

# Penurunan indeks massa tubuh anak obes usia 6-9 tahun yang mendapat intervensi diet dan aktivitas fisis = Effect of dietary and physical activity intervention on body mass index reduction for 6-9 years old obese children

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## Abstrak

**ABSTRAK**  
Latar belakang: Prevalens obesitas anak dan remaja semakin meningkat.

Obesitas merupakan masalah yang penting karena dianggap sebagai salah satu faktor risiko utama terjadinya penyakit jantung, resistensi insulin, diabetes mellitus tipe 2 (DMT2), hipertensi, dan stroke. Diperkirakan 80% anak yang mengalami obesitas akan terus mengalami kondisi tersebut pada saat dewasa. Sebelum anak mencapai pubertas, intervensi dini pada diet dan aktivitas fisis sangat penting sebagai tata laksana obesitas anak.

Tujuan: Mengetahui pengaruh intervensi diet dan aktivitas fisis terhadap indeks massa tubuh (IMT), asupan makan, aktivitas fisis, dan kebugaran pada anak obes usia 6-9 tahun.

Metode: Penelitian ini menggunakan uji pre dan pasca-intervensi pada murid SD usia 6-9 tahun di SD Marsudirini dan SD Melania Jakarta pada bulan September-Desember 2015. Intervensi

diet  
berupa  
analisis  
dan  
edukasi  
diet  
pada  
subyek  
dan

orangtua.  
Intervensi  
aktivitas  
fisis  
diberikan  
sebanyak  
3 kali  
60 menit

per  
minggu

selama  
12  
minggu  
dengan  
intensitas  
sedang  
vigorous.

Pengukuran tingkat

aktivitas fisis menggunakan Physical Activity Questionnaire (PAQ-C).

Pengambilan data dilakukan pada awal dan akhir penelitian dengan penambahan data IMT pada pertengahan penelitian.

Hasil: 25 subyek ikut serta pada awal penelitian, 23 subyek menyelesaikan penelitian. Pada akhir intervensi, terdapat hasil yang bermakna pada penurunan IMT -1.16 kg/m

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( $p < 0,001$ ), asupan makan -772,58 kkal ( $p < 0,001$ ), dan peningkatan 3 komponen tes kebugaran (lari 30 m, loncat vertikal, and baring duduk). Sebelas subyek mengalami penurunan IMT sehingga mencapai status nutrisi gizi lebih. Terdapat peningkatan nilai PAQ-C 0,15, namun peningkatan ini tidak bermakna. Tidak terdapat korelasi antara penurunan IMT dengan kehadiran latihan fisis dan penurunan asupan makan subyek.

Simpulan : Intervensi diet dan aktivitas fisis selama 12 minggu pada anak obes usia 6-9 tahun menyebabkan penurunan IMT, asupan makan, dan peningkatan kebugaran. Hasil ini menunjukkan pentingnya multidisiplin ilmu dalam tata laksana anak dengan obesitas.

**ABSTRACT**  
**Background:** The prevalence of obesity among children and adolescents has dramatically increased. Obesity is considered as risk factor for cardiovascular disease and associated with comorbid conditions such as insulin resistance, type 2 diabetes mellitus, hypertension and stroke. It has been observed that 80% of obese adolescents will persist into adulthood. Early dietary and physical activity intervention of childhood obesity is mandated before reaching puberty.

**Objective:** To examine the effects of 12-week dietary and physical activity intervention on body mass index (BMI), dietary intake, physical activity, and fitness in 6-9 years old obese children.

**Methods:** In this one group pre and post test design, 25 obese children were

subjected to 12-weeks dietary and physical activity intervention. All children were between 6-9 years old and attending primary education in SD Marsudirini I and SD Melania III. Dietary intervention were given in the form of dietary analysis and education 4 times with 1 month interval. Physical activity intervention were given 3 times weekly (60 minutes duration) with moderate to vigorous exercise intensity. Measurement of physical activity was done using Physical Activity Questionnaire (PAQ-C). Data collection were done at intial and final time of intervention with additional of BMI on mid time of intervention.

Results: From 25 observed subjects, 23 subjects completed the program. There were significant reduction in BMI  $-1.16 \text{ kg/m}^2$

( $p < 0,001$ ), dietary intake  $-772,58 \text{ kkal}$  ( $p < 0,001$ ), and improvement of 3 components of fitness test (30 m sprint, vertical jump, and sit-up). Eleven subjects managed to reach BMI level for overweight nutritional status. There was an increase in PAQ-C level  $0.15$  ( $p = 0,389$ ). However, there was no correlation between decrease dietary intake or exercise attendance with the decrease of BMI.

Conclusions: Our data demonstrate beneficial effects of a combined dietary and physical activity intervention among 6-9 years old obese children. These results highlight the importance of multidisciplinary programs for the treatment of childhood obesity.