

ABSTRACT

Background. Prevalence of stunting is high, whereas its negative impacts on health especially occurs during childhood as well as adolescent.

Objective. To evaluate upper arm fat and muscle area in stunted and non-stunted children aged 0-24 months of age.

Methods. We analyzed secondary data of the Division of Nutrition and Metabolic Disease, Department of Child Health, Medical School, Universitas Gadjah Mada, Yogyakarta which were collected using cluster random sampling from Yogyakarta Special Province. We compared upper arm fat area (UFA, UFE, and UPF as well as upper arm muscle area (UMA and UME) among stunted and non-stunted children.

Results. We analysed 2195 children. The prevalence of stunting was 354/2195 (16,1%). The values of UFA, UFE and UFP among stunted were significantly lower compared to non-stunted children aged 7-12 months i.e. 4.48 cm² vs 5.05 cm² (P <0,001), 4.88 cm² vs 5.55 cm² (P <0.001), and 30.82% vs 32.58% respectively. The values of UMA among stunted children aged 7-12 months was significantly lower among stunted compared with non-stunted children i.e. 11.31 cm² vs 11.79 cm² (P = 0.02) as well as at 13-24 months of age i.e. 11.05 cm² vs 11.75 cm² (P <0.001). The value of UME among stunted children aged 13-24 months was significantly lower compared with non-stunted children i.e. 10.50 cm² vs 11.18 cm² (P <0.001).

Conclusion. UFA of stunted children aged 7-12 months is smaller than non-stunted children, whereas UMA is smaller among stunted children aged 7-24 months compared with non-stunted children.

Keywords: stunting, overweight, obesity, upper arm fat area, upper arm muscle area, upper arm fat percentage.

Latar Belakang. Prevalensi *stunting* di Indonesia termasuk tinggi, sedangkan dampak negatif terhadap kesehatan terjadi tidak hanya pada anak, tetapi juga pada orang dewasa.

Tujuan. Penelitian ini bertujuan mengetahui massa lemak dan massa otot lengan atas pada anak *stunting* dan *non-stunting* umur 0-24 bulan.

Metode. Kami menganalisis data sekunder anak umur 0-24 bulan dari Divisi Nutrisi dan Penyakit Metabolik Departemen Ilmu Kesehatan Anak Fakultas Kedokteran UGM yang dikumpulkan dari Daerah Istimewa Yogyakarta yang dipilih secara acak. Kami membandingkan *upper arm fat area* (UFA, UFE dan UFP) dan *upper arm muscle area* (UMA dan UME) pada anak *stunted* dan *non-stunted*.

Hasil. Kami menganalisis 2195 anak. Prevalensi *stunting* adalah 354/2195 (16,1%). Massa lemak yang diukur sebagai UFA, UFE dan UFP pada anak *stunting* lebih rendah secara bermakna dibanding anak *non-stunting* pada kelompok umur 7-12 bulan, masing-masing 4,48 cm² vs 5,05 cm² (P <0,001), 4,48 cm² vs 5,55 cm² (P <0,001) dan 30,82% vs 32,58% (P = 0,03); demikian juga massa otot yang dinyatakan sebagai UMA pada umur 7-12 bulan (11,31 cm² vs 11,79 cm², P = 0,02) dan kelompok umur 13-24 bulan (11,05 cm² vs 11,75 cm², P <0,001) serta UME pada kelompok umur 13-24 bulan (10,50 cm² vs 11,18 cm², P <0,001).

Simpulan: Massa lemak lengan atas pada anak *stunting* lebih kecil dibandingkan anak *non-stunting* pada umur 7-12 bulan, sedangkan massa otot lengan atas lebih kecil pada umur 7-24 bulan.

Kata kunci: *stunting*, *overweight*, obesitas, massa lemak, massa otot, lengan atas