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An Analysis of Physical activity among Children's

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Abstract

Physical activity and physical fitness have been identified as one of the nation's priority health objectives for the year 2000 (U. S. Public Health Service, 1990). The potential impact of school physical education programs on the achievement of these national health objectives is obvious. (Simons-Morton, O'Hara, and Parcel 1987) and, Sallis and Mc Kenzie (1991), among others, have called for physical education to adopt a new role and promote regular physical activity from a lifetime health-enhancing perspective. The heightened recognition of the importance of physical activity and physical fitness amid reports of declining fitness among our youth has prompted researchers and physical educators throughout the country to take a greater interest in the assessment of physical fitness status. The assessment of current physical fitness levels has pre-dominated the testing practices of physical educators in the 1980s (Hensley, Aten, Baumgartner, East, Lambert, & Stillwell, 1989). National norms representing the physical fitness of American children and youth have traditionally been used to evaluate current fitness levels and to monitor changes in fitness over time.

Key words - Physical activity among Children's

The fitness levels of offspring and youth are in decline. (Tomkinson et.al., 2003; Tomkinson and Oliver 2007; Tomkinson and Olds, 2007). This is an alarming trend given that high levels of physical fitness in this age group are associated with improved physical and mental health both in the short -and long-term (Ortega et.al., 2008; Malina 1996). Recent studies have shown that children who display high levels of physical fitness, especially health-related fitness (HRF) (Caspersen et.al., 1985), have a decreased risk of developing cardiovascular disease and other chronic illnesses (such as obesity, Type 2 diabetes mellitus, osteoporosis and some cancers) (McMurrayet.al., 2010), are less likely to suffer from anxiety and depression (Parfitt et.al., 2009), and more likely to perform better academically (Grissom, 2005).

The occurrence of childhood obesity has been increasing drastically worldwide, particularly in the previous two decades (Ogden et.al., 1999-2000; Hedley et.al., 2004; Tjepkema, 2006). Although the prevalence

of overweight and obesity varies quite substantially across ethnic groups and gender, numerous studies have shown alarmingly high levels of being fat among children. Estimates in several studies indicate that one in four children aged 6-14 years is presently overweight in developed and developing countries (Lobstein et. al. 2004, Brunnet et al., 2007), which ranges from 11% to 39% (Kotani et al., 1997; Wang et al., 2002; Manios et al., 2002; Kain et al., 2002). The incidence of overweight and obesity was found parallel (Kain et al., 2002) or significantly different (Ara et. al., 2007) among genders, with difference observed in studies that described higher occurrence of overweight and obesity in either girls (NHANES Data Briefs. 2002, Al-Nakeeb et. al., 2007, Tremblay et al., 2002) or boys (Krassas et al., 2001). It is uncertain what cultural, lifestyle, genetic, or environmental factors mightdescribe these differences (Cole et al, 2000).

The level of occurrence fluctuates noticeably with geographical region in European school offspring and is stated to be as high as 27.7% and 28% for boys and girls of the Eastern region respectively (Jackson et. al., 2006). Absence of physical activity and/or physical fitness and extreme calorie consumption are some causes epidemiologists suggest for the rise of obesity in the past 20 years (Lobstein et. al., 2004, Roberts et. al., 2007). The littlelevel of physical activity and health-related physical fitness, represented by cardiorespiratory (aerobic) endurance, appears to contribute to the growth of obesity, type 2 diabetes, hyper cholesterolemia, hypertension, the metabolic syndrome, cardiovascular diseases, and all-cause rise in mortality rate in both adults and children (Molnar & Livingstone, 2000, Ross R Kartzmarzyk, 2003, Wong et al., 2004). Since the typical levels of physical activity are closely related to cardiorespiratory fitness, sub maximal and maximal exercise testing has become frequently-used indirect physical activity assessment methods. Results of several studies showed that overweight subjects performed more poorly on cardiorespiratory fitness tests than their thinner counterparts, with low to moderately-high inverse correlations found between cardiorespiratory fitness and adiposity (Ara et al., 2007, Winsley et al., 2006, Lee &Arslanian 2007).

Although it would appear plausible to assume that the higher level of physical fitness in children results in a more favourable body-composition, data that permit examination of relationship between aerobic fitness and body-fatness in youths are limited and considered controversial (Goran et al., 1999, Molnar et al., 2000). Regular physical activity during a person's formative years (childhood and adolescence) is widely acknowledged as essential for healthy growth and development (Cooper et al., 1995, Hills et al., 2007). Despite assessment difficulties, evidence suggests that many children and adolescents are less active than is recommended. The evidence suggests that obese youngsters are less physically active than those with a healthy body composition (Janssen et al., 2004, Vandewater et. al., 2004) and spend more time in sedentary activities, such as watching

television and using other electronic media (Vandewater et al., 2004, Caroli, et al., 2004, Hesketh et. al., 2007). Potential outcomes of reduced activity levels are suboptimal development of motor skills and a lack of motivation to participate wholeheartedly in physical activity (Wrotniak, et. al., 2006). There is also some evidence that physical activity levels decline from childhood through the adolescent years (Stephens et al., 1985).

A Survey from Indian School Health Annual Reports Program (SHARP) (1999), 10,000 children at relatively affluent non-government schools was screened. Prevalence figures were 13.48% of boys and 6.06% of girls were overweight; 3.56% of boys and 11.8% of girls were obese. A study done by Nutrition Foundation of India (NFI) between age groups of 4-18 years involving 5,000 children showed the prevalence of over weight as 17.3% and obesity as 1.7% (Chatterjee, 2002). In a study by (Subramanyam et al., 2003), between the age group of 10-15 years in girls, the prevalence of obesity was 9.67% overweight and 6.23% obese.

