

Importance of Physical activity for physical Development

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Abstract

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.

Key words - Physical activity for physical Development

Introduction

Physical activity is essential for the wholesome development of an individual. In order to be physically fit, one must indulge in physical activity. Overall development includes physical, mental, social as well as spiritual aspect. Hence, well-organized and systematic physical education programs along with regularity and punctuality for school children is important.

Physical activity and fitness has been associated with psychological benefits in young people. It improves their control over symptoms of anxiety and depression. Physical activity plays an essential role in social development of young people and provides opportunities for self-expression, building self-confidence, social interaction and integration.

Over the decades, society has realized the need for being fit and healthy. Unless one engages himself / herself in vigorous physical activity programs, real benefits cannot be obtained. Regular physical activity helps one to be strong and healthy and lead a disease-free life.

In 1948, World Health Organization (WHO) defined “Health” as: “A state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”.

Countries future relies on the health status of its younger generation. Sound mind lives in a sound body, sound and healthy youngster can serve as foundation stone for healthy nation’s progress. Healthy young people are precious resources of a society and a nation.

Adolescence is a very critical phase in an individual’s life. It is a period when major physical, physiological, psychological, and behavioural changes occur. The foundation for a healthy and productive adulthood is built in adolescent years. Numerous biological changes occur during puberty including increase in height and weight, completion of skeletal growth accompanied by an increase in skeletal mass, sexual development and changes in body composition. These changes are also accompanied by substantial stress on young people and those around them. It is also characterized by development in behavioural skills and abilities along with acquisition of new emotional, cognitive and social skills. Adolescents and young adults are particularly sensitive to influences from their social environments because they are in developmental transition.

Families, schools, and peer groups can either support or threaten young people’s health and well-being. To ensure a healthy and productive adult population, the positive development of young people must be bolstered to facilitate their adoption of healthy behaviours. The financial burdens of preventable health problems are large and include the long-term costs of chronic diseases resulting from behaviours begun during adolescence and young adulthood.

Diabetes and obesity in adolescents has become a pandemic of gigantic proportions in India. Increasing levels of physical inactivity is one of very important causes for these ailments. The explosive increase of type 2 diabetes in India is due to detrimental lifestyle practices adopted by youngsters. Insufficient physical activity and poor eating habits have emerged as two most important modifiable risk factors not only for type 2 diabetes, but for other chronic non-communicable diseases like cardiovascular disease as well. Physical inactivity in children and youth in India has become a major public health problem.

The American College of Sports Medicine (1990), has given the following definition of Physical Fitness “Ability to perform moderate to regress level of physical activity without undue fatigue and the capability of maintaining such ability throughout life”

All these definitions focus on having enough energy, courage, and vigor to perform work and physical activity. People who are physically fit are capable of living life to its fullest extent without getting prone to any fatal diseases. Fitness is not only restricted to Physical fitness but also includes mental fitness which can only be achieved if body is functioning well. Moreover, Physical Fitness is a matter of utmost importance to individual wellbeing and not to the growth, security and progress of a nation. As much of Nations upcoming and progress depends upon the status of their children because only Physical Fitness and Wellness of an individual makes a nation strong.

Classification of Physical Fitness:

It is felt by some researchers that while the elements of skill related fitness are important for participation in dual and team sports, they have little significance further day to day task of the individual or for their general health (ACSM 1991, Pate 1983). Physical fitness can be classified into 2 categories which are referred to as Health Related Physical Fitness and Skill/Performance Related Physical Fitness or motor ability.

Saavedra et. al. (2008), considered health related physical fitness as the dynamic state of energy and vitality that allows people to perform daily task, enjoy active leisure and cope with unexpected emergencies without undue fatigue. Health Related Physical Fitness is associated with physical wellbeing of an individual, which implies a correlation between health fitness and sports. Specific movement skills are needed for the progress of fitness components such as strength, power or endurance. A common assumption is that Health related physical fitness is plausible for all despite their level of motor skills (Cantell et. al. 2008).

In simple language, Health Related Physical Fitness is the state of wellbeing in which every individual would seek protection against disease, tackle problems of being obese as well as overweight, manage muscles and joint disorders. It also includes striving to be mentally balanced and socially well adjusted. The Physical Fitness components have an association with good health. The constituents of Health Related Physical Fitness are:

a) Body Composition:

In physical fitness, Body Composition is used to define the proportion of fat, muscles, water and bones in human bodies as muscular tissues takes up less space in our body than adipose tissue. It is the proportion of fat

and lean mass (fat-free) in the body. Body Composition can be defined as it is nothing but the design and structure of your body. It has to do more with body mass and density. How's your body made whether it is muscular, flabby, whether you have more of lean mass or fat mass. How's the weight distributed throughout the body.

It is the percentage of body weight that is fat compared to other body tissue, such as bone and muscle. People who have a high percentage of fat are more likely to be ill and have a higher death rate than lean people.

