1.0 INTRODUCTION

Emerging society has considered physical fitness as one of the important indicators of health. Being physically fit has been defined as "the ability to carry out daily tasks with vigor and alertness, without undue fatigue and with ample energy to enjoy leisure-time pursuits and to meet unforeseen emergencies" (PCPFS, 1952). Physical fitness refers to the maximum capacity that people have or achieve while they perform physical activity that can be measured as the level of strength and flexibility of the muscular groups in different body parts. Further ventilator function is useful for assessment of physical fitness in children. Previous findings showed a positive relationship between physical fitness, during adolescence and arterial properties later in life (Twisk, Kemper, & Mechelen, 2002) academic achievement (Chomitz et al., 2009) & improved emotionality (Folkins, 1981). Recent study in India which has concluded that basic levels of health-related fitness are low among school children and reasons attributed to this trend were increasing affluence, and academic competitiveness, which forces the child to devote very little time to physical activity (Raja, Gupta, Bodhke, & Girish, 2014).

Yoga in its original form consists of a system of physical, psychological and ethical practices (Nagarathna & Nagendra, 2001). The popularity of yoga is evident with emerging interest and research in the therapeutic applications. Further, estimated prevalence of practicing Yoga has increased in many countries (Barnes, Powell-Griner, McFann & Nahin, 2004; Siegel & Barros, 2009). Earlier studies have shown positive effects of Yoga training in enhance minimum muscular fitness (Gharote, 1976), skeletal muscle strength and endurance of students (Mandanmohan, Jatiya, Udupa & Bhavanani, 2003). Further,
recent study has shown yoga training improves lung function, increases the vital capacity, timed vital capacity, maximum voluntary ventilation, breath holding time and maximal inspiratory and expiratory pressures (Vedala, Mane & Paul, 2014). Furthermore recent literature suggests that yoga improves children’s physical and mental well-being (Hagen & Nayar, 2014).

1.1 NEED FOR THE STUDY

It is known that pulmonary function is one important component of fitness. Pulmonary function, which is a key indicator of physical fitness, may vary from healthy and unhealthy populations. Hence PEFR would distinguish these two populations. As PEFR cannot be used in all the setups especially on large scale assessment setups like schools and colleges, a simple alternate is required. Understanding this need, bhramari time is evaluated as an alternate to PEFR. Further, a study on practitioners and non-practitioners of yoga would bring to our notice, the advantages of regular long term practice of yoga. Studying the benefit of short term yoga in adolescents is of great need in today’s scenario. It can be easily assessed in summer camps which children usually attend. Finally, a traditional system of physical activity, Yogic Squat is evaluated for attention to understand the application of physical activity in education. All these studies give an understanding covering a spectrum of adolescent physical fitness and influential role of yoga in understanding and modulating them.

1.2 BRIEF OVERVIEW OF THE STUDY

This study is presented in ten chapters. This first chapter provided an introduction to the construct of physical fitness, yoga and need for this study. The second chapter includes a
 thorough scriptural review of ancient Indian scriptures pertaining to *yogaasanas* and *vyayama*. The third chapter includes a detailed review of the literature pertaining to relevance of physical fitness and yoga on adolescents. The fourth chapter presents the aims, objectives and research questions along with hypotheses. Additionally, definitions of key terms of this study are provided. The fifth, sixth, seventh, eighth and ninth chapters present the five major studies. Each of these chapters includes introduction, methodology, data analyses, results, discussion, limitations and recommendations for future research according to each research question. Finally, the tenth chapter presents a general discussion and conclusions of all findings.