

Sedentarism in children due to COVID-19

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Abstract

Non-communicable diseases (NCDs) build up the major disease burden in both developing and developed countries. Each year it causes up to 71% of deaths across the globe. The leading cause of NCDs lies in childhood practices which are encouraged by society and its socio-ecological model. The global pandemic COVID-19 has further promoted the notion of sedentary behaviour (SB) and physical inactivity. This article informs the reader about the prevalence of SB and how the pandemic has aggravated the common public health concerns. The social and physical modifications during the global health crisis will have long lasting impacts on children's physiological wellbeing and it can lead to poor health outcomes in children and adolescents. Since the COVID-19 restrictions have continued in 2021 too, it is the time to realise the sedentary patterns and promote optimal wellbeing of children and adolescents.

Abbreviations

NCD - Non-communicable disease

PA - Physical activity

PI - Physical inactivity

SB - Sedentary Behaviour

WHO - World Health Organization

Introduction

The COVID-19 pandemic not only upended the livelihoods of many and the global economy but also brought about comprehensive lifestyle transformations. The transition of being engaged in a physical space to working and studying remotely have resulted in an increasing trend of unhealthy habits present in nearly every age group, particularly in children.

On March 11, 2020 the World Health Organization (WHO) declared COVID-19 as a global pandemic.¹ The steps taken to cease the spread of virus placed the whole world in lockdown. Although the disease tends to show low-grade symptoms in children, the sudden closure of educational institutions confined the children to their homes, which undoubtedly put their mental, physical, and social wellbeing at stake.² Closure of recreational centres halted the normalcy of life and put them under undue strain. While stress was prevalent among the public, there was also a factor of dealing with uncertainty regarding the future. To combat the effects of the virus, various socio-behavioral adaptations (social/physical distancing and lifestyle changes, such as online schooling) were undertaken. Though these measures reduced the infection rates across the globe they also produced some detrimental effects with regards to the social conditioning of children.³

Physical activity in children and adolescents

It has been emphasised by several studies that physical activity (PA) among children and adolescents plays a huge role in reducing disease burden. The foundation of many non-communicable diseases (NCDs) like hypertension, diabetes and cardiovascular diseases lies in unhealthy patterns developed during childhood. The term 'PA' is defined by any bodily movements produced by the voluntary muscles that requires energy expenditure.⁴ PA is a broad concept, and it is characterised by various subtypes which include exercise, playing, working, active transportation, house chores and recreational activities. According to the WHO, the recommended levels of PA for children and youngsters is at least 60 min daily of moderate- to vigorous-intensity physical activities.⁵ The health benefits associated with physical fitness are many including cardio-metabolic health, bone health, and behavioural and cognitive development. Some studies suggest that even modest amounts of PA can have tremendous health benefits in high-risk groups.⁵



Sedentary behaviours in children and adolescents

The two terms PA and sedentary behaviours (SB) are used interchangeably but, by definition, the above-mentioned terms are entirely different. The concept of a sedentary lifestyle not only ends at lack of PA, but it also includes the indulgence of low energy activities for a prolonged period of time. These activities include prolonged sitting, lying down, sleeping, and watching TV. According to a study published in the American Journal of Public Health in 1999 SB is defined as dissipating less than 150 kcal/day in moderate to high intensity activities.⁶

In the light of the COVID-19 pandemic, the idea of distant learning promotes greater than required sitting and screen time.

Initial studies suggest that increased screen time among children and adolescents has promoted mindless eating and physical inactivity (PI).⁷ I think the current health dilemma deals with maintaining a healthy lifestyle while avoiding SBs, whilst abiding to precautionary measures.

Recommendations

The majority of studies conducted during the COVID-19 pandemic found that the PA levels declined while SB increased regardless of the population, or the methodology used.⁸ The lockdown rules are different for every region; in such circumstances we need to adapt the new policies and rules according to the community and population.

To enhance PA in children, promotion of digital based PA such as physical training through mobile apps is recommended.⁹

Similarly, lessons to enhance PA through online learning should be incorporated. Exercise in the form of moderate to high intensity PA can enhance both mental and physical health. Aerobic exercises are moderate intensity workouts which pump up the heart rate quickly, are necessary for cardio-respiratory fitness, and can be done easily. Simple tasks like climbing stairs or jumping over objects, when performed in a repetitive manner can prove to be beneficial for physical health.

Children should also be encouraged to actively partake in outdoor activities like walking, running, and cycling.

These activities can be performed with necessary safety measures along with local government interventions.¹⁰

SB can be eliminated through joint efforts of schools and community centres. Teachers should remind the whole class to take stand/walk/dance breaks for 2–5 min every 20–30 min during online learning sessions. Parents should be guided on how to break up sedentary patterns by indulging children in household chores (sweeping, dusting, mopping, washing dishes, and doing laundry).¹⁰

So, what kind of physical training is needed when outdoor mobility is restricted? I believe that it is not mandatory to have a perfect high intensity workout routine but what is necessary is to strike a balance between workout and leisure activities. The recommended workout during a pandemic includes aerobic exercises which also help to reduce risk of NCDs, along with muscle and bone strengthening exercises. Strengthening the muscles not only makes them stronger but it reduces the risk of future obesity too. Nevertheless, a few minutes of stretching and mobility exercises improves overall health and wellbeing.

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