

# **Comparison of the WHO Child Growth Standards with the Chinese 9 Cities Surveys 1975-1995**

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## **Abstract**

A new international standard for child anthropometry was established and launched by the WHO in April 2006. The WHO's objective was to create standards not only for investigating children's growth rather than establishing recommendations how a child should grow.

This study compares the WHO Child growth standard with the world largest population, the Chinese. Every ten years China conducts large scale studies in 9 cities to observe the urban and rural growth of the local children. These so called "9 Cities Surveys" were initiated in 1975 to establish a nationwide standard for growth. Furthermore this study investigates growth in China and its development from 1975 - 1995.

The WHO standards are partially very close to the urban Chinese figures from 1995. The gap between WHO and Chinese figures in the anthropometric indices weight for height, weight for age, height for age and BMI for age is decreasing over time. This gap is always bigger for the rural than for the urban areas. The Chinese children also present a different growth pattern. They are taller and heavier in the international comparison for at least the first 10-12 month of age. Sometimes they are ahead in growth for even the first 30 months of life. The latter refers particularly to the urban population. At the age of five, all Chinese children, in all anthropometric indices rank below the international standards. A definite reason can not be given. Assumable it might be a combination of ethnical, nutritional and socio-economical reasons.

The inter-survey comparison of the three former Chinese studies indicates an obvious trend towards taller and heavier children over the three decades for urban and rural areas. This trend is approaching international standards. However the huge gap between the urban and rural areas was not closed until 1995. But until today, the data collected in the rural areas is still used as a reference standard for rural raised children. In my opinion, there is no justification to compare the Chinese population

with two different standards instead of regarding it as a whole. This is unacceptable, especially as the rural standard is leading to a false positive weight and height classification, where a more realistic diagnosis would be by a failure to thrive.

To keep on using the established rural and urban standards in China seems to be hazardous, especially as the rural standard contains figures of a large proportion of unhealthy children. The WHO approach to implement growth charts that provide a kind of benchmark how children should grow may help to improve China's children's health.

The weakness in the Chinese standard could justify the implementation of the WHO Child Growth Standards in China. This justification can be discussed from different angles. One point is the advantage of world wide standards that help to compare growth across the countries borders. In this context a certain kind of competition might raise the awareness to take care of each countries most precious capital – its children. But as long as a nationwide standard is appropriate - in terms of inclusion and exclusion criteria as well as modelling the collected data – the need for an international standard is arguable.

The study design of the year 2005 may have implemented a comparable approach towards the WHO ideals. The Chinese health authorities are probably right now in the process of cleaning the collected data in order to develop one nationwide standard. Under these circumstances the implementation of the WHO standard will be difficult.