Cardio respiratory Fitness:

Cardiorespiratory Fitness is the capability of the body's circulation system as well as the respiration system to provide fuel and oxygen during sustained physical activity. It is the ability of the body's circulatory and respiratory system. It is the ability to exercise the entire body for long periods of time which involves the working of cardiovascular system and arteries for transportation of oxygen and capability of tissues. It requires a strong heart, healthy lungs, and clear blood vessels to supply the body with oxygen. Activities to improve fitness in this area include running, swimming and aerobic dance. It's also called aerobic fitness.

For eg. If you aren't working out, you might find it difficult to run for 5 minutes non-stop if you're asked to, however once you undergo exercise and training for some time, you would be able to run for ten minutes without breaking a sweat. This is because of your cardio respiratory endurance getting developed due to the training.

b) Muscular Strength:

Muscular strength can be defined as "the ability of muscle group to develop maximal contractile force against a resistance in a single contraction". It is defined as the ability of a person to lift maximum weight using his muscles at a time in a single repetition. Muscular strength is the amount of force a muscle can produce in one maximal effort. It is the amount of force you can put forth with your muscles. People with strength have fewer problems with backaches and can carry out their daily tasks efficiently. The size of muscle fibres and the ability of nerves to activate muscle fibres are related to muscle strength. Examples of muscular strength include push-ups, weight lifting heavy weight with few repetitions, and pull-ups.

c) Muscular Endurance:

It is defined as the ability of muscles to lift weights, overcome resistance for as long time as possible without getting tired quickly. It is basically the capacity of a muscle or number of muscles to endure frequent

contractions against a resistance for prolonged period of time. This has more to do with the frequency unlike in muscular strength.

Flexibility:

It is one variable that is difficult to work on as we age. However, it is an extremely important variable as without it even a healthy and strong body won't be able to do certain tasks. Having good flexibility helps in moving fast, increasing range of motion, reduces pressure on joints.

It is the ability to use your joints fully. You are flexible when the muscles are long enough, and the joints are free enough to allow movement. People with good flexibility have fewer sore and injured muscles.

d) Speed:

Speed is a [scalar quantity](#) that refers to "how fast an object is moving." Speed can be thought of as the rate at which an object covers distance. A fast-moving object has a high speed and covers a relatively large distance in a short amount of time. Contrast this to a slow-moving object that has a low speed; it covers a relatively small amount of distance in the same amount of time. An object with no movement at all has a zero speed.

Strong nations are built by healthy people. It is necessary to ensure good health of children and young people who will contribute to build the nation in future. Schools are an chief setting in which offspring develop behaviour and skills for physical, emotional and social well-being . Apart from family, no other institute has bigger impact on the lives of children than schools. Schools educate lots of children and young people every day, teaching them cognitive and soft skills. Children spend a significant amount of time conversing with their peers, other students and teachers acquiring knowledge, building attitudes and skills, and developing behaviours in schools. Behavioural patterns and habits developed during infant and adolescence are taken into adulthood (Weber, 1984). Hence, schools play a vital role in creating healthier nations. Schools offer an exceptional opportunity to permit students to attain knowledge and skills and increase physical activity levels amongst young people (WHO, 1996).

School Physical Education Program:

The school is considered an excellent place to deliver students with an opportunity of daily physical activity, impart them the importance of regular physical activity and its role towards fitness and well-being, and build the skills that support active lifestyles (Active Living Research, 2007). It is vital that schools have an effective

physical education program that has been designed precisely and is taught well to influence the health, fitness and well-being of children. The role of physical education teacher is vital for successful implementation of an effective Physical Education program. It is crucial that the teacher is motivated about serving children to achieve ideal fitness levels. The teacher should also be able to positively affect students' outlook towards importance of being fit by teaching, motivating and engaging the students through several educational tools as well as activities.

Role of physical education in maintaining good health is widely acknowledged, scientific studies have questioned the quality and quantity of Health & Physical Education lessons given in primary schools (Fairclough & Stratton, 2005, Morgan & Hansen, 2008, Micheliet.al., 2011). Current studies have established optimistic results in improving Health related fitness, particularly cardio-respiratory fitness, via school-based interventions (Kriemleret.al., 2011). However, several have failed to address the various components that effect behaviour in the school setting, make reference to credible learning theories or curriculum direction in intervention designs, or specifically target improvements in all of the Health-related fitness components.

Childhood and adolescence are pivotal periods in life of an individual because these are formative years in which major physiological and psychological changes take place. Lifestyle and healthy/unhealthy behaviors of an individual turn into habits during these years, which has significant influence on that individual's adult behavior and health status. Children and adolescents should accumulate at least 1 hour and up to several hours of at least moderate-intensity aerobic physical activity daily. Activity may mostly comprise of sports activities and active transport and should be over and above typical physical movement of that individual. Exhaustive reviews have deliberated over the associations between physical activity at young ages and its short/long-term consequences on health. (Hallalet.al., 2006, Rennie et.al., 2006, Must and Tybor 2005, Hills et.al., 2007, Froberg and Andersen 2005, Vicente-Rodriguez 2006). However, more research is required to establish relationship between physical fitness levels and health outcomes in young people.

