

## SHORT COMMUNICATION

# CHILDHOOD OBESITY: NUTRITIONAL TRANSITION OF BANGLADESH

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### Abstract:

*Childhood obesity has been a major public health concern in many high income countries. In middle income countries, like Bangladesh, the coexistence of obesity and underweight makes the situation more grievous. It creates a transitional status in the childhood nutrition in Bangladesh. The priority is to identify the overall picture of obesity status in our country. In this review article we try to identify the transitional situation of childhood nutrition and the importance of finding out the overall picture of childhood obesity throughout the country.*

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### Introduction:

Obesity is one of the major public health problems among children and adults.<sup>1, 2</sup> Overweight or obese may be termed as the range of weights for individuals if greater than the ideal weight, which is considered healthy for the particular height. The prevalence of obesity is very high in high income countries and many of them have declared obesity an epidemic.<sup>3</sup>

In the United States the rate of overweight and obesity among children and adolescents aged 6 to 18 years increased to more than 25% in the 1990s from 15% in the 1970s.<sup>4</sup> The prevalence of overweight/obesity in urban children in Delhi has shown an increase from 16% in 2002 to about 24% in 2006-2007.<sup>5</sup> Despite a major reduction in child being under-nutrition and undersize over the last three years, there has been a considerable increase in obesity among

The dual burden of developing country, Bangladesh, where underweight and overweight coexist among the children, creates so many health problems.<sup>7</sup> Rapid urbanization and industrialization are changing the food habits resulting in socio-economic, demographic and cultural changes leading to nutritional transition in low income countries.<sup>8</sup>

### Overall situation:

Worldwide economic growth has been accompanied by an increase in food availability, animal fat intake,

less physical activity and urbanization.<sup>9</sup> This nutritional transition has been changing anthropometric and health patterns throughout populations, having special impact in low and middle-income countries.

Underweight and stunting have been dropping in low and middle-income countries, mainly in children under 5 years<sup>10</sup>; but overweight depicts diverse distribution and rates between children populations.<sup>10, 11</sup> Since 1990, overweight rates have been raising in children from high and low-income countries.

However, children from some middle income societies depict a slight decrease in over-nutritional indicators, suggesting a diverse nutritional transition in children of preschool age<sup>10</sup>; and that country's development and economic growth may play an important role.

In the last few decades, global age-standardized obesity prevalence has nearly doubled and developing countries appear to be at the forefront of this trend and rapid nutritional changes in urban settings might explain the over-nutrition climb.<sup>12</sup>

The prevalence of malnutrition in Bangladesh is still high. Millions of children suffer from one or more forms of malnutrition including low birth weight, wasting, stunting, underweight, Vitamin A deficiencies, iodine deficiency disorders and anemia.

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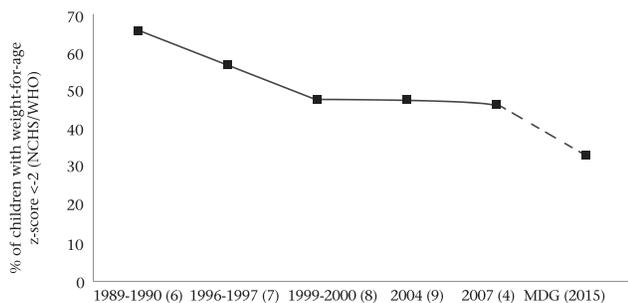
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Bangladesh has made good progress in the past decade although. Malnutrition rates have seen a marked decline in Bangladesh throughout the 1990s, but remained high at the turn of the decade. Nationally, 41% of children under five years are moderately to severely underweight and 43.2% suffer from moderate to severe stunting.<sup>13,14,15</sup>

Childhood stunting has fallen from 71% to 37% between 1986 and 2013, in line with a

decrease of childhood stunting from 40% to 27% globally and from 49% to 28% in Asia between 1990 and 2010 (GNR). Surveillance data (FSNSP 2013) shows the national level of stunting to be below the WHO cut-off for very high prevalence.<sup>16</sup>

However, recent national analysis shows that 39 out of 63 Districts still have stunting rates above WHO critical threshold level for stunting (40%).<sup>17</sup>



**Figure:** Line Chart showing trends in prevalence of Child(0-59 months) Undernutrition in Bangladesh<sup>20</sup>

Although under-nutrition is still high in Bangladesh, it is evident from various national health survey and pilot studies under-nutrition has fallen to a great extent.

