

# Risk Factors of Non-Communicable Diseases in Iranian Children: The 25 × 25 Target

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Received 2016 February 23; Accepted 2016 November 26.

**Keywords:** Non-Communicable Diseases, Children, Adolescent

## Dear Editor,

Non-Communicable Diseases (NCDs) are among the most prevalent causes of mortality worldwide, especially in the developing countries (1). Four important and prevalent NCDs are cardiovascular and chronic pulmonary diseases, cancer, and diabetes. NCDs have four common risk factors: Unhealthy diet, cigarette smoking, excessive alcohol consumption, and physical inactivity. The world health organization (WHO) proposed a plan to reduce NCDs premature deaths 25% by 2025 which is called 25 × 25 target. Based on the WHO reports, to achieve this reduction in risk factors, it is required to have a 30% reduction in salt/Na intake, 30% in tobacco use, 25% in hypertension, 10% physical inactivity, 10% in harmful use of alcohol, and no increase in diabetes and obesity (2).

There is no doubt that one of the most important periods of time to control the risk of NCDs is during childhood and adolescence. If policymakers can modify lifestyles from childhood, prevalence of NCDs could be reduced and controlled. The current study aimed at investigating NCDs risk factors in children and adolescents in Birjand, Eastern Iran, to evaluate whether the 25 × 25 target is achievable in 2025 under the current circumstances.

To answer this question, the current study presented the results of a study on children and adolescents in Birjand, 2012. In the mentioned cross sectional study, 4500 children and adolescents 7 to 18 years old were randomly evaluated for NCDs risk factors. Results are summarized in Table 1. Prevalence of obesity (9.2%) and overweight (9.6%) were more common in children than adolescents; however, hypertension (7.7%), diabetes (3%), and dyslipidemia (34.3%) were more prevalent among 11 to 18 year olds in 2012.

The study of overweight and obesity in children and adolescents from 2005 to 2012 also showed that the prevalence of cases with obesity and overweight had risen due to changes in food choices, inactivity, and spending a lot of time on media (3). A further study regarding preva-

lence of dyslipidemia and lipid profiles from 2006 to 2012 in Birjand found that hypercholesterolemia, hypertriglyceridemia, higher level of low density lipoprotein (LDL) and lower level of high density lipoprotein (HDL) of the subjects increased over 6 years (4). According to European Association for the Study of Obesity, over the past 2 decades, the prevalence of overweight and obesity in adolescents has dramatically increased in the developed countries (5). Studies showed that 1.2 million children and adolescents under 20 died of NCDs in 2002 and more than 25% of adolescents with obesity had signs of diabetes; 90% of 1 million children are born annually with cardiovascular problems, and smoking is the cause of respiratory infections in children (6). The number of children and adults with obesity and overweight is rising in low-income Asian and African countries. Therefore, the spread of NCDs presents a global concern in almost all developed and developing countries and all high risk groups (7). Due to the importance of NCDs in the field of health, policy makers suggest to use audiovisual media to promote culture of consuming healthy foods and regular physical activity in childhood. Therefore, extensive basic interventions are needed to educate health professionals and health staff related to children and adolescents, and the family education with practical principles of a healthy lifestyle and providing proper facilities in this regard. On the other hand, it is useful to educate children and adolescents to enable this age group ascertain the correct method of family life. According to the motto of the World Heart Federation in 2004, the most effective strategy to prevent chronic diseases in adulthood is educating children and adolescents for a healthy lifestyle.

## References

1. WHO. World health statistics. 2010.
2. Siadat M, Kazemi T, Hajhosseini M. Cardiovascular Risk-Factors in the Eastern Iranian Population: Are We Approaching 25x25 Target?. *J Res Health Sci.* 2016;16(1):51-2. [PubMed: 27061998].

**Table 1.** NCDs Risk Factors Among Children and Adolescents in Birjand, East of Iran, 2012<sup>a</sup>

| Population, y | Overweight | Obesity | Hypertension | Diabetes | Dyslipidemia |
|---------------|------------|---------|--------------|----------|--------------|
| 7 - 11        | 9.6        | 9.2     | 7.4          | 0.3      | 31           |
| 11 - 18       | 6.5        | 8.2     | 7.7          | 3        | 34.3         |

<sup>a</sup>Value are expressed as number percent.

3. Taheri F, Kazemi T. Increased prevalence of overweight and obesity in birjand adolescents aged 15-18 years from 2005 to 2012. *Iran J Pediatr.* 2013;**23**(6):720-1. [PubMed: [24910764](#)].
4. Taheri F, Kazemi T, Fesharakinia A. Alarming increase in the prevalence of childhood dyslipidemia in elementary schoolchildren in East of Iran. *J Res Med Sci.* 2014;**19**(4):383-4. [PubMed: [25097616](#)].
5. Hallstrom L, Labayen I, Ruiz JR, Patterson E, Vereecken CA, Breidenassel C, et al. Breakfast consumption and CVD risk factors in European adolescents: the HELENA (Healthy Lifestyle in Europe by Nutrition in Adolescence) Study. *Public Health Nutr.* 2013;**16**(7):1296-305. doi: [10.1017/S1368980012000973](#). [PubMed: [22494882](#)].
6. Proimos J, Klein JD. Noncommunicable diseases in children and adolescents. *Pediatrics.* 2012;**130**(3):379-81. doi: [10.1542/peds.2012-1475](#). [PubMed: [22891233](#)].
7. Tunstall-Pedoe H. Preventing Chronic Diseases. A Vital Investment: WHO Global Report. Geneva: World Health Organization, 2005. pp 200. CHF 30.00. ISBN 92 4 1563001. Also published on [http://www.who.int/chp/chronic\\_disease\\_report/en](http://www.who.int/chp/chronic_disease_report/en). *Int J Epidemiol.* 2006;**35**(4):1107.