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Effects of changes in exercise intensity on metabolic cost and respiratory values in young men

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The purpose of this study was to examine the effect of exercise intensity on percent body fat, Resting Metabolic Rate (RMR), MET, EE, RR, CHO, and FAT contribution in Trained (TRG) and Control group (CG) people. The subject of the present study were divided into two groups and two/four periods: Trained (TRG; n=6) and Control (CG; n=6) group. And the periods were divided as follows; High intensity (H), and Low intensity (L)/ Resting (R), Maximal (M), High intensity (H), and Low intensity (L).

The percent body fat, Resting Metabolic Rate (RMR), MET, EE, RR, CHO, and FAT contribution of all subjects were measured at every periods. The RMR was measured early in the morning following a 12-hour fast using MMX3B gas analyzer. All the RMR values were expressed as absolute value/BSA (kcal/d/m^2). And We also analyzed mean MET, EE, RR, CHO, and FAT for 30 minutes during different intensity exercise. In the RMR, there was significant difference (p<.05) in H and L period not in the R and M period compare to R period. however, there was no significant different percent body fat in every period in TRG and CG compare to R (p>.05).

In the MET, there was significant different between CG and TRG in the H and L periods (p<.05). And In the EE, there was significant different between CG and TRG in H and L periods(p<.05). In the RR, there was also significant different in the H and L periods (p<.05).

In the CHO contribution, there was significant difference (p<.05) in H and L period between CG and TRG. however, there was no significant different fat contribution between CG and TRG (p>.05) in L period not in H period (p<.05).

The present study was design to investigate the relationship between exercise intensity and Resting Metabolic Rate (RMR), MET, EE, RR, CHO, FAT contribution.

From the results, Low intensity of exercise (L), there was a trend for an increased RMR (kcal/day) in the trained groups (TRG) not for the untrained (CG). This is best explained not by the reduced percent body fat but by the highly induced MET, EE, CHO, FAT contribution in the Trained group.