



COMPARISON OF THE ASSESSMENT OF ENERGY EXPENDITURE IN POSTPARTUM WOMEN WITH A HISTORY OF GESTATIONAL DIABETES FOLLOWING A HOME-BASED PHYSICAL ACTIVITY PROGRAM: OBJECTIVE VS SUBJECTIVE METHODS

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Abstract

Physical activity is recommended to postpartum women with prior gestational diabetes mellitus (GDM) to attenuate its progression to diabetes mellitus (DM). Accurate assessment of physical activity is crucial in order to estimate the daily energy expenditure. Although several methods are available, the use of international physical activity questionnaire (IPAQ) and the activity diary are popular self-reported, subjective methods while pedometer provides objective evidence of physical activity. The aim of this study was to compare these methods in determining energy expenditure of postpartum women. A purposive sample of 50 postpartum women with a history of GDM, recruited from special postnatal clinics in three Districts of Sri Lanka underwent a home-based physical activity program for a period of 12 months. They were advised to maintain activity diaries and pedometer readings for a period of one week each month and the IPAQ was administered by the investigator at the end of six and 12 months and the energy expenditure was calculated separately by the three methods at those time points. Friedman test was performed to compare the energy expenditure between the three methods. The median energy expenditure assessed by IPAQ, activity diary and pedometer readings were 407.45, 460.93, 370.00 kcal/day respectively at six months and 423.12, 447.08 and 380.00 kcal/day respectively at 12 months. The energy expenditure assessed by the two self-reported tools were comparable at both time points studied. However, the energy expenditure assessed by pedometer data were significantly lower ($p < 0.001$) than the values obtained by the self-reported tools probably because pedometer output data is limited to the number of steps taken. A combination of one self-reported tool with pedometer is recommended to capture all activities contributing to energy expenditure while taking steps to eliminate subjective bias for accuracy of data.

Keywords: Energy expenditure, IPAQ, pedometer, activity diary, women