



Physical activity and physical literacy: the pharmacological benefits of exercise, a women's perspective

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Abstract: The valuable effects of regular exercise for promotion of health and therapy of diseases were obviously evaluated. The notion that exercise can be considered as a medication has been hypothesized. The growing problems of obesity and non-communicable diseases have placed a great burden on public health experts to promote physical literacy and physical activity among the modern day population. Physical literacy and physical activity have become the cornerstones of women's health. Women have certain special needs that includes reproductive health. Increased physical activity and maintaining normal body image and body weight will help a woman attain physical, mental and spiritual development. With the growing number of women with obesity and the implication of obesity as one of the main risk factors for non-communicable diseases like diabetes, hypertension, stroke and osteoarthritis, a knowledge and awareness about physical activity is essential. Thus, physical activity is a fundamental aspect of the improvement of motor skills and work performance, allowing a better healthy lifestyle. Physical exercise is effective to be measured as a drug, however, more care should be considered to the dosing and individual variations between genders.

Introduction

Physical exercise is one of prescribed therapies in health and disease. There is a convincing evidence indicating the positive effects of exercise to prevent and treat several diseases. Previous data have shown that men and women who report increased levels of physical activity (PA) and fitness have reductions in relative risk of death. PA and, therefore, physical literacy (PL) have global impact particularly on women and women health including their reproductive health. There is a great trans-formation of society from a culture of low PA to high PA. The

concept of PL is inserted to the curriculum of physical education and PL flourished in different schools, public health institutions and communities. Based on the recommendation of UNESCO, PL formed the basic concept of physical education in UK and in sports activities. WHO encouraged every nation to develop a national plan of action for PL [1 - 4]. What is PL? According to Whitehead, the motivation, confidence, physical competence, knowledge and understanding to value and take responsibility for engagement in PA for life is called

as the core of PL [see below]. Every country adopted PL as a key component of public health policy. Ability, confidence and desire for PA are taken as key concepts of PL in some countries, introducing fitness and movement skills, competence, daily behavior, motivation, knowledge and understanding as other factors to promote PA [5]. It is staged that male need motivation for increased PA whereas females need motivation, confidence and physical competence to be more physically active. Males are not affected by physical condition as compared to females who needed more motivation, interest and self-confidence apart from their physical condition. The PL program need to be made a compulsory subject for females more than the males so that they are forced to become more physically active than the males. PL program in school campuses will make females to undertake a lifelong journey of PA. Physical education courses, therefore, need to include PL as a key component of curriculum with the specific learning outcomes designed to suit the mindset of females. Introducing the concept of physical wellbeing and body habitus and its training exercises or activities will enable women to follow PA as a lifelong activity or as a lifestyle concept. The need to maintain weight and, therefore, appear healthy routine physical exercises are undertaken including weight training, aerobic exercise, cycling and swimming. It is well-known that there is a minimum amount of PA for health profits. These benefits rise with increasing the amount of exercise, however, beyond a certain level, adverse effects overshadow benefits. Participation in some of these activities are easier for a healthy individual compared to an obese person. PA is reported to be a higher for individuals with normal weight compared to obese people [6 - 8].

The need for programs to improve PA and PL: The growing problems of childhood obesity and non-communicable diseases have placed a great burden on public health experts to promote PL and PA among the modern day population. The recommended PA guidelines include promoting cardiorespiratory, muscular health, bone and

cardiovascular health and development of cognitive and psychosocial skills. World Health Organization (WHO) suggests that any form of PA for a minimum period of 60 min per day to be practiced by adolescents? The action plan on PA is to enhance exercise and reduce sedentary life style among children and adolescent. Sedentary life style including physical inactivity is considered as a risk factor for developing non-communicable diseases like obesity, cardiovascular disorders, diabetes mellitus, hypertension, cancer and bone disease as osteoporosis and gout. Inactive modes of transportation, addiction to social media and technological devises, schedules of education with overloaded syllabi with little time for PA and fast food culture form hindrances to the development of healthy life style [9 - 10].

Ancient practice of PA of Indian woman: In Indian context aping western culture have reduced the PA of women. In **Figure 1**, the ancient culture and tradition involve physical activities like pulling water from the wells, pounding of rice to winnow out the husk, routine house hold chores like washing clothes and vessels with no technology support and early prayers like Surya Namaskar are no longer practiced [11].



Figure 1: A village lady pulling water from the well and washing clothes



Figure 2: An Indian women grinding chillies to a paste

Some these PAs are replaced by technology to reduce the physical burden of women by machines like wet grinders, washing machines and water pumps. This shift in culture from rural urban areas have played a negative role in reducing their PAs. It may be due to the need for employment and the introduction of high-tech lifestyle. The traditional games like skipping, Lagori, Kancha, Gilli-danda and Kho Kho are games involving full physical action and they have totally been replaced by computer games and mobile phones [12].



Figure 3: An outdoor game for children called Gilli-danda and Kho-Kho a stamina building game

The switch from rural to urban migration has totally changed the life-style of many Indian population

forgetting the ancient traditional games of PA and the economic attraction of cities over the villages. The agricultural families and their children are involved in harvesting rice and other cereals. The children during their vacation give a helping hand to their parents in the wet rice fields. The urbanization and corporate culture have totally transformed the life style of many communities' even agricultural communists. This has resulted in reduce PA and ignorance of the beneficial effects of such rural life style [12]. There needs to be a balance between the traditional life style and modern living. With pharmacological point of view, unfit women can get significant improvements in PA with a low training intensity, while those with a higher fitness level need a greater level of PA intensity to achieve further improvements in fitness [13]. The parents and teachers may be involved in promoting the PA of school going children with incentives, motivation and camps related to different sporting activities. The school syllabi may be enriched with a chapter on PA and PL. The chapter must explain the various types of PAs including weight training, cycling, swimming apart from other sports activities like indoor games which include badminton, table tennis to outdoor games like basketball and football. A chapter on healthy nutrition and balanced nutrition may be included to educate the children develop good eating habits and understand the concept of nutrition. There are methods to measure body composition, bone density, muscle strength which may be used to assess the physical fitness of children as a part of physical education activity. The children must be informed that health is wealth of any nation. Policies and regulations may be there in vogue. The child need to have a prepared mind to participate in good PA so that the physical as well as social skills are developed holistically in the child. Tackling obesity in the pre-pubertal stage will help reduce the accumulation of adipocytes in white adipose tissue. The PA when presented with a knowledge of that activity will help promote the well being of the child is a priority for all nations so that a healthy population is greatest capital for a healthier nation and nation building. Women have certain special needs that includes

reproductive health. Increased PA and maintaining normal body image and body weight will help a woman attain physical, mental and spiritual development. Certain of the fortunate effects of PA apply to the general population. Prominent amongst

these are its role in prevention of several diseases and in promotion of healthy durability. But PA can be considered as treatment of conventional diseases which include normally arising conditions such as depression, diabetes and cardiovascular diseases.

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