

Physical Inactivity: Biggest Public Health Issue in Modern Time

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ABSTRACT

Physical inactivity has become the biggest public health problem of the 21st century. There are enormous shreds of evidence that regular physical activity has significant and comprehensive health benefits. An increase in physical inactivity increases psycho-physiological health problems. Advancement in information and technologies, transport, entertainment, medical, education, etc. dramatically changes the living style. Change in lifestyle made people's life comfortable on one hand but the other, it affected adversely to physical and mental health. Data suggest that 31% of the world's population does not meet minimum requirements for physical activity recommended by the World Health Organization. The study of Anjana et al. (2014), shows 54.4% of the Indian population are physically inactive. People living in the urban area are more inactive (65%) compared to rural (50%). Factors contributing to physical inactivity are, due to less active during leisure time, use of motor vehicles everywhere, urbanization, traffic, pollution, violence, inadequate sports and recreation facilities, etc. The increase in physical inactivity increases the risk of non-communicable diseases among the people. Utilization of healthcare services and medical expenses also increased due to physical inactivity among the people.

Keywords: Health, Physical Activity, Lifestyle, Non-Communicable Disease, Healthcare service

1. INTRODUCTION

Health is the most important thing in our lives that is determined by the way we live our life. Health and physical activity are often closely associated with each other. Health means different things to different people. According to WHO, "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity"[1] whereas, physical activity can be defined, as any bodily movement produced by skeletal muscles that require energy expenditure– including activities undertaken while working, playing, carrying out household chores, traveling, and engaging in recreational pursuits[2]. Our lifestyle and behavior determine physical health. There is enormous evidence that regular physical activity has significant and comprehensive health benefits. Regular and adequate levels of physical activity improve muscular and cardio-respiratory fitness; improve bone and functional health; reduces the risk of hypertension, coronary heart disease, stroke, diabetes, various types of cancer (including breast cancer and colon cancer), and depression[3]. Regular physical activity also reduces the risk of falls as well as hip or vertebral fractures; and is fundamental to energy balance and weight control[2]. The benefits of exercise are not unknown to us, but beyond exercise, any physical activity that is done during leisure time or as a part of a person's work has a health benefit. Other than health benefits, increasing participation in physical activity has many social and economic benefits too [4].

Since decades, science and technology have played a very important role in the development of society and the world has seen extraordinary technological advancements in all disciplines of life. With the increased use of technology in daily life, living became more and more comfortable and ease. Development in the field

of information and communication technology, entertainment, medical, education, transport, social activities, and all other aspects of living, dramatically changes the lifestyle of the people. Advancement in technology has made life better for the people but simultaneously excessive use of technology affected adversely to the physical and mental health of the people [5]. Due to a sedentary lifestyle and less physical activity, several health risks are developing among people. According to a report by the Indian Council of Medical Research (ICMR), physical inactivity is very common in India [6]. Around 54.4 percent of people were found inactive during a study by the government agency, reports The Times of India [7]. World Health Organization reports, physical inactivity i.e., lack of physical activity, has been identified as the fourth leading risk factor for global mortality i.e., 6 percent of deaths globally due to physical inactivity [2]. Though leisure-time physical activity has increased, activities related to transportation, occupation, and accompanying work are decreasing in some countries [8,9,10].

Therefore, the author extensively studied the literature to present a review on physical inactivity status and its impact on health, which is one of the most important public health problems of the 21st century and may even be the most important.

2. PHYSICAL ACTIVITY DURATION

Physical activity duration recommended by the World Health Organization for different age groups:

Age Group	Physical activity duration	Remarks
5-17 Yrs (Children and adolescents)	60 minutes daily, moderate to vigorous-intensity	Muscle and bone strengthening activities 3times per week
18-64 Yrs (Adults)	150 minutes per week, moderate intensity or 75 minutes per week, vigorous intensity or an equivalent combination of moderate- and vigorous-intensity activity	Muscle-strengthening activities 2 or more times per week
65 Yrs and above (Adults)	150 minutes per week, moderate intensity or 75 minutes per week, vigorous intensity or an equivalent combination of moderate- and vigorous-intensity activity	Muscle-strengthening activities 2 or more times per week Poor mobility people should perform physical activity to enhance balance and prevent falls, 3 or more days per week

Source: https://www.who.int/dietphysicalactivity/factsheet_adults/en/

3. PHYSICAL ACTIVITY STATUS

The available data suggest that 31% of the world's population is not meeting the minimum requirements for physical activity [11]. According to World Health Organization report, in 2016, 23% of men and 32% of women adults aged 18+ and 81% of adolescents between age 11to17 year of the world do not meet the WHO recommendations on physical activity for health [12]. In high-income countries, 26% of men and 35% of women were insufficiently physically active, as compared to 12% of men and 24% of women in low-income countries [4]. As countries develop economically, levels of inactivity increase owing to the influence of changing patterns of transportation, use of technology, urbanization, and cultural values [13]. In India, the prevalence of inactivity was estimated between 12.2% to 14.8% by WHO [14] among adults aged 18 years and above while according to Integrated Disease Surveillance Project (IDPS) and Indian Council of Medical

Research India Diabetes (ICMR-INDIAB) it ranged between 42.3% and 81.2% [6,15]. Study conducted by Anjana et al. (2014) on 14227 individuals in India, reveals that 54.4% (n = 7737) were inactive while 31.9% (n = 4537) were active and 13.7% (1953) were highly active. Subjects were more inactive in urban (65%), compared to rural (50%) and males were significantly more active than females [6].

