



Prevalence of Overweight and Obesity in Turkey

Cihangir Erem*



Karadeniz Technical University Faculty of Medicine, Department of Internal Medicine, Division of Endocrinology and Metabolism, Trabzon, Turkey

ARTICLE INFO

Article history:

Received 27 April 2015

Received in revised form 6 July 2015

Accepted 13 July 2015

Available online 16 July 2015

Keywords:

Obesity
Prevalence
Turkey

ABSTRACT

Obesity is a major public health problem affecting an important proportion of the Turkish population. The prevalence of obesity has significantly increased among adult Turkish population over the past 20 years. In 1990, 18.8% of the adult population was obese (28.5% among women and 9% among men), and the prevalence increased to 36% in 2010 (44% among women and 27% among men). From the data, we found that the prevalence of obesity in Turkey has increased steadily from 1990 to 2010 in both genders. Adult obesity-associated risk factors are age, gender, hypertension, hyperlipidemia, smoking cessation, alcohol consumption, high household income, low education level and physical activity, occupation, marital status and a family of selected medical conditions (e.g. obesity, diabetes and hypertension). To control obesity, necessary precautions should urgently be taken. The precautions include serious public health education encouraging a well-balanced diet and increasing physical activity.

© 2015 Published by Elsevier Ireland Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

1. Introduction

Obesity is a major and widespread public health problem in the world, with significant medical (e.g. type 2 diabetes mellitus, cardiovascular and cerebrovascular diseases, digestive and respiratory disorders, and cancer) psychosocial and economical consequences [1]. It is a major independent risk factor for the development of hypertension, type 2 diabetes, and dyslipidemia [1,2]. Prevalence of obesity is increasing rapidly across the country over the last 3 decades, and this trend will continue not only in developed countries, but also in developing countries [3].

Turkey has a population of about 76.7 million people with growing economy. The prevalence and problem of overweight/obesity has increased significantly in the last 2 decades in both adults and children. Adult and childhood obesity has become an important and alarming health issue in Turkey [4–6].

The aim of this report is to describe the trends in the prevalence of overweight and obesity among both adult and pediatric population in Turkey from 1990 to 2010.

2. Definition of obesity and overweight

Overweight and obesity in adults were defined by the International Obesity Task Force/World Health Organization as: normal weight;

body mass index (BMI) of 18.5–24.9 kg/m²; overweight; BMI of 25–29.9 kg/m²; obese; BMI of ≥30 kg/m² [7]. Surveys on the determination of overweight and obesity prevalence in the last 20 years in Turkey were reviewed. Included studies are presented in Table 1 [8–28].

In addition, according to the WHO report published in 2007, growth reference values for children and adolescents in 5–19 years age group were calculated on the basis of the BMI value [29]. Children with a BMI value between 85th to 95th percentile are considered overweight; those with a BMI ≥ 95th percentile are considered to be obese.

3. Prevalence of obesity in adults

The national and local epidemiological studies indicate that the prevalence and trend of obesity have significantly increased from 1990 to 2010 (Table 1). Among adults, using the WHO criteria, in 2010, the prevalence of obesity in adults was approximately 2.0 times higher than that in 1990 (18.8% vs 36%). Local studies show that the prevalence of adult obesity was 19.2% and 34.4% (unpublished data), respectively, in general between 1995 and 1997 and 2012 in Trabzon city. The prevalence has increased approximately 1.8 times the last 15 years in Trabzon city.

From the series of national epidemiological surveys, we found that the prevalence of obesity has increased significantly in the past 20 years in both women and men, especially in men. These results from different time periods show that obesity is an important and a serious public health problem in Turkey. In fact, the increase in the prevalence of overweight and obesity has become an epidemiological emergency in Turkey.

* K.T.Ü. Tıp Fakültesi, İç Hastalıkları Anabilim Dalı, Endokrinoloji ve Metabolizma Hastalıkları Bilim Dalı, 61080 Trabzon, Turkey. Tel.: +90 462 3775449; fax: +90 462-325 22 70.

