Comparison of Breathing Exercises and Aerobic Exercise in Asthmatic Children

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Abstract

Purpose- To determine the comparison of effects of breathing exercise with aerobic exercise training on lung volumes of asthmatic children. *Need of the Study*-Children suffering from asthma lead a less active lifestyle. Avoidance of day to day triggers such as exercise and cold air generally imposes inappropriate restriction on life. This results in weakness of primary respiratory muscles and overuse of accessory muscles in breathing. There are also abnormal changes in lung volumes. These impairments or abnormal changes are associated with decreased tolerance to exercise, frequent episodes of dyspnea, decreased walking speed and distance, and eventual inability to perform activities of daily living at home or in workplace or to remain active participant in the community. The present study was conducted to compare the role of breathing exercise with that of aerobic exercise in the patients of asthma. The study has also explored physiological capacities of lung in these patients. *Method*- The sample size of forty subjects was taken to perform the study. The subjects were divided in two groups of twenty each. One group was given breathing exercise intervention and other group was given aerobic exercise intervention. Before and after the intervention period, the child was investigated with spirometeric analysis to find out the changes in the lung volumes after the effect of exercises in each group. Both exercises interventions were administrated four 6 weeks period. *Results*- The overall improvement of lung function was significantly more in aerobic exercise interventions than breathing exercise interventions. *Conclusions*- The breathing exercise intervention was effective in improving the lung volumes in asthmatic children. The aerobic exercise intervention was also effective in improving the lung volumes in asthmatic children. However, the quantum of reduction in lung obstruction and therefore, the overall improvement in lung functions was found to be more significant with the aerobic exercise intervention than breathing exercise intervention.

Keywords: Asthma, Aerobic exercises, Breathing exercises, Spirometry, Lung Volumes

Introduction

Asthma is defined as a chronic inflammatory disorder of airways characterized by reversible airflow obstruction causing cough, wheeze, chest tightness and shortness of breath Crompton et al [(7)]. Childhood Asthma begins at any age, and its clinical etiology and clinical course are variable. Children with early medical histories including low birth weight, bronchopulmonary dysplasia, respiratory syncitial and viral infection may be at increased risk of developing asthma *Luo et al (2003).* Asthmatic attacks are set up by exposure to specific allergens such as house dust mite, pollen and animal dander. Some other factors are exercise particularly running, dyes, air pollution, infection, cigarette smoke, dry inhaled air, certain foods such as fish, eggs, yeast, and wheat which presumably reach the bronchi via blood stream. There is noticeable increase in healthcare burden from asthma in several areas of world. There is also a global concern on the change in asthma epidemiology and