

# Physical Activity for Health and Fitness: Past, Present and Future

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It's a saying "The early we start, the early we attain good health". Health is a state of complete physical, mental and social well-being and not merely absence of disease. Fitness is an ability to execute daily functional activities with optimal performance, endurance, and strength to manage minimalist of disease, fatigue, stress and reduced sedentary behavior. In the modern era with advancement in technology, erosion of physical activity has drastically led to retardation in health and fitness. Hoods of luxurious and competition among students for scores/grades and professionals for promotions/incentives/benefits have deviated people from concentrating towards their health and putting it secondary. In 2016, across the globe, prevalence of physical inactivity was estimated at 27.5%, among adult population. To support further, in June 2018, WHO reported, 1 in five adults, and 4 of five adolescents to pose reduced physical activity. In the current ongoing pandemic era this scenario has been further negatively impacting the society to suffer from psychosocial, financial and economic loss, contributing to lack of physical activity. Health benefits of physical activity are not limited only to improved cardiorespiratory and muscular fitness, bone and cardiometabolic health, and positive effects on weight status, but it also boosts mental health and social health. Acknowledging the significance and urgency of decreasing insufficient physical activity globally, WHO endorsed a Global Action Plan on Physical Activity (GAPPA) at the World Health Assembly in 2018, wherein the member countries agreed to reach a new target of 15% relative reduction in insufficient physical activity among adolescents by 2030.

**Key Words:** Activity, Exercise, Fitness, Health, Wellbeing

## INTRODUCTION

It's a saying "The early we start, the early we attain good

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health". Health is a state of complete physical, mental and social well-being and not merely absence of disease [1]. Fitness is an ability to execute daily functional activities with optimal performance, endurance, and strength to manage minimalist of disease, fatigue, stress and reduced sedentary behavior [2]. In the modern era with advancement in technology, erosion of physical activity has drastically led to retardation in health and fitness. Hoods of luxurious and competition among students for scores/grades and professionals for promotions/incentives/benefits have deviated people from concentrating towards their health and putting it secondary [3]. Since the last few decades, studies have

documented inactive and sedentary life style to make individuals prone towards chronic diseases [2,4]. Despite our increased understanding of importance of being active, data from the World Health Organization (WHO) instigates, inactivity prevalent today in the society, contributing to the 6-10% burden of chronic disease and premature mortality [2]. A review document from 2012 expressed prevalence of physical inactivity to exist in wide regions of the world; 27.5% in Africa, 43.3% in America, 34.8% in Europe, 17% in South East Asia and 33.7% in the Western Pacific [5,6]. To support further, in June 2018, WHO reported, 1 in five adults, and 4 of five adolescents to pose reduced physical activity [7]. Girls, women, geriatric population, under privileged population, individuals with disabilities and chronic diseases, marginalized groups, and indigenous people to have further fewer opportunities to keep themselves active [8]. It is not surprising that the prevalence of inactivity is more evident in urban community when compared to rural [2,9]. As it's a general trend physical activity slows with aging and is reduced in retired, unemployed and less educated people, in the current ongoing pandemic era this scenario has been further negatively impacting the society to suffer from psychosocial, financial and economic loss, contributing to lack of physical activity [10]. Policies encouraged by WHO, such as Global Action Plan for Physical Activity 2018-2030 [11,12] and The European Physical Activity Strategy 2016-2025 [13] promised to encourage and makes the society aware on benefits of being physically active.

Benefits of physical activity have been documented since early 20<sup>th</sup> century [14]. Study show rate of coronary heart disease lower among physically active London bus conductors than bus drivers and government clerks [15]. Health benefits of physical activity are not limited only to improved cardiorespiratory and muscular fitness, bone and cardiometabolic health, and positive effects on weight status, but it also boosts mental health and social health [2]. Sibold and colleagues showed remarkable decline in suicidal thoughts and attempts by 23% in bullied adolescents engaged in physical activity than physically inactive people [16]. Acknowledging the significance and urgency of decreasing insufficient physical activity globally, WHO endorsed a Global Action Plan on Physical Activity (GAPPA) at the World Health Assembly in 2018, wherein the member

countries agreed to reach a new target of 15% relative reduction in insufficient physical activity among adolescents by 2030 [8].

In many researches males are found to be more active when compared to their female counterpart [17-20]. On the flipside, sitting time throughout day is higher in males than females [2,21]. Researches also document students to be poorly active than adults [22-25].

