PHYSIOLOGICAL VARIABLES AND TRAINING INTENSITY RELATIONSHIP IN A SPECIFIC CIRCUIT TRAINING
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INTRODUCTION
The comparison of energy expenditure (EE) in exercise between men and women is quite frequent[1], but few works have related the circuit training (CT) with progressive intensities and don’t compare the effects in both genders[2]. The objective of this study was to evaluate sex related differences in physiological variables during CT at a wide range of intensities.

MATERIAL AND METHODS
Twelve subjects participated in this study, six men (23.7±1.6 years; 71.5 ± 1.8 Kg; 174.6 ± 10.5 cm) and six women (23.3±1.0 years; 56.4 ± 2.8 Kg; 160.9 ± 4.2 cm).
All with the following characteristics: healthy students of Physical Education and physically active. The protocol consisted of evaluate a CT with seven exercises at six different intensities (40%, 50%, 60%, 70%, 80% and 85% of 15RM) with rhythm fixed at 1:2 (concentric-eccentric).
The 15RM were calculated individually for each exercise. All cardiorespiratory variables were measured with a portable metabolic system (Jaeger Oxycom Mobile®).
For statistical analysis the Mann-Whitney U test was used and significant level was set at p<0.05.

RESULTS
Gender related differences were found at all intensities for the following variables: VO2, VCO2, VE, RER and EE.
HR values were also different at 60% of 15RM. Finally the VO2/Kg, may be more interesting than VO2, differ from one sex to the other at 40%, 50% and 60% of 15 RM.

DISCUSSION
Our study shows that correcting the results for the muscular mass and total body weight variables, significant differences exist in the aerobic expended energy. The genetic and the anthropometric differences could be some reasons[1]. Muscular mass (MM) differences could explain the differences in EE and in load used during the circuit. When this variable is corrected significant differences continue existing.
The differences between gender in EE are not an exclusive question of WT. Significant differences existed between genders in the continuous running and in the cycleergometer, but the body composition fact it is not corrected[4].
Intervention studies of 20 weeks of WT have demonstrated that the gain of MM due to the gender is similar, but the levels of absolute strength in men are higher than in women, speculating that only the recruitment factor can be the responsible for these differences[3].

REFERENCES

Keywords: Gender Studies, Training, Energy Expenditure