

## Short communication

**Physical Activity and Risk of Obesity Among Urban Preadolescents - Point of Concern During Pandemic****Chitra Murali***From, Professor & HOD, Dept. of Physiology, Shri Sathya Sai Medical College & Research Institute, Sri Balaji Vidyapeeth***Correspondence to:** Dr. Chitra M, Shri Sathya Sai Medical College, Research Institute, Sri Balaji Vidyapeeth,  
Email: [drchitrayuva@gmail.com](mailto:drchitrayuva@gmail.com)**ABSTRACT**

Childhood obesity is an emerging risk factor for cardiovascular morbidity and mortality in the future. Hormonal activity during the preadolescent period along with other modifiable factors like environmental, social, and physical can have a profound effect on the physical, physiological, and psychological growth of a Preadolescent. Physical activity during the childhood period is a measure of energy expenditure that helps in the active growth of the child. During the pandemic, extensive lifestyle changes and sedentary behavior have forced many children to remain physically inactive. Children exhibit a low level of physical activity in recent years. High-calorie binge eating and a sedentary lifestyle coupled with hormonal changes predispose to a vicious cycle of obesity-related disorders among urban preadolescents. Promoting physical activity by using technology and school initiatives for fitness during lockdown helps to monitor childhood obesity at an early age.

**Keywords-** Urban preadolescents, physical inactivity, pandemic lifestyle, obesity

Childhood obesity is a risk factor for most non-communicable diseases, which is on the alarming rise. Globally the impact of childhood obesity on health care is quite significant, as obesity in early life continues till adulthood, increasing the risk of morbidity and mortality. The consequence of obesity in childhood includes cardiovascular diseases, diabetes, musculoskeletal disorders, and cancers like endometrial, breast, and colon cancer as reported by WHO. In developing countries like India, the rate of increase in childhood obesity is more than 30% compared to other developed countries [1]. With rapid urbanization and changing lifestyles in both urban and rural areas, the risk of obesity and its future complications have to be curtailed.

**DETERMINANTS OF OBESITY IN PREADOLESCENTS**

Pre-adolescence is a transition during which rapid physical, physiological, and psychological changes begin to appear before adolescence. The main risk factors associated with obesity in the preadolescent age group include genetic predisposition and an unhealthy lifestyle [2].

Modifiable risk factors can be identified at an early age and targeted for better intervention. Physical activity plays a key role in the maintenance of health. Nowadays, a sedentary lifestyle is observed from early childhood which can have a negative impact on future well-being [3]. Urban setup is reported to be more sedentary and obesity inducing when compared to rural setup from childhood [4]. Pathophysiology of obesity in young is complex, interrelated, and multifactorial which includes genetic, behavioural, environmental, and socio-economic factors [5, 6]. Of all the significant factors of obesity, physical inactivity is a chief determinant [7].

Measurable physical activity is possible by assessing the average step count recorded by a pedometer [8]. Other determinants can be assessed by monitoring the time spent watching TV, time spent on gadgets, time spent on the school schedule for physical training, time spent on other sports classes per week, indulging in junk food, and the type of food consumed. Reports are available for evaluating obesity across various age groups with very few citing on comparison of rural and urban preadolescent children [9, 10, 11]. Rural preadolescents engage in higher physical activity

on a comparative basis than urban preadolescents. They have less access to gadgets and spend more time on physical activity.

### Preventive Measures to Reduce Obesity among Preadolescents

Monitoring physical activity during childhood and taking proactive measures to reduce the incidence of obesity should be the prime responsibility of parents [12]. Parents should be role models in engaging their children. Adopting a healthy lifestyle in terms of physical activity and consumption of a balanced diet should remain the goal for every parent [13, 14]. At school, considerable hours of physical activity are reinforced for children to render physical fitness. During a lockdown when the schools are functioning by adopting online classes, the physical activity of the child is often overlooked. Emphasis on engaging in physical fitness sessions, yoga, meditation, and indoor games with a maximum expenditure of energy should be advocated by school education [15, 16].

Preadolescent children often end up in a vicious cycle of hormone-induced sudden changes in metabolism resulting in overweight or obesity and physical inactivity. It can be a stage in which prompt actions can be mediated as remedial measures to overcome overweight and obesity. An increase in screen time is often the chief cause of physical inactivity among young children [17, 18]. By reducing screen time, binge eating, and controlled monitoring by parents the incidence of obesity-induced complications can be overcome to a great extent. It is imperative that inculcating a healthy lifestyle among young preadolescents can change the overall morbidity and mortality due to non-communicable diseases later in life.

### DISCUSSION

As we understand that the transition from childhood to preadolescent involves the influence of hormonal and other socio-cultural practices, preadolescence must be a vulnerable phase for physical and emotional growth [2, 7]. During the lockdown period due to the COVID-19 pandemic, the physical activities of children of all ages were compromised. Lifestyle changes were induced drastically giving rise to an increase in the incidence of obesity among preadolescents all over the world [19, 20, 21].

These were evident more among urban children when compared to rural children. Educational reforms not only advocated changes for remote learning but also designed strategies for promoting physical activity [15]. To curtail the complications that will promptly arise because of obesity-

related disorders, necessary measures and awareness of childhood obesity should be mandated for a healthy nation in the future [22]. Monitoring physical activity is possible with technology-driven gadgets which are quite commonly used for self-appraisal and feedback, maybe tried for preadolescent children who are digital natives compared to adults.

### CONCLUSION

The importance of a healthy lifestyle and its implications are the key milestones in the overall development of a child. Urban lifestyle exposes the child to develop physical inactivity which can be detrimental to health. Promoting health education and awareness about the importance of physical activity during the preadolescent stage helps in attaining the goals of a healthy lifestyle. Motivation towards a healthy lifestyle can be achieved by monitoring and promoting physical activity systematically with gadget-driven fitness schedules among urban preadolescents.

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**How to cite this article:** C Mourali. Physical Activity and Risk of Obesity Among Urban Preadolescents - Point of Concern During Pandemic. *Indian J Integr Med*. 2022; 2(2) 52-54.

*Funding: None*

*Conflict of Interest: None Stated*