

Minimum Muscular Fitness and Ventilatory Function in South Indian School Children

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Abstract

Emerging society has considered physical fitness as one of the important indicators of health. Muscular fitness and ventilatory functions are the important domains of physical fitness. The present study was designed to evaluate minimum muscular fitness and ventilatory functions in South Indian Children. Three hundred and fifty two healthy school children of both genders in age range of 10- 16 years who attended Yoga based Personality Development Camp were recruited for the study. Sample consisted of 203 boys and 149 females with a mean age of 12.90 years (SD=1.55). Anthropometric measurements, Kraus-Weber (KW) minimum muscular fitness test and PEFR were recorded. Out of 352 subjects tested 251 (71.31%) subjects failed in completing the test successfully. The overall failure rate in boys was 71.9% while in girls it was 70.5% with non significant differences between the two genders. The observation that the group of students who succeeded on minimum muscular fitness had significantly higher PEFR, points to a positive relationship between muscle fitness and lung functions. A failure rate of 71% on KW test in urban children (10-16years) of both genders points to an urgent need of physical fitness training programs for the enhancement of the strength in areas that shape their physical fitness.

KEY WORDS: physical fitness, muscular fitness, ventilatory function, Kraus-Weber, PEFR

Introduction

Emerging society has considered physical fitness as one of the important indicators of health. Physical fitness is the ability to perform physical activity, and makes reference to a full range of physiological and psychological qualities (Ortega *et al*, 2008). 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 during

adolescence is related to a healthy cardiovascular disease risk profile in adults (Twisk *et al*, 2002). 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. After two decades of clinical experience, Kraus and Hirschland prepared six tests of minimum muscular fitness for children called Kraus-Weber test (KW). The battery evaluates strength and flexibility of trunk and leg muscles. Studies have shown that this test represents minimum muscular