

SHORT COMMUNICATION

Alarming prevalences of overweight and obesity for children of Turkish, Moroccan and Dutch origin in The Netherlands according to international standards

A. MIRANDA FREDRIKS, STEF VAN BUUREN, REMY A. HIRA SING, JAN MAARTEN WIT & S. PAULINE VERLOOVE-VANHORICK

TNO Prevention and Health, Leiden, and Department of Pediatrics, Leiden University Medical Center, The Netherlands

Abstract

Aim: Prevalences of overweight in The Netherlands, defined by international cut-off points, are presented in 14 500 children of Dutch origin, 2904 of Turkish and 2855 of Moroccan origin, aged 0–21 y. *Results:* The mean prevalence for Turkish boys and girls was 23.4% and 30.2%, for Moroccans 15.8% and 24.5%, for Dutch youths in large cities 12.6% and 16.5%, and for other Dutch participants 8.7% and 11.3%, respectively.

Conclusion: The development of adequate prevention strategies is urgently needed.

Key Words: *Turkish, Moroccan, ethnicity, body mass index, overweight, The Netherlands*

Introduction

In The Netherlands, as in most industrialized countries, the prevalence of overweight and obesity in childhood has clearly increased in the last 20 years [1]. As obesity in childhood often tracks into adulthood, this may lead to a rapidly increasing prevalence of overweight and obesity in adulthood, with its well-known adverse effects on health. This obesity epidemic is expected to pose an increasingly major public health challenge.

While it is generally believed that it is necessary to develop primary prevention strategies, it is not yet clear how these should be targeted. In particular, it is uncertain whether prevention programmes should target high-risk groups or the population at large. For a well-balanced decision, it is important to establish which children and youths are at relatively high risk. Previously, we found that overweight was more frequent in Dutch children with low socio-economic status and in children living in a large city [1]. We now report the prevalence of overweight and obesity of

children of Turkish, Moroccan and Dutch origin in four large cities in The Netherlands, and we compare this with Dutch children not living in large cities.

In the fourth Dutch Growth Study (1996–1997) [1], data were collected on 14 500 children of Dutch origin, nationwide, and 2904 children of Turkish [2] and 2855 children of Moroccan [3] origin in four large cities (Amsterdam, Rotterdam, Utrecht, The Hague), in the age range 0–21 y. Children were allocated to Dutch, Turkish and Moroccan groups if both biological parents were born in The Netherlands, Turkey or Morocco, respectively. Children with known growth disorders and those on medication known to interfere with growth were excluded. Children were measured according to protocol by trained staff in well baby clinics, in school healthcare and at schools. In these representative samples, body mass index (BMI) was compared with the International Obesity Task Force (IOTF) standard [4]. The percentages of boys and girls aged 2–20 y exceeding the IOTF age- and sex-specific cut-off points for overweight and obesity were calculated (Figure 1). For 19 and 20 y, we calculated the

