An Evaluation of Breathing Function Tests by Swımmers and by Academic Level Blowing Instrument Users

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Introduction

As it is the case in sports where skills and competences are priorities and special talents are required, it is quite crucial to determine an organism's functional readiness level in the field of music as well. Besides, an exhaustive literature review did not reveal any similar study on this issue. The present study aims to compare the findings obtained from the pulmonary function tests of university students both from the blowing instrument education branch in the Music department and the swimming education branch in the Physical Education and Sports department.

Methods

11 swimmers and eight blowing instrument performers participated in the study voluntarily. The types of pulmonary function tests used in the study were ventilation, perfusion, diffusion and respiratory control tests. The tests were conducted as incremental tests on Ergospirometer by the use of VMAX Encore system. Mann-Whitney U test was used to investigate the differences between the two groups.

Results

The findings of the study did not indicate any statistically significant differences in the volume level exhaled on the first second of forced expiration, forced vital capacity measurements, total lung capacity, residual volume, and diffusion capacity between the instrument performers who are receiving training in blowing instrument education and the swimmers who are receiving training in swimming education. However; differences were found in relation to swimmers in maximal oxygen consumption ($p<0.001$) and maximal carbon monoxide production ($p<.01$).

Discussion

The results of this study revealed that the students receiving training in blowing instrument education have dynamic and static lung respiratory capacities that are very similar to swimmers who are training rigorously. From this point of view, it could be thought that when swimmers, who used tod lots of heavy training, had to stay away training for any health reason, the kind of training with a blowing instrument, which does not require any physical activity, would contribute to their either dynamic or static lung breathing capacity and shorten the process of reclimatisation for competition and adaptation and prevent any negative consequences of this set back. Similarly, based on the findings from the tests in the study, the blowing instrument performers' levels of proper breathing and effective use of breath were evaluated objectively. Besides, it is considered that a right and proper use of breath might be an indicator of what levels of development can be attained both at practices that require technical exercises and at performances of a piece of music. This study is significant not only for the evaluation of performance development of the participant groups but also for increasing their levels of professional motivation.

References

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