

## Abstract

**PHYSICAL DEVELOPMENT OF THAI CHILDREN: GROWTH, NUTRITIONAL STATUS  
AND PHYSICAL FITNESS***Ladda Mo-suwan, Nanta Aumkul**and the Development of Thai Children Study Group*

Growth and nutritional status is an important indicator of economic development of the nation. As Thailand has been through an economic transition, it is important to investigate the effect of this change on physical growth of Thai children.

**Methods:** A representative sample of Thai children aged 1-18 years was recruited by a stratified three stage random sampling in a nation-wide survey of the Holistic Development of Thai Children Study during September – December 2001. Weights and heights were measured by standard techniques. Cardio-respiratory fitness was measured in the 6-18 years old subjects by a run/walk test, 800 m for the 6-<8 years olds and 1,600 m for the rest.

**Result:** The total number of 1-18 years old children in this survey was 9,488. With regards to nutritional status, by using the 2-standard deviation cut-off of the 1999 Reference values for weights and heights of Thai population aged 1 d – 19 years old, the prevalence of obesity of Thai children in 2001 was 8.2%, whereas that of stunting was 6.2%. Urban children were 1.8 times more obese than the rural children of the same age, while the latter had 1.6 times higher stunting rate. Bangkok had the highest prevalence of obesity (11.6%), whereas the northeast region was highest in stunting (7.3%). Comparing to previous national surveys over the past 15 years, prevalence of underweight of the young children has constantly declined 1.2% per year. The stunting prevalence has decreased 1.2% per year during the first ten years too but it has not changed much over the past five years. For obesity which has been recognized recently, its prevalence has increased alarmingly 36% in just 5 years. Concerning cardio-respiratory fitness level, in comparison with the US standard, 48% of the subjects had poor fitness, only 28.8% were in the good to excellent group. Major determinant of

poor nutritional status (both under and over nutrition) from multivariate analysis was family income.

**Conclusion:** Findings of this survey indicated the presence of dual form of nutritional problems in Thai children – under- and over-nutrition. Both are related to long-term consequences. Half of them had poor cardio-respiratory fitness. These children would be benefited from poverty alleviation program.