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Infant Growth Rates Predict Childhood Obesity in Her Royal Highness Princess Maha Chakri Sirindhorn Medical Center, Thailand

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Abstract

Background: Obesity is increasingly becoming a problem among the Thai people; infant growth rates have been shown to be linked to childhood obesity.

Objective: The aim of the present study was to determine the period of infant growth and to identify a cut-off point, in order to be able to predict overweight and obesity in children age 3-4 years at the Well Baby Clinic, Her Royal Highness Princess Maha Chakri Sirindhorn Medical Center (HRH MSMC).

Material and Method: The design was retrospective cohort. All subjects born on 2005 at HRH MSMC, in Nakhon Nayok. The author used means of weight and length at 1-6 months, 7-12 months, 13-18 months, 19-24 months and 37-48 months and then constructed a weight-for-length Z score using the LMS method. The difference in Z score between each age group was compared, to predict overweight and obesity at 37-48 months of age. A defined cut-off point, with a receiver operating characteristic (ROC) curve, p-value < 0.05 was regarded as significant.

Results: The 227 from newborns were included in the present study. The prevalence of overweight and obesity at 3-4 years of age was 14%. The cut-off point for accelerated growth was > 0.62SD or > 23.2 percentiles (Z score changes from 7-12 months to 13-18 months), with a positive predictive value of 40%.

Conclusion: The accelerated change of weight-for-length at 7-12 to 13-18 months of age can be used to predict overweight and obesity at 3-4 years of age at HRH MSMC.

Keywords: Overweight, Obesity, Infant, Childhood

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