

Assessment of Acute Cardiovascular Responses to Moderate and Vigorous Intensity Aerobic Exercises in Sedentary Adults and Amateur Athletes

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Abstract : Introduction: Today, our knowledge about the effects of physical activity performed at the different intensity of the cardiovascular system are still not clear. Therefore, to contribute to the literature, in our study, sedentary individuals and amateur athletes were assessed in a single session with the aim of evaluating the cardiovascular effects of the moderate and severe exercise. Methods: 80 participants (40 amateur athletes and 40 sedentary, young adults) participated in our study. Participants were divided into two groups: amateur athletes (mean age: 25.0 ± 3.6 yrs) and sedentary in group II (mean age: 23.8 ± 3.7 yrs). Participants in both groups were assessed twice, namely, firstly, at moderate intensity (5km/h 30 min. walking) and secondly at the vigorous intensity (8km/h 20 min. jogging). Participants' SBP (Systolic Blood Pressure), DBP (Diastolic Blood Pressure), HR (Heart Rate), SpO₂ (Oxygen Saturation), BT (Body Temperature) and RR (Respiratory Rate) were measured. Results: In our study, the findings showed that after moderate-intensity aerobic exercise, change in SBP, DBP, and SpO₂ were significantly higher in Group II ($p < 0.05$). After the severe intensity aerobic exercises, change in SBP, SpO₂, HR, and RR was significantly higher in Group II ($p < 0.05$). The BORG score of Group II was significantly higher after both moderate and severe intensity aerobic exercise ($p < 0.05$). Conclusion: The cardiovascular responses of amateur athletes were closer to initial values, and the differences between the two groups were increased in direct proportion to the intensity of the exercise. Both exercise intensities could be adequate.

Keywords : aerobic, exercise, sedantary, cardiovascular

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