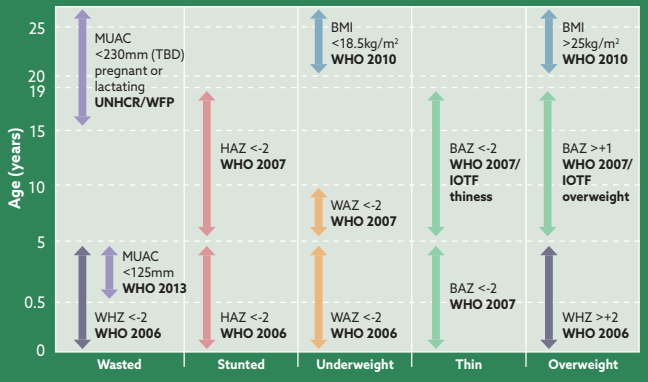


Towards standardised and valid anthropometric indicators of nutritional status in middle childhood and adolescence



Current indicators

Summary of the current indicators, references and cut-offs used to assess anthropometric status.



- › Anthropometric indicators for children and adolescents 5-19 years have been extrapolated from those used in younger children and/or adults.
- › It is currently unclear whether the constructs applied to younger children (stunting, wasting, underweight) or to adults (thinness, overweight/obesity) also apply in middle childhood and adolescence.

Which reference data should be used?

All the commonly used references have underlying assumptions and limitations.

This table shows important factors for acceptability and applicability of a reference.

	Globally representative	Contemporary	Represents health
WHO 2007	From USA	50 years old	Probably
CDC	From USA	Newer (but fatter)	Fatter
IOTF	Diverse but mainly HICs	Several decades old	Probably (but only BMI)

Newer data

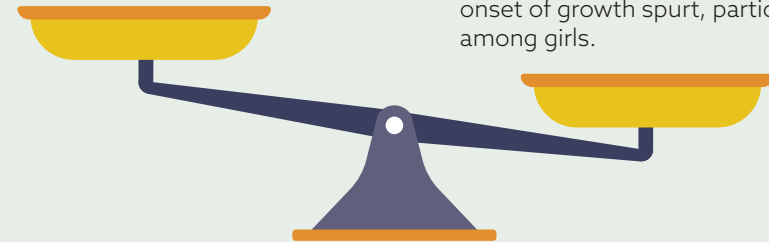
Affected by the obesity epidemic:

- › = higher average BMI which could underestimate global estimates of overweight and obesity.

Older data

Doesn't capture secular trends:

- › Increases in height.
- › Decreases in age of puberty and the onset of growth spurt, particularly among girls.

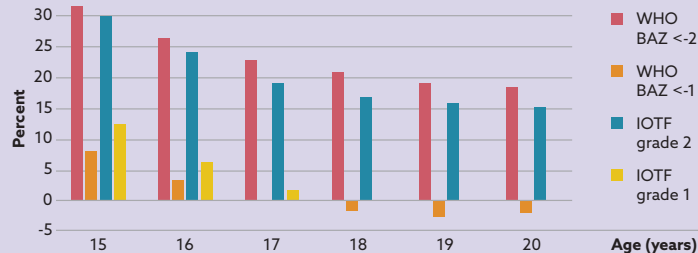


Which cut-offs should be used?

Currently, cut-offs for defining nutritional status in adolescence differ depending on the reference being used.

	Cut-off	Align with children U5?	Align with adult BMI?	Notes
IOTF overweight	+1.3 z	No	Yes	Aligns with BMI at 18 by design
WHO 2007 overweight	+1	No (jump from WHZ+2)	Yes	Not by design
IOTF thinness grade 1	-1	No	Yes	Grade 2 thinness (-2) aligns with WHO and under 5 but not adult
WHO 2007 thinness	-2	Yes	No	Big jump to BMI <18.5

Graph illustrating the difference in prevalence of thinness when using WHO and IOTF cut-offs compared to adult BMI definitions.



IOTF = International obesity task force.

Key messages

- › **Few standardised monitoring systems** exist for nutritional status in children and adolescents 5-19 years.
- › Lack of consensus on anthropometric indicators has **restricted efforts to track trends** and set global and national targets.
- › **Research is needed** to establish contemporary references and cutoffs, harmonise anthropometric indicators across age groups, and position anthropometry within a broader context of nutrition indicators for 5-19-year-olds.
- › WHO and UNICEF, along with implementers and researchers, have a major role in **revisiting anthropometric indicators for this age group**.

