RODRIGUES, Juliana Cordeiro Dias. *Comparison between Resting Energy Expenditure obtained by indirect calorimetry with predictive equations for elderly patients on chronic hemodialysis treatment*. 2012. 75 p. Dissertation (Master's degree in Food, Nutrition and Health) – Nutrition Institute, University of the State of Rio de Janeiro, Rio de Janeiro, 2012. *Supervisor*: Carla Maria Avesani.

Abstract

Just as in the general population, the daily energy needs of patients on chronic hemodialysis (HD) can be calculated by multiplying the resting energy expenditure (REE) by the level of physical activity. To date, no studies have assessed whether predictive equations are accurate to estimate REE of elderly on HD. The objective of this study was to assess the agreement of REE measured by indirect calorimetry and the predictive equations of Harris&Benedict, Schofield and that proposed by document of the World Health Organization (FAO 1985) in elderly patients on HD. It was a cross-sectional study that assessed REE of 57 non-institutionalized elderly patients (> 60 years) on chronic HD treatment, measured by indirect calorimetry and compared with the predictive equations of Harris&Benedict, Schofield and FAO 1985. The agreement between the REE measured and the equations was performed by the intraclass correlation coefficient and by Bland-Altman analysis. In this study it could be observed that the REE estimated by the three equations was significantly higher that that obtained by indirect calorimetry. A moderate degree of reproducibility was observed between the indirect calorimetry and the equations. Overestimation was the main error observed, being present in half of the patients. Underestimation occurred in approximately 10% of the patients. Based on these findings, we can conclude that the three equations had a similar performance in estimating REE. And the three equations can be used to calculate REE of elderly on HD as long as nutritionists recognize their possible errors, especially when predictive equations underestimate the REE measured.