**Assessment of energy expenditure of nursing home residents with indirect calorimetry**

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**Introduction**: The aim of this study was to assess the energy expenditure of nursing home residents with indirect calorimetry and then to compare it with the calculated energy intake of the residents.

**Methods:** An indirect calorimetry was performed for each nursing home resident included in this study to estimate their basal metabolism. Then, the basal metabolism was multiplied by a physical activity level (PAL) coefficient. Finally, energy expenditure related to thermogenesis (i.e. 10% of the basal metabolism) was added. In this way, we obtained the total energy expenditure of each nursing home resident. Nutritional intake of each resident was calculated by the precise weighing food method, over a 3-day period.

**Results:** A total of 29 subjects, all residing in one nursing home in Liège, Belgium, and meeting the selection criteria (i.e. to be oriented, stable condition and able to walk, with or without technical assistance) were included in this study. The mean age of this population was 88.1 ± 5.8 years and 84% of them were women. The mean basal metabolism estimated was 1087.2 ± 163.2 kcal. When multiplied by the PAL (1.29 ± 0.1) and added to the energy expenditure due to thermogenesis (155.7 ± 24.7 kcal), we obtained the mean energy expenditure of 1557.3 ± 247.1 kcal, which was similar to the calculated energy intake of the residents (1631.5 ± 289.3 kcal). Indeed, the difference was not statistically significant (p=0.33)

**Conclusion:** The estimated energy intake of nursing home residents seems appropriate for their energy expenditure.