

## Paradigm Shift of Health Towards Obesity in Childhood

Rehana Rehman,<sup>1</sup> Syeda Sadia Fatima,<sup>1</sup> and Faiza Alam<sup>1\*</sup>

<sup>1</sup>Aga Khan University, Karachi, Pakistan

\*Corresponding author: Faiza Alam, Aga Khan University, Karachi, Pakistan. E-mail: faiza.alam@aku.edu

Received 2016 June 30; Revised 2016 August 10; Accepted 2016 August 19.

Keywords: Obesity, Lifestyle, Childhood

Obesity does not occur because of poor eating habits alone; it depends upon genetic predisposition, unhealthy environment, the body's metabolism and most importantly, lifestyle choices. The "thrifty gene" possessed by our population in synergism with lack of physical activity has increased the childhood obesity prevalence from 4% to 30% (1). Watching television, playing video games for long hours and minimal outdoor activity enables the metabolism to be slow in favor of energy storage in the form of fat.

The prevalence of junk food has increased in schools, so much so that it has become part of the weekly schedule in many schools. Although the variety of choices provides students with the independence to choose whatever they want to eat, it also can instill a habit of choosing junk food at all meal times. Such foods have low nutritional value but high caloric content. Furthermore, this habit of junk consumption may lead to refrainment from eating home-cooked foods, vegetables and especially pulses. Thus there is a paradigm shift in the health of the younger population due to these factors.

Childhood obesity has been reported to be between 6% and 19% in Pakistan (2). Obesity does not only affect the physical health of an individual (3, 4) but is also associated with impaired cognitive functions in both adolescents and adults in a number of studies (5-7). Literature supports a better intellectual outcome of obese and overweight children after physical activity intervention (8). We believe that schools are the best places to initiate awareness about following a healthy lifestyle. As children grow, they will begin to understand the health benefits. Our population must become aware of the need for lifestyle modifications such as increased physical activity, enjoyment of indoor and outdoor games, and proper diet (i.e., fresh fruit, vegetables, dairy products and plenty of water). Body mass index (BMI), defined as weight in kg divided by height squared in meters, is widely recognized as the most common and convenient tool for the assessment of obesity (9).

Routine BMI measurements can be part of the six monthly schedules at schools.

To summarize, understanding the importance of a healthy lifestyle can develop the groundwork for eradicating the epidemic of obesity and preventing associated illnesses. We recommend promoting physical well-being, healthy eating and participation in physical activities in schools. The message should not only be conveyed to children, but also to school administration as well as parents to prevent obesity. To have a healthy adult population in the future, school-age children must modify their habits and learn how to make healthy lifestyle choices. Introducing such modifications in schools can be very challenging, as the policies and students differ between private schools and public schools. School officials should develop a way to implement a strategy to prevent obesity.

### References

1. Speiser PW, Rudolf MC, Anhalt H, Camacho-Hubner C, Chiarelli F, Eliakim A, et al. Childhood obesity. *J Clin Endocrinol Metab.* 2005;**90**(3):1871-87. doi: 10.1210/jc.2004-1389. [PubMed: 15598688].
2. Aziz S, Noorulain W, Zaidi UE, Hossain K, Siddiqui IA. Prevalence of overweight and obesity among children and adolescents of affluent schools in Karachi. *J Pak Med Assoc.* 2009;**59**(1):35-8. [PubMed: 19213375].
3. Fatima SS, Rehman R, Khan Y. Physical activity and its effect on forced expiratory volume. *J Pak Med Assoc.* 2013;**63**(3):310-2. [PubMed: 23914626].
4. Rehman R, ullah Shaikh S, Syed S, Shakeel N. Relationship of life style choices on body fat mass in young adults. *J Ayub Med Coll Abbottabad.* 2010;**22**(4):146-9. [PubMed: 22455284].
5. Bocarsly ME, Fasolino M, Kane GA, LaMarca EA, Kirschen GW, Karatsoreos IN, et al. Obesity diminishes synaptic markers, alters microglial morphology, and impairs cognitive function. *Proc Natl Acad Sci U S A.* 2015;**112**(51):15731-6. doi: 10.1073/pnas.1511593112. [PubMed: 26644559].
6. Martin A, Booth JN, Young D, Revie M, Boyter AC, Johnston B, et al. Associations between obesity and cognition in the pre-school years. *Obesity (Silver Spring).* 2016;**24**(1):207-14. doi: 10.1002/oby.21329. [PubMed: 26638123].
7. Masi S, Khan T, Johnson W, Wong A, Whincup P, Kuh D, et al. 4c.01: Lifetime Obesity, Cardiovascular Disease and Cognitive Function: A Longitudinal Study from the 1946 Birth Cohort. *J Hypertens.* 2015;**33** Suppl 1:56. doi: 10.1097/01.hjh.0000467495.37471.23. [PubMed: 26102857].

8. Bustamante EE, Williams CF, Davis CL. Physical Activity Interventions for Neurocognitive and Academic Performance in Overweight and Obese Youth: A Systematic Review. *Pediatr Clin North Am.* 2016;**63**(3):459-80. doi: [10.1016/j.pcl.2016.02.004](https://doi.org/10.1016/j.pcl.2016.02.004). [PubMed: [27261545](https://pubmed.ncbi.nlm.nih.gov/27261545/)].
9. Mistry SK, Puthussery S. Risk factors of overweight and obesity in childhood and adolescence in South Asian countries: a systematic review of the evidence. *Public Health.* 2015;**129**(3):200-9. doi: [10.1016/j.puhe.2014.12.004](https://doi.org/10.1016/j.puhe.2014.12.004). [PubMed: [25746156](https://pubmed.ncbi.nlm.nih.gov/25746156/)].