CHAPTER V

SUMMERY, CONCLUSION AND RECOMMENDATION

5.1 SUMMERY

India, there is a median prevalence of about 2.4 per cent in adults of over 15 yr of age 7. The prevalence is higher in children. The total burden of asthma in India at an overall prevalence of 3 per cent is estimated at over 30 million patients. The term asthma was applied in the past for all types of breathlessness, now a day this term is used only to denote bronchial asthma. Asthma can be categorized according to etiological mechanisms involved and the severity of the disease.

The most common sources of air pollution include particulate matter, ozone, nitrogen dioxide, and sulfur dioxide. Both indoor and outdoor air pollution have caused approximately 3.3 million deaths worldwide.

The World Health Organization states that 2.4 million people die each year from causes directly attributable to air pollution, with 1.5 million of these deaths attributable to indoor air pollution. Due to the air pollution created the respiratory disease.

The most dangerous gases are ozone, nitrogen dioxide, and sulfur dioxide. Both indoor and outdoor air pollution have caused approximately 3.3 million deaths worldwide. The World Health Organization states that 2.4 million people die every year due to attributable air pollution, 1.5 million of these deaths are attributable to indoor air pollution. Pollution created the respiratory disease.

Before the Second World War the people were not affected by the air pollution. They maintained physical fitness and overall health and wellness. They followed traditional habits and behaviors’ such as yogic practices and physical exercises. It is performed for various reasons including strengthening of muscles and the cardiovascular system, honing athletic skills, weight loss or maintenance, as well as for the purpose of enjoyment. Frequent and regular physical exercise and yogic practices boosts the immune system, and helps to prevent the “diseases of affluence” such as heart, cardiovascular disease, respiratory disease and obesity.
A rehabilitation program including regular physical exercises training and yogic practices is an important component in the management of asthma. Persons with asthma and healthy individuals need regular physical exercises training and yogic practices to maintain their level of health. All asthmatic persons, both active and inactive, should be made aware of the benefits of regular physical exercises training and yogic practices. Inactive asthmatic subjects should get advice and help in how to exercises more often and the training should be prescribed by the patient’s physician. The goal of the treatment of asthma is to help the individual to lead a normal life without restrictions.

Merely providing advice and information to persons, with asthma is not enough. They also need experience of regular physical exercises training. We consider that this rehabilitation program fulfils the criteria for useful and suitable rehabilitation of persons with asthma and we have shown that the participants felt better and were motivated to continue regular physical exercises training and yogic practices.

The study was conducted in the IRTT, Perundurai Medical College and Hospital perundurai, Erode District, Tamilnadu state, India. The Doctors diagnosed one hundred and eighty patients affected with moderate bronchial asthma among 400 asthmatic patients in the hospital. Among 180 Asthmatic patients 60 were randomly selected for this study as subjects. The subjects’ age ranged from 25 – 50 years.

Each group consisted of fifteen subjects. Group – I underwent yogic practices. Group - II underwent physical exercises training. Group - III underwent concurrent (yogic practices and physical exercises training). Group – IV acted as control that did not undergo any special training programme apart from their regular physical education programme. The present study pays attention mainly on testing the means of four treatment groups and secondarily deals with the increase of means in each group from baseline to post treatment for various measures. The statistical tool used for these are described here. The group means gains recorded by the various groups during the experimental period of twelve weeks to the criterion measures were tested for significance by applying depended t-test. Analysis of co-variance was applied to determine whether the four programs of training produced significantly different improvements in selected variables after 12 weeks of training. Since the initial means
were not matched, comparison between actual could not be made, all means were adjusted by regression to a common mean. Further the significance of difference of pair of adjusted final group means was tested for significance by applying Scheffe’s post hoc test.

5.2 RESULTS

The yogic practices group significantly improved the health related physical fitness components of muscular strength and endurance, flexibility, cardio respiratory endurance, percent body fat and pulmonary parameter of forced vital capacity (FVC), forced expiratory volume in one second (FEV₁) and forced expiratory volume in one second/ Forced vital capacity (FEV₁/ FVC) on moderate asthmatic patient. It was observed from pre and post test results that twelve weeks of yogic practices produced significant improvements in FVC (19.33 p < 0.05), in FEV₁ (16.87 p < 0.05), in FEV₁ /FVC (20.87 p < 0.05), in muscular and strength endurance (3.13 p < 0.05), in flexibility (1.67 p < 0.05), in cardio respiratory endurance (25.33 p < 0.05), and in percent Body Fat (1.7 p < 0.05).

