

## Comparative study of selected respiratory variables between female swimmers and non-swimmers

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### ■ ABSTRACT

The purpose of the study was to compare the selected respiratory variables of subjects between female swimmers and non-swimmers. Twenty female subjects from Lakshmibai National University Physical Education, Gwalior was selected and tested. The age of the subjects ranged from 18 to 24yrs. The selected respiratory variables were breath holding, vital capacity and forced ventilator capacity. Mean and standard deviation of female swimmers and non-swimmers in breath holding were 52.8953, 10.59587 and 51.6606, 10.61326, respectively. For vital capacity, the mean and standard deviation of swimmers and non-swimmers were 3.3038, 0.56662 and 3.0300, 0.45109, respectively. For forced ventilator capacity, the mean and standard deviation of swimmers and non-swimmers were 2.9650, 0.56763 and 2.5375, 0.39111, respectively. The selected respiratory variables *i.e.* breath holding, vital capacity, forced ventilator capacity were administered after a complete rest of ten minutes. Mean results of both the groups were tested for significance of difference at 0.05 level of confidence of by applying 't' test. Breath holding, vital capacity and forced ventilator capacity were not found statistically significant between female swimmers and non-swimmers.

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Physical activity is a complicated process in which a trainer should closely watch all the minute changes in the subject during activity. If any one wants to be an athlete, his or her physical activity level should be high when compared with the normal sedentary population. Noticeable physiological changes take place in the body, when it is subjected to continuous physical or sports training programme. Exercise may be looked upon as a series of movement designed specifically for inducing stress that may cause immediate as well as long-term benefit accordingly, responses to exercise have two aspects analogous to the responses of the body to environmental stress. One is short term response to a single bout of occasional exercise or sports activity called as acute exercise, other is the long term response following regular exercise, which makes exercise easier and improves performance. This adaptation to chronic exercise is

often referred to as training (Willmore *et al.*, 1984).

Review of literature reveals contradictory results pertaining to physiological variables between swimmers as non swimmers; some studies conclude that swimmers are more superior in lung volumes than others whereas some says there is no difference.

By studying the review of related literature it is found that some studies says that swimmers are more superior in lung volumes than others and some says their is no difference in lung volumes in swimmers and others, whether swimmers have higher lung capacity or not.

### ■ METHODOLOGY

Thirty four male and female swimmers and non-swimmers of Lakshmibai National University Physical Education, Gwalior were selected as subject for the study the age of the subject