Young people don't automatically develop skills, attitudes and behaviors that lead to consistent participation in physical activity (WHO, 2002). Health scientists fear that Physical activity levels and patterns of children round the world shows an alarming decline (Fox & Riddoch, 2000). There is substantial evidence to support the efficacy of well-conducted school-based health advancement intervention to promote physical activity in students (Salliset.al., 2003, Timperoet.al., 2004, Fox & Harris, 2003, WHO, 2000, McLellan, 1999). School atmosphere has a substantial influence on sustainable healthy behavior of students (Timperoet.al., 2004, Fox & Harris 2003, WHO, 2000). Timperio et al. (2004) review on studies assessing physical activity intervention

programs in schools reviews that a multidimensional classical model of school health intervention has proven to be most operative (Timperoe et al., 2004, Fox & Harris 2003, McBride, 2000). Multidimensional approach not only focusses on curriculum-based interventions but also includes policy-based strategies, environmental fluctuations, public and parental participation, added school-food programs etc. to provide opportunities to upsurge physical activity of students in planned and unplanned ways. This approach has the potential to change students' sedentary lifestyle.

References

- Agarwal, K., & Agarwal, D. (2003). Growth - Infancy to Adolescence. New Delhi: CBS Publishers and Distributors.
- Behringer, M., Vom Heede, A., Yue, Z., & Mester, J. (2010). Effects of Resistance training in Children and Adolescents: A Meta Analysis. *Pediatrics*, 126(5), 1199-1210.
- Caspersen, C., & al, e. (1985). Physical Activity, Exercise and Physical Fitness definitions and Distinctions for Health Related Research. Public Health Republic.
- Caterino, M.C., & Polak., a. E. (1999). Effects of two types of activity on the performance of second-, third- and fourth-grade students on a test of concentration. *Perceptual and Motor Skills*, 89(1), 245-248.
- Catley, M., & Tomkinson, G. (2013). Normative Health Related Fitness Values for children: Analysis of 85347 test results on 9-17 year old Australians since 1985. *British Journal of Sports Medicine.*, 47(2), 98-108.
- Chatterjee, P. (2002). India sees Parallel rise in Malnutrition and Obesity. *Lancet*, 360.
- Coe, D.P., Pivarnik, J.M., Womak, C.J., . . . R.M., a. M. (2012). Health Related Fitness and Academic Achievement in Middle school Students. *Journal of Sports Medicine and Physical Fitness*, 52(6), 654-660.
- D.R., G., Damokosh, A., D.W., D., & C.S., a. B. (2003). Body Mass Index as a Predictor of Incident Asthma in a prospective cohort of children. *Pediatric Pulmonology*, 36(6), 514-521.
- Esmailzadeh, S., Kalantari, H., Nakhostin-Roohi., a., & B. (2013). Cardiorespiratory fitness, Activity level and Health Related Anthropometric variables, Sedentary Behaviour and Socio-economic Status in a sample of Iranian 7-11 year old boys. *Biology of Sports*, 30(1), 67-71.
- Faigenbaum, A.D., Loud, L., R.L., J., O., S, G., & W.L., a. W. (2001). Effects of different Resistance Training Protocols on upper Body-Strength and Endurance developments in Children. *Journal of Strength and Conditioning Research.*, 15(4), 459-465.
- G., K., K., S., Mrgan., & Sports., a. J. (2013). How to ensure Muscular Endurance in Children: A New Approach. *Collegium Antropologicum*, 37(2), 385-390.
- Gupta, R. (2018). Curriculum Design (Friends Textbook Series EC302). New Delhi: Friends Publications (India).
- Gupta, R. (2018). Education Technology in Physical Education and Sports (Friends Textbook Series MPEC-402). New Delhi: Friends Publications (India).

- Gupta, R. (2018). Sharirik Shiksha me Anusandhan Evem Sankheyaki (in hindi) (Friends Textbook Series CC401). New Delhi: Friends Publications (India).
- Gupta, R., & Bedi, M. (2003). Research Process and Studies in Physical Education and sports Sciences. New Delhi: Friends Publications (India).
- J., K., A., M., G.M., F., G.M., G., M.W., C., V., K., . . . and Peterson., K. (2005). Relationship of Physical Fitness to prevalence and incidence of overweight among School Children. Obesity Research, 13(7), 1246-1254.
- K.F., J., J.D., D., & L.T., a. M. (2002). Increases in Physical Fitness during childhood increases cardiovascular health during adolescence: The Muscatine Study. International Journal of Sports Medicine., 23(1), S15-S21.