The physical exercise training significantly improved the health related physical fitness variables of muscular strength and endurance, flexibility, cardio respiratory endurance, percent body fat and pulmonary parameter of forced vital capacity (FVC), forced expiratory volume in one second (FEV₁), forced expiratory volume in one second/ forced vital capacity (FEV₁/ FVC). It was observed from pre and post test were resulting that twelve weeks of physical exercises training produced significant improvements in FVC (13.7 p < 0.05), in FEV₁ (14.6 p < 0.05), in FEV₁ /FVC (18.7 p < 0.05), in muscular strength endurance (1.9 p < 0.05), in flexibility (1.53 p < 0.05), in cardio respiratory endurance (14.7 p < 0.05), and Percent Body Fat (1.2 p < 0.05).

The concurrent (yogic practices group and physical exercise training) group significantly improved the health related physical fitness components of muscular strength and endurance, flexibility, cardio respiratory endurance, percent body fat and pulmonary parameter of forced vital capacity (FVC), forced expiratory volume in one second (FEV₁) and forced expiratory volume in one second/ forced vital capacity (FEV₁/ FVC) on moderate asthmatic patient. It was observed from pre and post test
results that twelve weeks of concurrent (yogic practices and Physical Exercise training) produced significant improvements in FVC (24.07 p < 0.05), in FEV₁ (22.13 p < 0.05), in FEV₁ /FVC (27.00 p < 0.05), in muscular strength and endurance (4.33 p < 0.05), in flexibility (4.33 p < 0.05), in cardio respiratory endurance (308.7 p < 0.05), and Percent Body Fat (3.5 p < 0.05).

The control did not significantly improvement on health related physical fitness components of muscular strength and endurance, flexibility, cardio respiratory endurance, percent body fat and pulmonary parameter of forced vital capacity (FVC), forced expiratory volume in one second and forced expiratory volume in one second / forced vital capacity.

The concurrent (yogic practices group and physical exercises training) group significantly improved the health related physical fitness components of muscular strength and endurance, flexibility, cardio respiratory endurance, percent body fat and pulmonary parameter of forced vital capacity (FVC), forced expiratory volume in one second (FEV₁) and forced expiratory volume in one second / forced vital capacity (FEV₁ / FVC) better than the yogic practices alone and physical exercises training alone.

The yogic practices group significantly improved the health related physical fitness components of muscular strength and endurance, flexibility, cardio respiratory endurance, percent body fat and pulmonary parameter of forced vital capacity (FVC), forced expiratory volume in one second (FEV₁) and forced expiratory volume in one second / forced vital capacity (FEV₁ / FVC) better than the physical exercises training alone.

The concurrent (yogic practices group and physical exercises training) group, the yogic practices group, and physical exercises training significantly improved the health related physical fitness components of muscular strength and endurance, flexibility, cardio respiratory endurance, percent body fat and pulmonary parameter of forced vital capacity (FVC), forced expiratory volume in one second (FEV₁) and forced expiratory volume in one second / forced vital capacity (FEV₁ / FVC) better than the control group.
5.3 CONCLUSION

It was concluded that the patients who are suffering from moderate asthma can practice combination of yogic practices and physical exercise training to improve the pulmonary parameter of forced vital capacity (FVC), forced expiratory volume in one second (FEV$_1$) and forced expiratory volume in one second/ forced vital capacity (FEV$_1$/FVC) and health related physical fitness components of muscular strength and endurance, flexibility, cardio respiratory endurance and percent body fat.

5.4 RECOMMENDATIONS FOR FUTURE RESEARCH

As Asthma is widely prevalent in society and practicing yoga asana is easy and can be done at any neat place, at any age, it was recommended that the findings of this study may be periodically propagated through public media as a service to society.

A similar study may be conducted with more subjects in a more elaborated and extensive manner for cover all age groups.

A rehabilitation program including regular physical exercises training and yogic practices is an important component in the management of asthma. Persons with asthma and healthy individuals need regular physical exercises training and yogic practices to maintain their level of health.

All asthmatic persons, both active and inactive, should be made aware of the benefits of regular physical exercises training and yogic practices. Inactive asthmatic subjects should get advice and help in how to exercises more often and the training should be prescribed by the patient’s physician. The goal of the treatment of asthma is to help the individual to lead a normal life without restrictions.

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