4. FACTORS RESPONSIBLE FOR PHYSICAL INACTIVITY

The current levels of physical inactivity are partly due to people being less active during leisure time and an increase in sedentary behavior during occupational and recreational activities. Also, a decline in walking and cycling in favor of using motor vehicles as well as a change in the urban design of towns and cities has been associated with declining physical activity levels. Increased urbanization has resulted in several environmental factors, such as, violence, high-density traffic, low air quality, pollution, lack of parks, sidewalks, and sports and recreation facilities which may discourage participation in physical activity. [14]. Increasing urbanization and rapid economic development in China have been linked to reductions in overall and occupational physical activity in adults[16,17], as well as increased television viewing in children[18]. Similarly, in Africa, rural-to-urban migration is associated with reductions in the prevalence of physical activity. [19,20].

5. HEALTH RISKS DUE TO PHYSICAL INACTIVITY

Humans are not programmed to be physically inactive. Indeed, the “sedentary death syndrome” is a major risk factor for numerous worldwide diseases and millions of premature deaths each year [21]. About two-thirds of the major causes of death are, to a significant degree, lifestyle-related. As noted by Mokdad et al. (2000), the major “actual causes of death” are physical inactivity and poor nutrition[22,23]. Indeed, about 15% of the 1.6 million newly diagnosed chronic diseases each year are due to a sedentary lifestyle [24]. Insufficiently active people have a 20% to 30% increased risk of death compared to sufficiently active people. Insufficient physical activity is one of the leading risk factors for global mortality and is on the rise in many countries, adding to the burden of non-communicable diseases and affecting general health worldwide. Physical inactivity results in the so-called “disuse syndrome” (i.e., premature aging, obesity, cardiovascular vulnerability, musculoskeletal fragility, and depression) [25]. Since aging results from the accumulation of cellular damage, interventions in poor lifestyles may prevent damage, promote repair, and thereby increase life expectancy [22,23]. Many non-communicable diseases like heart disease, stroke, diabetes, breast, and colon cancer can be prevented by regular physical activity. It also helps to prevent other important non-communicable diseases risk factors such as hypertension, overweight, obesity, and associated with improved mental health, delay in the onset of dementia, and improved quality of life and well-being[26]. Lee and colleagues,(2012), presented convincing evidence that 6% to10% of all deaths from non- communicable diseases worldwide can be attributed to physical inactivity, and this percentage is even higher for specific diseases such as 30% for ischemic heart disease [27].

6. MEANS AND WAYS TO INCREASE PHYSICAL ACTIVITY

In 2004, the World Health Assembly adopted a global strategy on "Diet, Physical Activity and Health" to describes the actions needed to increase physical activity worldwide. The strategy adjures stakeholders to take action at global, regional, and local levels to increase physical activity. In 2010, the World Health Organization published a "Global Recommendations on Physical Activity for Health" that focus on the

primary prevention of non-communicable diseases through physical activity [14]. The recommendations propose different policy options to reach prescribed levels of physical activity globally. They are:

- the development and implementation of national guidelines for health-enhancing physical activity;
- the integration of physical activity within other related policy sectors, to secure that policies and action plans are coherent and complementary;
- the use of mass media to raise awareness of the benefits of being physically active;
- the surveillance and monitoring of actions to promote physical activity.

In connections, with the above recommendations, it was advised that countries and communities must take action to provide individuals with more opportunities to be active, to increase physical activity. The policies developed should ensure that physical activity is promoted through activities of daily living. Walking, cycling and other forms of active transportation are accessible and safe for all; labor and workplace policies encourage physical activity; schools have safe spaces and facilities for students to spend their free time actively; quality physical education supports children to develop behavior patterns that will keep them physically active throughout their lives, and sports and recreation facilities provide opportunities for everyone to do sports[4].

7. PHYSICAL INACTIVITY AND USE OF HEALTHCARE SERVICES

A study conducted by Sari (2009), to find the impact of physical inactivity on the utilization of healthcare services revealed that physically active people use significantly fewer healthcare services in comparison to physically inactive people, and also physical inactivity imposes substantial costs on the publically funded healthcare system. The results show that physically inactive individual uses 38% more inpatient services than active people. On average, an inactive individual uses 5.5% more family physician visits, about 13% more other physician services, and 12% more nurse services compared with an active individual [28]. Pronk et al. (1999), using individual-level health plan data, found that each additional day of physical activity reduced median health care costs by 4.7% and that each unit of BMI increased median charges by 1.9% [29].

8. CONCLUSIONS

There is enormous evidence that regular physical activity has tremendous health benefits ranging from reduced risk of chronic diseases such as heart disease, type 2 diabetes, obesity, etc. to enhanced bodily function and prevention with age whereas, physical inactivity has become one of the most important public health problems of the 21st century. Physical inactivity not only increases the utilization of healthcare services and medical cost of living but also mortality risk factors. Several plans and policies need to be implemented from top to ground levels to achieve physical activity level recommended by the World Health Organization.

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