E-mail addresses: cihangirerem@hotmail.com, cerem@ktu.edu.tr.

Table 1
Selected surveys on overweight/obesity prevalence among adults in Turkey.

Study	Year	Location	Sample size	Age (Years)	Prevalence (%)	
					Overweight	Obesity
Onat et al. [8]	1990	National	3687	≥30	–	M: 9, F: 28.5, T:18.8
Onat et al. [9]	1997/98	National	1805	≥30	–	M: 18.7, F: 38.8, T:28.9
Satman et al. [10]	1997/98	National	24.788	≥20	T: 35	M: 12.9, F:29.9, T:22.3
Delibasli et al. [11]	1999/2000	National	8674	≥18	M:17.4, F:20.4, T:19	M: 7.8, F: 22.1, T:15.6
Onat et al. [12]	2000	National	2331	≥30	–	M: 21, F: 43, T:32.7
Hatemi et al. [13]	2000	National	20.119	≥20	M:25.9, F:24.3, T:25	M: 14.4, F: 24.6, T:19.4
Sanisoglu et al. [14]	2000–2002	National	15.468	≥30	–	M: 21.2, F: 41.3, T:35.1
METSAR group [15]	2004	National	4264	≥20	–	M: 27.7, F: 45.3, T:39.7
Gundogan et al. [16]	2003–2005	National	4309	≥20	T: 37.0	M: –, F: –, T:36.7
Gültekin et al. [17]	2004–2005	National	2100	≥18	M:38, F:30.9, T:34.4	M: 20, F: 34.2, T:27.1
Satman et al. [18]	2009/2010	National	26.499	≥20	T: 37	M: 27, F:44, T:36
Gündogan et al. [19]	2003–2005	Regional	767	≥20	M:43, F:30.6, T:36.2	M: 32.9, F: 53.2, T:44.1
Erem et al. [20]	1995–97	Trabzon city	2646	≥20	M:46.5, F:36.5, T:41.4	M: 10.7, F: 27.4, T:19.2
Gokcel et al. [21]	2001/2002	Adana city	1637	≥20	T: 34.9	M: –, F: –, T:43.4
Yumuk et al. [22]	2001	Konya city	12.866	≥20	M:38.7, F:34.1, T:36.2	M: 16.8, F: 36.3, T:27.4
Erem et al. [5]	2001–2003	Trabzon city	5016	≥20	M:46.5, F:28.6, T:36.8	M: 16.5, F: 29.4, T:23.5
Erem et al. [23]	2003–2005	Trabzon city	4809	≥20	M:43.4, F:30.8, T:36.6	M: 19.2, F: 39.3, T:30
Ozcirpici et al. [24]	2003	Gaziantep city	1647	≥19	M:38.2, F:34.5, T:35.9	M: 14.7, F: 33.7, T:26.4
Dogan et al. [25]	2005–2006	Afyonkarahisar city	1947	≥18	M:38.8, F:33.8, T:36.0	M: 20.7, F: 39.8, T:31.7
Sahin et al. [26]	2007	Kayseri city	1530 (only men)	≥19	M:38.9	M: 16.84
Unal et al. [27]	2007–2009	Izmir city	16,080	≥30	M:48.7, F:31.4, T:37.4	M: 29.4, F: 44.2, T:39.1
Ustu et al. [28]	2008	Tokat city	5162	≥18	M:27.6, F:34.2, T:30	M: 33.6, F: 22.3, T:29.5
Erem et al. *	2009–2012	Trabzon city	5016	≥20	T: 36.2	T:34.4

M, male; F, female; T, total; * Unpublished data.

The increasing prevalence of overweight and obesity is higher in Turkey than in the countries of Europe, where the prevalence of obesity in men ranges from 4.0% to 28.3% and in women from 6.2% to 36.5% [30]. However, the prevalence of obesity in Turkish adults is similar to that of United States of America, where 35.6% of population aged 20 and over were obese in 2010 [31].

4. Prevalence of obesity in children

There are no systematic national studies investigating the prevalence and trends of obesity in Turkish children. However, Atay et al. reported, in a study involving 6–16-year-old girls living in Istanbul, that the overweight and obesity rate was 17.9 in 2001 and increased to 23.4% in 2009 [32].

