

## **Physical activity ratios for various commonly performed sedentary and physical activities in obese adolescents.**

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The physical activity ratio (PAR) values are commonly used to convert subjects' physical activity recalls into estimates of daily energy expenditure (DEE). A PAR is defined as the ratio between energy expenditure corresponding to a sedentary or a physical activity (kJ/min) and basal metabolic rate [(BMR) kJ/min]. The objective of the present study was to determine the PAR for different sedentary and physical activities in obese adolescents. Thirty-three obese adolescents [mean body mass index: 35.1 kg/m<sup>2</sup>; 40.3 % fat mass] aged 11 to 17 yr participated in this study. BMR was assessed by direct calorimetry after an overnight fast by means of an open-circuit, indirect computerised calorimetry with a rigid, transparent, ventilated canopy. Energy expenditures corresponding to various sedentary and physical activities in free-living conditions were determined using a portable metabolic unit, and body composition by bioelectrical impedance analysis (BIA). The PAR of each activity was obtained by dividing the assessed energy expenditure by BMR. In this study, the PAR of various sedentary and physical activities did not vary significantly with sex, age, and body mass. Thus, the data for boys and girls were combined and the PAR for 27 sedentary and physical activities were determined. The PAR values can be applied to determine the mean DEE (kJ) using the specific equation considering BMR (kJ/min), PAR, and duration (min) of each activity performed by the subject during the 24 h. This information will be useful to health-care professionals because estimation of DEE in obese adolescents is necessary in order to prescribe an adequate dietary therapy to induce a desired level of energy deficit.

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