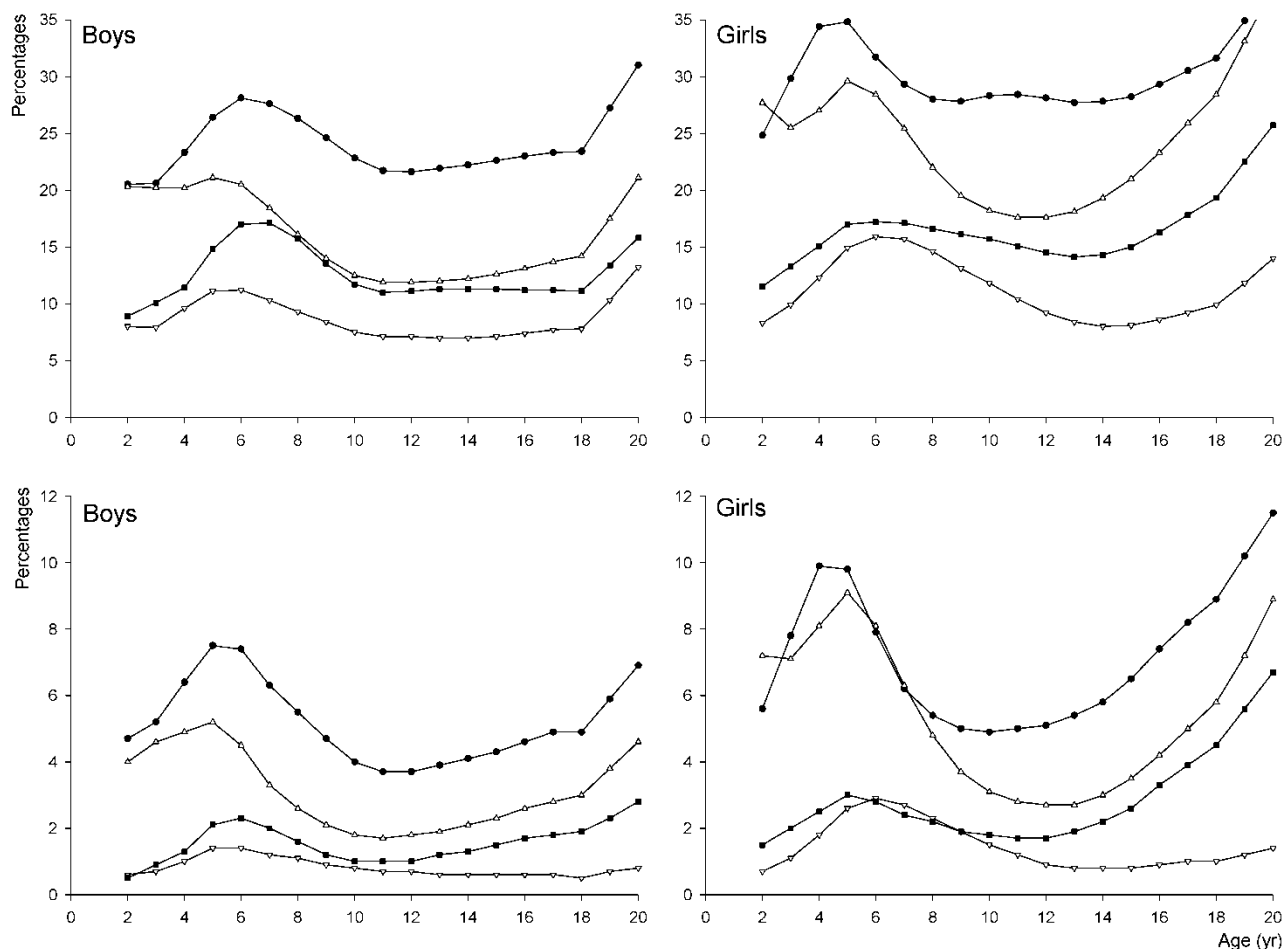


Figure 1. The percentages boys and girls aged 2–20 years, with overweight (top) and obesity (bottom) according to the international standard. (●) Turkish origin, (△) Moroccan origin, (■) Dutch origin living in the large cities and (▽) Dutch origin living in the other parts of the Netherlands.

same cut-off values as for 18-y-olds, i.e. 25 kg/m² and 30 kg/m² (females and males, respectively), as they are generally accepted cut-offs for adults. The category overweight includes the category obesity.

Average overweight (obesity) prevalences across age groups for Turkish boys and girls were 23.4% and 30.2% (5.2% and 7.2%), for Moroccans 15.8% and 24.5% (3.1% and 5.4%), for Dutch in the large cities 12.6% and 16.5% (1.6% and 2.8%), and for the remaining Dutch children 8.7% and 11.3% (0.8% and 1.4%), respectively. For all groups of children living in the large cities, we found significant associations between overweight and ethnicity, parental education (negatively), and gender (positively for girls). The effect of parental education vanished when the relation between education and overweight was corrected for ethnicity and gender.

This study shows high prevalences of overweight and obesity in all children, even more so in children of Turkish and Moroccan origin. The high prevalences of overweight and obesity at all ages, but particularly in

urban areas and especially the peak between 4 and 7 y of age, are alarming and call for appropriate interventions. This peak indicates that the overweight prevalence for older children may rise further in the coming years. There are several possible explanations, either alone or in combination. We favour the explanation that the trough in BMI during this age period in age reference diagrams (such as the IOTF curve) means that the child can easily change from “normal” to overweight, even if the BMI stays the same or decreases only slightly. So, the natural pattern of BMI in this age group may favour the greater increase of the prevalence of overweight and obesity. An alternative explanation is that, in this age group, the greatest change in eating pattern and physical activity has occurred, or that the body is more sensitive to such changes.

The sex difference is obvious, particularly in the Moroccan group; girls have higher prevalences than boys. However, these results have to be treated cautiously, as it has been shown that sex differences in the United Kingdom are largely the result of averaging

across six datasets to produce standards [5]. A similar discrepancy was found in The Netherlands in a comparison to the 1980 references, in which the prevalence of overweight in girls and boys was similar. It is unclear whether the difference between Turkish and Moroccan children is due to genetic or to cultural factors. Both prevalences are comparable to the alarming data from the United States [2,3]. In Dutch children nationwide, we found a twofold increase in overweight since 1980 [1], and the obesity prevalence tripled. The present Dutch overweight prevalence is similar to that of the United Kingdom (1994) [6].

The rise of the prevalence of obesity in Dutch children over the last 20 years is attributed to an increasing sedentary lifestyle and the consumption of more energy-rich food. Besides these environmental influences, genetics are also believed to play a role, in the sense that in the same environment certain individuals are programmed to be obese as children while other individuals are not (gene–environment interaction).

With regard to the different prevalences in Dutch, Turkish and Moroccan children, it is plausible that most of the excess overweight in the immigrant groups is due to genetics and inter-generational gene–environment interaction. In addition, a different eating pattern and cultural norms that do not recognize obesity as a problem may play a role. An effect of early programming seems less likely, as average birthweights of immigrant children are close to those of Dutch babies. In immigrants, overweight and obesity are not only prevalent in children and youths, but also in adults. For example, 52% of Moroccan women, either living in Morocco or in The Netherlands, are overweight, and 22% are obese [5–8]; higher figures than observed in Dutch adults. In Morocco, the main goals of prevention are to change cultural norms that

do not recognize obesity and to lower the high intake of carbohydrates, but results are not yet known [9].

In conclusion, these overweight and obesity prevalences call for the development of effective prevention strategies, either for all children or targeted towards those living in urban areas, with special emphasis on Turkish and Moroccan children, in order to avoid greater pressure on future healthcare caused by obesity-related disorders.

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