In addition, several local studies performed between 2001 and 2011 in different regions of the country have demonstrated varying prevalence rates of 8.3–22.4% and 1.6–10.6 for overweight and obesity, respectively (Table 2) [33–47]. These differences in the prevalence rates are thought to be due to variations in the subject sampling [6].

Epidemiological, clinical and experimental studies have shown that there is a relationship between the prenatal nutritional environment and the major risk factors (obesity, hypertension, insulin resistance, diabetes, and metabolic syndrome) for cardiovascular disease (CVD) in adult life [48]. Children obesity is important factor of developmental programming of adult metabolic syndrome, cardiovascular diseases, infertility, allergy, cognitive and bipolar disorders [48–50]. Maternal nutrition or endocrine profile during gestation is probably an important determinant of metabolic programming. Yura et al. reported that the premature leptin surge changes energy regulation by the hypothalamus [49]. The timing neonatal leptin surge determined by fetal nutrition contributes to the development of accelerated obesity in later life. Many, but not all, obese children will become obese adults. The likelihood of persistence of childhood obesity into adulthood is related to age, parental obesity, and severity of obesity [51]. Also, obesity during adolescence increases the risk for disease and premature death during adulthood, independent of obesity during adulthood [52–54]. There is an association between obesity during childhood and CVD including ischemic heart disease [52]. Moreover, Juonala et al. reported that individuals with persistent obesity from childhood through adulthood had

Table 2
Selected surveys on overweight/obesity prevalence among children in Turkey.

Study	Year	Location (City)	Sample size	Age (Years)	Prevalence (%)	
					Overweight	Obesity
Turan et al. [33]	2001	Istanbul	1311	3–18	T: 17.6	T:4.3
Turkkahraman et al. [34]	2002/2003	Antalya	2465	6–17	M:12.8, F:15.8, T:14.3	M: 3.9, F: 3.2, T:3.6
Uckun-Kitapci et al. [35]	2004	Ankara	1647	10–16	T: 10.7	T:3.6
Krassas et al. [36]	2004	Kayseri	3703	6–17	T: 10.6	T:1.6
Discigil et al. [37]	2005	Aydin	1348	6–16	M:11.6, F:12.7, T: 12.2	M:3.76, F:3.66, T:3.71
Pirincci et al. [38]	2007	Elazig	3642	6–11	M:13.9, F:12.5, T:13.2	M: 2.0, F: 1.2, T:1.6
Saglam et al. [39]	2008	Bursa	5368	6–12	M:10.7, F:14.3, T:12.4	M: 8.5, F: 11.7, T:10
Simsek et al. [40]	2008	Bolu	6924	6–17	M:8.9, F:11.9, T:10.3	M: 7.0, F: 5.4, T:6.1
Kalkan Ucar et al. [41]	2009	Izmir	11.629	2–15	T: 9.9	T:6.3
Cizmecioglu et al. [42]	2009	Kocaeli	2491	10–19	T: 11.5	M: –, F: –, T:6.8
Dundar et al. [43]	2009	Samsun	2477	11–14	M:27.9, F:16.6, T:22.4	M: 10.9, F: 9.6, T:10.3
Kondolot et al. [44]	2009/2010	Kayseri	2683	0–7	T: 10	T:4.9
Yuca et al. [45]	2010	Van	9048	6–18	M:10.9, F:11.4, T:11.1	M: 2.1, F: 2.3, T:2.2
Ercan et al. [46]	2010/2011	Ankara	8848	11–18	M:6.1, F:10.6, T:8.3	M: 7.0, F: 8.4, T:7.7
Inanc et al. [47]	2011	Mardin	3460	6–15	T:15.8	M: 12.0, F: 9.1, T:10.6

M, male; F, female; T, total.

Download English Version:

<https://daneshyari.com/en/article/2927231>

Download Persian Version:

<https://daneshyari.com/article/2927231>

[Daneshyari.com](https://daneshyari.com)