



ORIGINAL RESEARCH PAPER

Medicine

OBESITY STATUS IN PRIMARY HEALTH CARE WORKERS IN WEST TURKEY

**KEY WORDS:** Obesity, health worker, body mass index

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ABSTRACT

**Aim:** This study's purpose was to evaluate of obesity status among primary health care workers West Turkey.  
**Methods:** The cross sectional study realized between from January 2012 to June 2012. In Izmir Public Health Directorate, a total of 3.013 health workers, including 1.134 Family Physicians (PH), 1114 Family Health Personnel (FHP) and 1.569 Community Health Centers (CHC) health workers participated in the study (95.1% of target population). Participants were asked to provide information about occupation, age, height, weight, waist and hip circumference. Body Mass Index (BMI) was calculated. Qui square and student t test were used for statistical analyses. Statistical analyzes were performed with SPSS 11.5 statistical package program.  $p < 0.05$  was accepted for statistical significance.  
**Results:** 64.7% of health workers were females ( $n = 1.950$ ). The average age was  $40.71 \pm 8.30$  years. The average BMI was  $25.56 \pm 4.13 \text{ kg/m}^2$ . The males were higher average BMI than females ( $p < 0.001$ ). Total participants, 39.1% ( $n = 1.178$ ) of the health professionals were overweight and 13.5% ( $n = 407$ ) were obese. Overweight and obesity prevalence increased with age ( $p < 0.001$ ). The prevalence of overweight and obesity in physicians (46.4% and 18.5% respectively) was higher than that of midwives and nurses (32.2% and 9.0%, respectively) ( $p < 0.001$ ). The prevalence of abdominal obesity was 14.1% for all health care workers. This prevalence was higher in males than females (14.4% vs. 10.8%), ( $p < 0.001$ ).  
**Conclusion:** In this study, the prevalence of overweight and obesity was higher in males, 50 and over age group and physicians. It is recommended that proper nutritional habits be acquired in line with the requirements for health workers and various physical activity programs should be implemented.

Introduction:

According to organizational structure of Ministry of Health in Turkey, preventive health care services are administered by Turkey Public Health Institution. At the provincial level primary health care units are under administration of the Provincial Public Health directorate. Primary health care services are provided by family health centers (FHCs) and community health centers (CHCs) since 2003 which is the beginning year of Health Transformation Program (HTP). Family health centers (FHCs) provide preventive, screening, diagnostic, treatment, rehabilitative, and counselling services at the primary care level to the individuals who are registered to that family health care unit. On the other hand, CHCs provide community based services, control of communicable and non-communicable diseases, environmental and occupational health services, health promotion activities in the community, health education services, school health services such as vaccinations and statistical data collection from FHCs. Family physicians (FPs) are general practitioners and family medicine specialists that provide primary care to the people on their registration lists. FPs work in the clinic with one of the "family health workers" (FHWs) such as midwife, a nurse, or an emergency medicine technician and they form a family physician unit (1, 2, 3). One of non-communicable diseases, obesity is an important public health problem in Turkey also. "Obesity prevention and control program" (2010-2014) started to be implemented in Turkey. This program was extended for the years 2014-2017 (4). Under the heading "Studies on the Prevention of Obesity", the Ministry of Health's 2013-2017 Strategic Plan has the goal of "Raising awareness about obesity and the health risks that it creates throughout the society until 2017". In line with this objective, "Strategies for the dissemination of obesity prevention practices for risk groups (infants, children, pregnant and breastfeeding, elderly people, disabled persons, etc.) primarily in the context of preventive health and family medicine services" has been determined (5). By the TEKHARF 1990 and 2000, the prevalence of

obesity in Turkey was found to be 18.6% in 1990 and the prevalence of obesity in 2000 was 21.1% for adult males and 43% for adult females. Ten years later in 2000, the prevalence was 21.9%, which shows a relative increase rate of 17.7% (6, 7, 8). Turkey Nutrition and Health Survey (TNHS, 2010), the prevalence of overweight / obesity among 19 and over age population in Turkey was 30.3% and 34.6% respectively (9). In this case, control of obesity is gaining importance in primary health care institutions. What should be applied in approach to obese patients in primary health care institutions is as follows: 1) According to the BMI, determining the degree of excess weight, 2) evaluation of abdominal obesity, 3) evaluation of diseases other than obesity, 4) assessment of cardiovascular risk, 5) evaluation of other risk factors (8).

It is very important that primary health care workers, who play an effective role in the prevention and treatment of obesity, should pay attention to their own health first and be aware of the factors that affect their health status. This study realized with the aim of determining the prevalence of obesity, and to evaluate its possible effect factors in primary health care workers in Izmir, Turkey.