On the contrary, childhood obesity is increasing day by day specially in urban areas of Bangladesh. There is no national data regarding prevalence the childhood obesity in the whole country. But various sample based studies show increasing trend of childhood obesity.

## References

- Centers for Disease Control and Prevention, Overweight and obesity; Defining overweight and obesity.
- Theodore LA, Bray MA, Kehle TJ. Introduction to the special issue: Childhood obesity. *Psychol Sch.* 2009;46:693-4. <https://doi.org/10.1002/pits.20408>
- Environmental contributions to the obesity epidemic. Hill JO, Peters JC. *Science.* 1998 May 29; 280(5368):1371-4. <https://doi.org/10.1126/science.280.5368.1371> PMID:9603719
- Wang Y, Lobstein T. Worldwide trends in childhood overweight and obesity. *Int J PediatrObes.* 2006;1:11-25. <https://doi.org/10.1080/17477160600586747>. PMID:17902211
- Bhardwaj S, Misra A, Khurana I, Gulati S, Shah P, VikramN.K. Childhood obesity in Asian Indians: a burgeoning cause of insulin resistance, diabetes and sub-clinical inflammation. *Asia Pac J ClinNutr* 2008;17:172-75.
- Mohsin F, Tayyeb S, Baki A, Sarker S, Zabeen B, Begum T et al. Prevalence of obesity among affluent school children in Dhaka. *Mymensingh Med J* 2010 ;19:549-54.
- The dual burden household and the nutrition transition paradox. Doak CM, Adair LS, Bentley M, Monteiro C, Popkin BM. *Int J Obes (Lond).* 2005 Jan; 29(1):129-36. <https://doi.org/10.1038/sj.ijo.0802824>. PMID:15505634
- The nutrition transition in low-income countries: an emerging crisis. Popkin BM. *Nutr Rev.* 1994 Sep; 52(9):285-98. <https://doi.org/10.1111/j.1753-4887.1994.tb01460.x> PMID:7984344
- Drewnowski A, Popkin BM (1997) The nutrition transition: new trends in the global diet. *Nutr Rev* 55: 31-43. <https://doi.org/10.1111/j.1753-4887.1997.tb01593.x> PMID:9155216
- WHO U, World Bank (2012) Level & Trends in Child Malnutrition. UNICEF-WHO-The World Bank: Joint child malnutrition estimates - Levels and trends.
- Wang Y, Monteiro C, Popkin BM (2002) Trends of obesity and underweight in older children and adolescents in the United States, Brazil, China, and Russia. *Am J ClinNutr* 75: 971-977. <https://doi.org/10.1093/ajcn/75.6.971> PMID:12036801
- Stevens GA, Singh GM, Lu Y, Danaei G, Lin JK, et al. (2012) National, regional, and global trends in adult overweight and obesity prevalences. *Popul Health Metr* 10: 22. <https://doi.org/10.1186/1478-7954-10-22>. PMID:23167948 PMID:PMC3543235
- Bangladesh Demographic and Health Survey, 2007.
- Helen Keller International / Institute of Public Health and Nutrition, 2002
- Child and Mother Nutrition Survey of Bangladesh, 2005.
- World Health Organization (WHO), 2010. Nutritional Landscape Information System (NLIS): Country profile indicators - Interpretation guide. Geneva, Switzerland.
- BBS, WFP, IFAD, 2014. Undernutrition Maps, 2012.
- Rahman SMM, Akhter BMD, Siddique MZA, Rashid M. Prevalence of childhood Obesity in Dhaka city. *MMJ* 1998;7:3-6.
- Bulbul T, Hoque M. prevalence of childhood obesity and overweight.
- Ahmed T, Mahfuz M, Ireen S, Ahmed AMS, Rahman S, Islam MM, et al. Nutrition of children and women in Bangladesh: trends and directions for the future. *J Health PopulNutr BioMed Central.* 2012;30:1. <https://doi.org/10.3329/jhpn.v30i1.11268>. PMID:22524113 PMID:PMC3312353