**C3**

**Weight status variability in daily energy expenditure as assessed by the 3-day Diary and accelerometry.**

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**Background:** Regular participation in moderate-to-vigorous physical activity has health, fitness and behavioural benefits among paediatric people. To better understand relations between PA, health and fitness in youth it is imperative that researchers develop more accurate and comprehensive physical activity/energy expenditure assessment techniques. A substantial number of epidemiological studies in Australia, United States, Taiwan and Canada have used the 3-day Bouchard diary (Bouchard et al., 1983) to assess youth physical activity/energy expenditure. However, the reliability and validity of the instrument have not been established by weight status among adolescents. **Aim:** The purpose of this study was to examine relations between the 3-day diary (Bouchard and others 1983) and the uniaxial accelerometer measures of activity energy expenditure (AEE) by weight status and age-group among female adolescents. **Methods:** The sample comprised 217 female adolescents aged 13-16 years. Participants wore a GT1M accelerometer and completed the Bouchard activity diary during three consecutive days. Bivariate correlations were used to determine associations between estimated AEE by two protocols. Fisher’s r to z transformation was used to test for differences in correlation coefficients across age and weight status. **Results:** Correlations between daily energy expenditure provided by both instruments significantly differed by weight status (normal weight girls: r= 0.54; overweight/obese girls: 0.65; p<.05). Contrary to expectations, correlation coefficients between activity assessments were significantly higher (p<.05) in younger females than among their older counterparts. **Conclusion:** The present study provides compelling evidence to suggest that 3-day diary method has moderate levels of validity in PA assessment of Portuguese adolescents. The complementary use of self-report and objective measures of PA may provide greater insight in relation the nature and health benefits of PA, informing future educational and clinical interventions/strategies.

**Key Word:** Weight-status, adolescence, physical activity, 3-day diary, accelerometry.

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**C4**

**Variance of bioimpedance analysis measurements with physical activity and ingestion of food and water**

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**Introduction:** Bioimpedance Analysis (BIA) is a method used to assess body composition based on the measure of body segments. When compared to other reference methods, BIA is relatively simple and fast. It is also safe, non-invasive, quite cheap and requires portable equipments, this makes it widely used in clinical practice. However, certain factors such as exercise and ingestion of food and drinks may affect BIA's reliability in assessing body composition. This work aims to examine whether body composition obtained using two different BIA equipments is affected by physical activity and ingestion of food and drinks. **Methods:** 27 volunteer (24 females) university students were enrolled in this study. The measurements were taken in three non consecutive days with four evaluations in each day. Thus, each participant was evaluated 12 times. The influence of water ingestion and practice of moderate physical activity were studied in the second day and third day, respectively. **Results:** On first day occurs a decrease in the percentage of fat mass throughout the day with both equipments. The BMI showed a tendency to increase throughout the day, with a decrease in the late afternoon. On second day the participants which drank water had a tendency to have an higher %FM in the before lunch measurement. An opposite tendency was found in the control group. However, these results are not statistically significant. On third day the physical activity had a tendency to have an opposite effect to the water ingestion, however the results are not statistically significant. **Discussion:** Body weight (and, therefore, BMI) has daily changes that arise from the ingestion of food and beverages and physical activity. In particular, it decreases during the day, having a peak after lunch. The bioimpedance body composition analysers appeared to be affected by these variations. **Key Words:** BIA assessment reliability ingestion exercise.