## FITNESS RECOMMENDATIONS FOR VARIABLE AGE GROUPS

### 1. General considerations

Physical activities can be implemented and regularized through two modes; self and under supervision. Physical activities pose negligible negative effects in comparison to medication [26]. WHO proposes individuals to indulge in any kind of a moderate intensity exercise for at least 150-300 minutes per week [27]. Looking at the minutes, it sounds fairly high, however if we divide the same into days, it is only 30 to 60 minutes per day for 5 days per week. This recommendation is stated for nearly all age group people with special variability to be kept in mind (if required). Further, it is important to mention that, it does not mean spending 30-40 minutes on physical activity to follow with no activity throughout the remaining day. Bodily active movement after every 1 to 2 hours is vital for maintaining normal tone and elasticity of blood vessels [28,29] and soft tissues (capsule, ligament, muscle, tendon etc.) [30]. In fact, it is a sedentary lifestyle, becoming more common in the modern era. This physical inactivity is lethal for human body as the heart needs to be active throughout the day. It's worth noting that benefits include enhanced thinking or cognition in youngsters aged 6 to 13, as well as reduced short-term anxiety in adults. Physical activity helps to accelerate and thinking, learning, and cognitive skills [31]. Physical activity further helps to have better sleep quality and lessen self risk of depression and anxiety [32]. As children are more physically active, WHO recommends children to remain active throughout the day with rest period as appropriate as per their age and physical limits to be increased in a slow and regular manner.

A study documented, individuals watching television for

more than 4 hours per day, live in an inactive state and have 80% higher risk of mortality from cardiovascular disease [33].

## 2. Daily modifications and upgradations

Furthermore, achieving increased levels of physical activity necessitates the implementation of comprehensive and integrated initiatives. Physical activity benefits are dependent on one's personal efforts to enhance exercise in self, families, friends, subjects patients, and coworkers, etc., at school, workplace/office. Physical activities appropriate for present fitness level and health goals should be chosen at the outset, based on the advice of an exercise physiologist or physical therapist, because certain activities are safer than others. To reach criteria for health goals, there needs to be progressively increase in physical activity with passage of time. Inactive people should "start small and build up" by beginning with lower-intensity activities and progressively increase frequency and duration of their activities.

In order to combat with physical inactivity, modification in environment focusing varied social levels with planning of offices, road and transport system should be constructed with the aim to promote active lifestyle. At work place, employees should be encouraged to get up and walk to catch up a cup of tea and speaking on mobile while walking at work place. In return, these movements promote blood circulation and muscle relaxation by contracting and relaxation of the muscles of upper and lower limbs, thorax and spine. Meetings should be made recreational, instead of standard ideal sitting criterion. In addition to the above use of stairs should be encouraged inspite elevators/escalators. Parking lot should be at distance, encouraging walking.

## 3. Exercises/Movements

As per the Physical Activity Guidelines by the American College of Sports Medicine (ACSM), it is encouraging to develop person specific exercise interventions for a positive health and overall wellbeing [34]. Studies recommend; balance, endurance training, flexibility, and strengthening exercises for generation and management of physical health and fitness [35,36]. Physical activities can be combination of two or more components. It helps to encourage the per-

former to remain active throughout life by creating enthusiasm and eliminate boredom by taking the physical act to higher and extended time along with advancement of age. Exercises like Lunges, Pushups, Squats, Running, Planks, Swimming, and Dumbbell rows should be practiced right from adolescent and carried till later years of life (medical consultation to be consider, if required).

It is important to create personal objectives for healthy physical life. When setting goals, one should explore a variety of activities and try both indoor and outdoor activities. Simple and ambitious goals are both possible. For example, going for a 45-minute brisk walk in the nearby vicinity with friends/family three times a week and walking to lunch twice a week, or using active transportation—walking, biking, or wheelchair walking—to get to school, work, or the shop may be the best option for someone.

Despite the numerous health benefits of physical activity, injuries like sprain/strain/contusion or in worst case a fracture can occur [37]. The musculoskeletal system is the most common domain to get injured with physical activities/exercises [38]. This is attributed to overheating and dehydration [39]. Rarely people experience heart attacks while exercising. Practically, physical activity is safe for everyone.

People with and/or at risk of acquiring chronic diseases and symptoms, such as pregnant women and the elderly, should take advice from a health care professionals like Exercise Physiologist/physical therapist for the type and level of activity to begin with.

## 4. Fitness trackers

An activity tracker, often known as a fitness tracker, is a gadget or applications that monitors and tracks fitness-related metrics like distance walked or run, calorie consumption, and, in some circumstances, heart rate [40]. It's a form of computer that one wears on his/her body part. Smart watches are commonly used in as they are connected *via* wireless, to a computer or smartphone for long-term data tracking [41]. Independent smartphone and software applications are also available. In recent years, wearable devices namely, Fitness Trackers, Smart Watches, Heart Rate Monitors, and Global Positioning System (GPS) tracking devices have boomed with its use extending from children to elderly. These devices are designed and marketed with the

aim to push inactive individuals to think critically towards their health by creating mental concern for heart rate, number of steps/cadence, duration of current and projection of future workout, calorie loss, running distance, activity recording, sleep patterns and blood pressure thereby, enabling them to become physically active. According to a systematic review, activity trackers increased people's physical activity by 1850 steps a day [42].

## CONCLUSION

Designing, promoting and encouraging physical activity is a vital from childhood to elderly. These goals can be achieved by sharing information using community-wide and mass media campaigns, social support enhancing physical activity at community level and work places, physical education, classroom physical activities, after-school sports and active transport to school for school going children are few steps to improve the health of the society. The present article proposes benefits of physical activity in imparting health and fitness, and measures to improve the same, to reduce the present and future multiple negative impacts on individuals and nations economy.

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