

impedance analysis (TANITA-BC-418MA). A validated physical activity questionnaire was used to ascertain their PE dislikes/barriers, and their answers were compiled into different categories, according to the core themes that were identified during thematic data analysis.

Results: 19.5% ($n = 74$) of the subjects were classified as either obese/overweight. 14.2% of the subjects reported having no dislikes/barriers with regard to PE and among this population, only a small proportion (20.4%) of the subjects were among those classified as overweight/obese. This indicates that overweight/obese pupils are more likely to have PE dislikes/barriers. The most common barrier reported among the overweight/obese subjects, was a

dislike of running/sprinting activities (23.2%). Other barriers reported include: unenjoyable/boring activities, tiring and physically unpleasant activities, lack of an adequate range of activities, too competitive PE environments, dislike of PE assessment and dressing out procedures, being dominated by skilled pupils or put into low-ability PE groups and fear of weight-related teasing/ridicule by peers.

Conclusions: Physical educators should find innovative ways to address the PE barriers/concerns of overweight/obese pupils, provide them a supportive PE environment to build their confidence and reduce the risk of embarrassment by designing creative activities that are appropriate to their ability.

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40 – Association between adiposity and physical activity levels of schoolchildren during physical education lessons

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Introduction: It is increasingly acknowledged that school physical education (PE) is some children's only experience of physical activity (PA) and therefore has an important role to play in the fight against childhood obesity. The present study explored the relationship between the PA variables (percentage of PE lesson time engaged in (i) moderate-to-vigorous physical activity (MVPA) and (ii) sedentary activity) and the body composition variables (i) BMI; (ii) waist circumference (WC) and (iii) waist-to-height ratio (WHtR)), in 158 pupils (82 boys and 76 girls), aged 11–13 years, from five secondary schools in the South of England.

Method: Anthropometry (height, body mass and BMI), and PA data (using Actigraph-GT1M accelerometers) of the pupils were measured using standardized methods.

Results: A significant negative correlation was observed between the percentage of PE lesson time engaged in MVPA and the body composition variables of WHtR ($r = -0.32$) and WC ($r = -0.30$ amongst boys ($P < 0.01$) and WC among girls ($r = -0.25$, $P < 0.05$). There was a small but significant positive correlation ($r = 0.25$) between the percentage of PE lesson time engaged in sedentary activities and WHtR ($P < 0.05$) amongst boys. No significant associations were found between the BMI and any of the PA variables ($P > 0.05$) for either gender. The study suggests that obese pupils are less active and more likely to be sedentary than non-obese pupils, during PE lessons.

Conclusions: Physical educators should find innovative ways to increase MVPA participation in overweight/obese pupils. WC and WHtR may be better proxy indices of the lack of PA than BMI.

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41 – The influence of a comprehensive programme for treatment of overweight and obesity on physical fitness of children and adolescents in health-resort conditions

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Introduction: Recent research indicates rise in incidence of overweight and obesity among children and young people. The research focused on assessment of the influence of a comprehensive rehabilitation programme with an element of increased physical activity on fitness of children and adolescents. The research and analysis involved 434 children with diagnosed overweight and ordinary obesity in the following age groups: 8–12, 13–15, 16–18 years, qualified for the programme by the attending physician at the health resort. The research also took into account age, sex and BMI at the beginning and at the end of the stay. The patients were treated in our institution during 27 d. Physical fitness was assessed through Eurofit fitness tests at the Jagusia Health Resort Hospital for Children in Kudowa-Zdroj at the beginning and at the end of their stay in the health resort.

Method: Each child had eight types of tests including such elements of physical fitness as: agility, force, strength,

muscle endurance, suppleness, speed, balance, respiratory and circulatory endurance. Sequence of motricity tests included: balance on one leg, movement speed of the upper limb, bend forward in the sit down position, long jump off the spot, clenching fists, sit ups from lying down position, bent arm hang and shuttle run 10 × 5 m.

Results: Results of the research indicate a significant decrease of the BMI of the examined groups – on average by 5.7 kg, correlation between the body weight and physical fitness in individual fitness tests and better final results in comparison to the initial values in fitness tests (except for tests of movement speed of the upper limb).

Conclusions: Conclusions of the research indicate that the comprehensive programme for treatment of overweight and obesity among children and adolescents during rehabilitation stays results in decrease of weight and improvement of physical fitness.

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42 – Obesity related to free time activities in Portuguese children

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Introduction: The purpose of the present study was to assess the association among free time activities, body image perception and obesity.

Method: The sample included 588 children (269 girls and 319 boys) from elementary and secondary school (10.8 (SD 2.8) years old). Obesity was estimated by BMI and the cut-off points of Cole *et al.* (2000). A questionnaire was completed by parents and children to provide information about age, hours spent per week and weekend in screen activities (TV, electronic games, internet), playing, studying, doing physical activity, the use of public spaces (playground, gymnasium, swimming pool, gardens) and body image perception (Stunkard's silhouettes).

Results: The results from binary logistic regression were only significant for age (OR = 0.807; 95% CI 0.714, 0.911), playing at weekend (OR = 0.678; 95% CI 0.461, 0.997) and body image perception (OR = 11.219; 95% CI 6.988, 18.010). The OR of being obese were 0.678 times less for children that play more at weekend, and 0.807 times less for older children. On the other hand, body image is a risk factor for obesity and the OR were 11.219 times more for children that have the perception of a more obese image.

Conclusions: Age and playing at weekend are preventive factors; meanwhile, the perception of body image is a risk factor for obesity. These results are very important to take into account in programmes designed to combat obesity.

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43 – Total body percentage and motor coordination among Portuguese schoolchildren

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