ABSTRAK

Hubungan antara Tinggi Badan dan Rentang Tangan berdasarkan Status Gizi pada Anak Usia Sekolah Dasar di DI Yogyakarta

Latar belakang: Indikator penilaian pertumbuhan pada anak yang sering digunakan antara lain yaitu tinggi badan. Pada anak dengan disabilitas ekstremitas, seringkali tidak dapat dilakukan pengukuran tinggi badan secara langsung. Beberapa penelitian menyebutkan bahwa terdapat hubungan antara tinggi badan dan rentang tangan serta rentang tangan dapat digunakan untuk estimasi tinggi badan.

Tujuan: Untuk mengetahui hubungan antara tinggi badan dan rentang tangan berdasarkan status gizi pada anak usia sekolah dasar di Daerah Istimewa Yogyakarta dan mencari rumus prediksi tinggi badan berdasarkan rentang tangan.

Metode: Penelitian observasional dengan desain studi *cross sectional* yang dilakukan pada anak-anak sekolah dasar usia 6 – 12 tahun dari SDN 1 Sentolo, SDN 2 Sentolo, serta SDN Giriwungu di Bulan Agustus 2017. Subjek penelitian berjumlah 492 orang (243 laki-laki dan 249 perempuan). Pengukuran yang dilakukan yaitu tinggi badan, rentang tangan, serta berat badan. Nilai yang dihitung yaitu indeks masa badan serta status gizi menurut IMB/U. Hubungan antara tinggi badan dan rentang tangan dianalisis dengan uji korelasi *Pearson* dan *Spearman*. Uji regresi linier dilakukan untuk mengetahui rumus prediksi tinggi badan menggunakan rentang tangan.

Hasil: Terdapat hubungan yang positif dan signifikan ($p<0,01$) antara rentang tangan dan tinggi badan pada subjek total berstatus gizi sangat kurus ($r=0,99$), kurus ($r=0,91$), normal ($r=0,95$), gemuk ($r=0,87$), dan obesitas ($r=0,95$); subjek laki-laki berstatus gizi sangat kurus ($r=0,99$), kurus ($r=0,86$), normal ($r=0,94$), gemuk ($r=0,74$), dan obesitas ($r=0,94$); subjek perempuan berstatus gizi sangat kurus ($r=0,99$), kurus ($r=0,96$), normal ($r=0,96$), gemuk ($r=0,96$), dan obesitas ($r=0,90$). Persamaan estimasi tinggi badan anak laki-laki yaitu TB=52,827+0,599*RT, sedangkan pada anak perempuan yaitu TB=41,585+0,689*RT.

Kesimpulan: Tinggi badan berhubungan dengan rentang tangan pada seluruh kategori status gizi anak usia sekolah dasar di Daerah Istimewa Yogyakarta. Persamaan regresi yang dihasilkan penelitian ini dapat memprediksi tinggi badan anak usia sekolah dasar di Daerah Istimewa Yogyakarta berdasarkan rentang tangan.

Kata kunci: antropometri, tinggi badan, rentang tangan, status gizi, anak usia sekolah dasar

ABSTRACT

Relationship between Height and Arm Span based on Nutritional Status in Primary School Age Children in Special Region of Yogyakarta

Background: Growth in children can be assessed by height measurement. In children with certain condition such as limb disability, height measurement usually can not be done directly. Several researches indicated that there is a strong relationship between height and arm span. Furthermore, arm span can be used for estimation of height.

Objective: To know the relationship between height and arm span based on nutritional status in primary school age children in Special Region of Yogyakarta. Furthermore, it is aimed to find equation for estimation of height based on arm span.

Method: An observational cross sectional study was conducted in 6 – 12 years old primary school children from SDN 1 Sentolo, SDN 2 Sentolo, and SDN Giriwungu (n=492, boys=243, girls=249). Height, arm span, and weight were collected trough anthropometric measurements, while nutritional status (BMI/Age) and BMI were collected trough calculation. The relationship between height and arm span based on nutritional status were analysed using *Pearson* and *Spearman* correlation test, while the equation for prediction of height using arm span were acquired by linear regression test.

Result: There was a positive and significant ($p<0,01$) correlation between height and arm span in overall subjects with nutritional status severe thinness ($r=0,99$), thinness ($r=0,91$), normal ($r=0,95$), overweight ($r=0,87$), and obesity ($r=0,95$); in boys with nutritional status severe thinness ($r=0,99$), thinness ($r=0,86$), normal ($r=0,94$), overweight ($r=0,74$), and obesity ($r=0,94$); in girls with nutritional status severe thinness ($r=0,99$), thinness ($r=0,96$), normal ($r=0,96$), overweight ($r=0,96$), and obesity ($r=0,90$). The equation for estimation of height based on arm span in boys was H=52,827+0,599*AS, while the equation in girls was H=41,585+0,689*AS.

Conclusion: Height has correlation to arm span in all category of nutritional status in primary school age children in Special Region of Yogyakarta. Regression equation established from this study can be used to predict height based on arm span in primary school age children in Special Region of Yogyakarta.

Keywords: anthropometry, height, arm span, nutritional status, primary school-aged children