

DO SRI LANKAN NATIONAL LEVEL ATHLETES BREATHE ENOUGH? – EFFECTS OF TRAINING ON PULMONARY FUNCTION

KDCU Wijayasiri^{1#}, SW Wimalasekera² and C Thurairaja³

¹*Sports Medicine Unit, Colombo South Teaching Hospital, Kalubowila, Sri Lanka*

²*Department of Physiology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Nugegoda, Sri Lanka*

³*Postgraduate Institute of Medicine, University of Colombo, Colombo 7, Sri Lanka*

[#]*upendraanu@yahoo.com*

Poor performance of Sri Lankan athletes in the international arena is observed despite regular training. Performance depends on the physical fitness and technical training. Although techniques are addressed, a player's physical fitness is not optimized by the present training programs. Objective of the study is to determine the status of pulmonary functions amongst Sri Lankan national level athletes in comparison to matched controls. National level athletes (n = 63) engaged in resistance and endurance sports were studied. Baseline data were collected by a questionnaire and clinical examination. Pulmonary functions were assessed by a Vitalograph Spirometer. Results were compared with age, height, weight and Gender matched controls (n= 63). Data were analyzed using SPSS version 16 statistical package. Inspiratory function as indicated by the Forced Inspiratory Vital Capacity (FIVC), Forced Vital Capacity (FVC) and Forced Expiratory Volume in 1st second (FEV₁) were significantly higher amongst the athletes (p< 0.05). The small air way function as determined by mid-stream Forced Expiratory Flow (FEF_{25%-75%}) of the athletes was similar to the controls (p>0.05). The expiratory muscle efficiency as indicated by Peak Expiratory Flow Rate (PEFR) and FEV₁/ FVC ratio was not significantly different between the athletes and the controls (p> 0.05). The study concludes that training programs for the athletes must consist of exercise schedules to optimize the strength and endurance of respiratory muscles. The core muscles (diaphragm and transverses abdominis) training and expiratory muscle training is also very important in the training schedules. This will achieve optimal pulmonary function amongst athletes. Improvement of pulmonary function may in turn promote better performance of athletes at competitions.

Keywords: National Level Athletes, Training, Pulmonary Function