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Waist to Height Ratio as a Measure of Abdominal Obesity in Ellisras Rural Children mean age 6.9 years to 13 years over time (1996 to 2003): Ellisras Longitudinal Study.

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Abstract

**Background and aims:** Early detection for increased abdominal fat may be crucial in early prevention of chronic diseases. The purpose of this observational prospective cohort study was to investigate the development and tracking of abdominal obesity amongst Ellisras rural children mean age 6.9 years at baseline to 13.9 years after 8 years.

**Method:** Anthropometric measurements were taken according to the standard procedures of the International Society for the Advancement of Kinanthropometry on 2200 children to 1701 (mean age 6.9 years in 1996 -13.9 years in 2003).

**Results:** The prevalence of abdominal obesity based on WHtR was higher among girls (range 0.1 – 6.2) compared to boys (range 1.0 – 5.0) throughout the period of measurements. A significant tracking of WHtR was more consistent amongst girls compared to boys (B=0.5 (95% CI 0.4 0.7) for girls (B=0.6 (95%CI 0.5-0.6). The waist to hip ratio (WHR) showed a significant ( $p < 0.05$ ) difference between girls and boys with girls.

**Conclusion:** WHtR could best be used for abdominal obesity amongst Ellisras rural children compared to WHR. Investigation of nutritional intake and physical activity patterns will shed light on how healthy these children are and their lifestyle.

**Key words:** abdominal obesity, chronic diseases of lifestyle, rural South African children

