

Indices of Body Build and Nutritional Status

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KEYWORDS BMI. Kaup Index. Subscapular – tricipital Fatfold Ratio. Waist-hip Index

ABSTRACT In 1993. Body mass index (BMI), Subscapular-tricipital fatfold ratio (STFR) and waist-hip circumference ratio (WHI) were analysed in 1200 subjects from years of age 2-75 years old living in Progreso and Merida, Yucatan, Mexico. These data were compared with data for Mexican American (MA), Puerto Rican, Peru Indians, and Guatemala and Belize Maya children. In boys and girls before puberty changes of BMI are small. At ages 9-18 in boys and 7-16 in girls a moderate increase of BMI is observed in Peru, Guatemala and Belize (group A), but intensive occurs in Yucatecan, Mexican American (MA) and Puerto Rican (group B). The group A and B show separated areas of variance (developmental Pathways) in late puberty period. In girls differences between 7 populations are smaller but BMI increase is more rapid in both groups, than in boys. After 18 years there are very small changes in BMI in Peruvians and very rapid ones in Yucatecans and MAs. In US Whites there is some increase, but on much lower rate, US Black are in between. In adults BMI is twice as large as before puberty. Until the age of 14 years changes of STFR are slow, than rapid in late puberty and in adolescence. At this age STFR is lower in children from Peru, higher in Guatemala, and Yucatan values are in between. Before puberty ratio is higher in girls than in boys, after in males than in females. In adult males a higher ratio is observed in Yucatecans and MAs, a medium one in US Whites and is lowest in Peru males; in females STFR is higher in Yucatecans, MAs and Peruvians than in Whites US. Both BMI and STFR increase with age, WHI generally decrease till puberty and then increase starting at age 15 in boys and 17 in girls. In age of 3-5 and of 45-65 years WHI is almost the same in males, and in age 4 and 65 in females. In adults, this ratio is highest in Yucatacans, medium in MAs and lowest is US Whites. The researchers' analysis suggested that BMI must be related in ethnic differences in body build. Whereas STFR and WHI rather reflect nutritional status. A higher WHI is typical for populations from lower economic conditions, whereas a lower STFR is seen in both: in nutritional deprivation in poor populations, and is self-restriction of nutrition in well-off social strata.