by both birth weight standards had significantly lower Ponderal Indices, mid-arm circumference to head circumference ratio, triceps and sub-scapular skin fold thickness ($P < 0.001$) when compared to the normal birth weight group. However, there were no differences in these measurements between SGA babies defined by either standard. Specifically, both standards identified 42% of neonates with abnormally low Ponderal Index.

Conclusion:

The customised birth weight standard is as effective as the population-based birth weight standard in the identification of neonates with growth restriction in ethnic Chinese subjects.