"Physical activity in childhood and adolescence may lay the foundation for better future health. There are a myriad of diseases and adverse health conditions associated with remaining inactive for many years. Heart disease, ischaemic stroke, type 2 diabetes, colon cancer, breast cancer and obesity are all associated with sedentary behaviour in adults (Department of Health Physical Activity Health Improvement and Prevention, 2004, Jakes & Wareham, 2003). There is insufficient evidence that a physically inactive child or adolescent is likely to be a physically inactive adult or that a physically active childhood can prevent adult ill-health (Department of Health Physical Activity Health Improvement and Prevention, 2004, Boreham & Riddoch, 2001), as many chronic diseases such as Cardiovascular diseases are not childhood diseases but develop at a much later age. Nevertheless, risk factors associated with the development of chronic diseases can be avoided at an early age and studies suggest an indirect link between activity patterns during childhood and future health. Bone density, for example, should be established at an early age which is vital to prevent osteoporosis in adult life (Department of Health Physical Activity Health Improvement and Prevention, 2004, Jakes RW, Wareham, 2003). Another reason for this lack of evidence is due to methodological and measurement difficulties. Surveys of physical activity levels are methodologically difficult and longitudinal studies still rare."

"Studies investigating and targeting children's health may also benefit from a redirected focus on regular vigorous intensity physical activity and improvements in Health Related Fitness to improve overall health. A recent review confirms that there is great public health potential for school-based interventions to improve the physical activity and physical fitness levels of young people (Kriemler et al., 2011). The school, via the curriculum, school ethos and community, is an ideal avenue for accessing and educating young people about the importance of physical activity, the value of achieving and/or maintaining Health Related Fitness standards and

for building the skills necessary for long-term behaviour change (Katz et al., 2005). There are numerous opportunities in the school setting for the promotion of physical activity, including health and physical education (HPE), active transportation, active breaks, sport etc."

There are numerous physical, psychological and social benefits of physical activity for children. A physically active childhood fosters healthy growth and development (bone health), the maintenance of energy balance (weight control), as well as psychological well-being (self esteem, positive body image) and social interaction (Weber, 1984). Physical inactivity, however, leads to the development of health risk factors. Obesity is perhaps the most visible sign of physical inactivity and results out of an imbalance between energy expenditure and energy intake. It has become an increasingly global problem as people in both developed and developing countries suffer from this new 'epidemic' (King et al., 1999, Mokdad et al., 1999, James,2004, Boutayeb&A, Boutayeb S,2005, Yamori, 2005). Other risk factors associated with physical inactivity in young people include raised blood pressure, impaired blood chemical profile, and low bone mineral density which can later lead to chronic diseases such as coronary heart diseases, diabetes type II, and osteoporosis (Weber, 1984). Considering these possible consequences, public health officials are becoming increasingly concerned that young people in both developed and developing countries are becoming increasingly inactive (Boutayeb A. &Boutayeb S, 2005).

Specifically in young population, more physical fitness scores are associated with less prevalence of risk factors which lead to cardiovascular diseases, lessening total and abdominal adiposity as well as improved bone and mental health condition. Furthermore, scores of health-related physical fitness components are positively related to metabolic risks than usual physical activity practice levels in youngsters at school age (More ira et al., 2011, Kristensen et al., 2010, Rizzo, 2007). The theoretical assumption which direct the analysis of the components of health-related physical fitness by criteria are based on the pilot test to reach optimistic scores in the scores of the motor tests, which can guarantee any level of defence with the onset and development of organic disorders associated with hypo kinetic diseases and capacity of performing the daily tasks (Welk et al., 2011).

In that case, the highest difficulty found by the specialists in the field was to determine the scores for the results of motors tests associated with the physical fitness components which are able to be used as cut-off points and guarantee the necessary expected and absolute thresholds to better health condition. "Facing this uncomfortable situation, based on experimental research, clinical findings and arbitrary designation based on normative data, some initiative aimed at the proposal of cut-off points related with the physical fitness components and health status are observed. The literature of the field shows that one of the first initiatives for the establishment of cut-off points which are able to be applied in the analysis referenced y criteria was designed by the South

Carolina Physical Fitness Test Project. Subsequently, other initiatives followed it, such as the case of the Fit Youth Today, Physical Best and Fitnessgram (Plowman, 2006)."

"Sustained exercise is not characteristics of the usual daily Physical activities of children, yet considerable attention has been focused on endurance fitness and trainability in the pediatric age group. Regular physical activity, particularly as it relates to endurance fitness, yields benefits to health that include prevention of obesity, emotional well-being and reduction of risks for atherosclerosis vascular disease. It is of concern, then, that mass testing results in children have been interpreted as indicated that youngsters in developed nations possess sub optimal levels of aerobic fitness. While demands for improved physical education programs in children that well improve the aerobic fitness- if this effect can be achieved at all (Rowland , 1992)."

Although a variety of fitness norms have been published at periodic intervals during the history of our profession, the movement towards health-related fitness which began around 1980 has demanded the determination of new norms for health-related physical fitness tests. The National Children and Youth Fitness Study (NYCFS) I and II produced the latest nation-ally representative health-related fitness norms for American children (Ross, Dotson, Gilbert, & Katz, l985 and Ross, Rate, Delpy, Gold, &Svilar, 1987)."Whereas National norms provide useful information which could be used as a benchmark to compare local districts and states to the larger population. It may be argued that norms which are developed on subjects that are more similar to those in one's classroom are more meaningful. Thus, a need for local and or state norms also exists. This need is especially important for local district personnel or state officials when monitoring changes in the fitness status of children under their purview.

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