ENERGY EXPENDITURE WHEN WALKING IN PATIENTS WITH RA COMPARED TO A NORMAL POPULATION

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To teach patients with RA how to conserve energy has been a cornerstone in physical medicine therapy. However, there are no studies showing that these patients indeed spend more energy when walking than normal people do. The aim of this study was to analyse the energy expenditure of patients with RA, functional class I and II, while walking at different speeds on a treadmill, and compare them to normal controls.

Thirty five patients agreed to participate, and were compared with 35 normal individuals, matched by sex, age and body weight. An incremental test protocol was developed for the treadmill to be compatible with normal walking, with metabolic analysis performed by a computadorized gas analyzer, at 30 seconds intervals. Outcome measures included the heart rate, the Borg scale of perceived exertion, a VAS scale for pain, Ritchie index, EPM-ROM and HAQ questionnaires Statistical analysis included the Friedman and Mann Whitney's tests. Level of significance was stated at 5%($p < 0.05$).

RA patients showed a significant greater metabolic demand than controls at velocities of 3 km/h (229.36 ± 56.47 vs 197.44 ± 52.59 kcal/h), 4.5 km/h (266.41 ± 58.94 vs 231.41 ± 56.14 kcal/h), and 5.0 km/h (289,11 ± 65.35 vs 250.18 ± 58.67 kcal/h). Patients with RA had higher values in all outcome parameters tested, with the exemption of the heart rate. When patients were stratified in functional classes I and II, only the class II patients were significantly different than the controls, and class I patients performed as well as the controls.

Therefore, only functional class II RA patients showed increased energy expenditure. Teaching energy conservation to all patients, as a preventive therapy should be evaluated in prospective, longitudinal studies.