Material-Methods:

This study is a cross sectional. In within the scope of "Turkish Healthy Nutrition and Active Life Programme" carried out by the Ministry of Health, in order to determine the obesity prevalence and its possible effective factors, profession, age, height, weight, waist and hip circumference measurement information was desired from primary health care workers who worked in Province Public Health Directorate, FHCs and CHCs. The primary health care workers were realized measurements own height, weight, waist and hip circumference in Obesity Counseling Units or FHCs, and given information to researchers. Body mass indexes (BMI) of the health professionals were calculated by the height and weight information obtained. This study's period is between from January

to June 2012. It is planned to reach the entire target population. In Izmir Public Health Directorate, a total of 3013 health workers, including 1134 Family Physicians (PH), 1114 Family Health Personnel (FHP) and 1569 Community Health Centers (CHC) health workers participated in the study (95.1% of target population).

#### **Anthropometric measurements were made in accordance with standards:**

*Body weight measurement;* It was made with a digital scale sensitive to 100 gr. The weighing instrument is placed on a hard and flat surface. It is desirable to remove the thick clothes, the items in the pockets and the shoes. During the measurement, a constant distribution of body weight to two legs is provided. The individual is required to stand upright and stop moving.

*Height measurement;* while person stand in front of wall mounted height rod, it was measured with a ruler from the peak point of head.

Waist circumference measurement; World Health Organization's measurement technique is used. Accordingly, waist circumference; It is the measurement of the mid-point between the lower rib and the iliac bone (9, 10).

*Measurement of hip circumference;* The arms of the individual are standing, the feet are standing side by side and standing upright, the individual's gaze is parallel and parallel (Frankfort plane). Measurement was done from the right side of the individual. The highest point on the hip (side) is determined. Measurements of the hip circumference were performed with the tape (10).

*Waist circumference* is  $\geq 102$  cm for men,  $\geq 88$  cm for women and represents a significant risk increase for coronary heart disease and metabolic complications, and these values were accepted as "abdominal obesity" (11, 12).

All anthropometric measurements were based on the techniques used in the Turkish Nutrition and Health Survey-2010 and the WHO standards.

BMI is calculated by dividing body weight in kilograms by length in meters. BMI  $< 18$  kg / m<sup>2</sup> was thin, 18-24.9 kg / m<sup>2</sup> normal, 25-29.9 kg / m<sup>2</sup> overweight, and  $> 30$  kg / m<sup>2</sup> were considered to be obese (13).

During the study period, the researchers were in charge of administration in Izmir Public Health Directorate. Ethical approval of Izmir Public Health Directorate was obtained for the study.

Participants were informed about the study. The following explanation to them was given: "No drugs or chemicals will be given to your body. Blood or other substance from your body will not be taken as a research sample." Verbal approval was obtained from the participants.

The results of this study were presented as a poster at the 16th National Public Health Congress (Antalya, Turkey, 27-31 October 2013).

In the analysis of the data; categorical variables are given as percentages, continuous variables are given as mean  $\pm$  standard deviation. Chi-square test was used to compare categorical variables and student t-test was used to compare continuous variables. Statistical analyzes were performed with SPSS 11.5 statistical package program.  $p < 0.05$  was accepted for statistical significance.

#### **Results:**

In our study, 64.7% of the health workers were women (n = 1950) and 35.3% (n = 1063). The average age of the health workers was  $40.71 \pm 8.30$  years, height was  $1.66 \pm 0.08$  m, body weight was  $71.40 \pm 14.73$  kg, waist circumference was  $86.77 \pm 13.40$  cm, hip circumference was  $101.49 \pm 8.70$  cm and average BMI was  $25.56 \pm 4.13$  kg / m<sup>2</sup>. According to sex analysis; Male health workers had

higher values in terms of age, height, body weight, waist circumference, hip circumference and BMI values than females (p  $< 0.001$ ).

Percent distribution of some characteristics of participants was presented in Table 1.

When assessing BMI measurements; it was found that 2% (n = 59) of the health care workers were thin, 45.4% (n = 1369) were normal, 39.1% (n = 1178) were overweight and 13.5% (n = 407) were obese.

Average of age and body composition of participants was presented in Table 2.

The prevalence of overweight and obesity in male health workers (55.8% and 18.0%, respectively) was higher than that of women (30.0% and 11.1% respectively), (p  $< 0.001$ ).

Analyzing BMI according to age; overweight and obese health workers have a low prevalence (29.5%, 8.4% respectively) in the age group of 39 and below. However, 50 and over age group have a high prevalence (53.1% and 19.2%, respectively). Thus, we observed that overweight and obesity prevalence increases with age (p  $< 0.001$ ).

Analyzing BMI according to occupational groups; overweight and obese prevalence were significantly higher in physicians (46.4%, 18.5%) than the midwives / nurses (32.2% and 9.0%, respectively), (p  $< 0.001$ ).

When evaluating waist circumference measurement; the prevalence of abdominal obesity was 14.1% for all health care workers. This prevalence was higher in males than females (14.4% and 10.8%), (p  $< 0.001$ ).

Obesity status according to sociodemographic characteristics was presented in Table 3.

#### **Discussion:**

Overweight and obesity prevalence were found as 39.1% and 13.5%. Two-thirds of the participants were female and the average age was about 40. For Turkey 19 and over aged adult population, TNHS (2010) reported as 30.3% and 34.6% prevalence of overweight / obesity (9). In a study reporting that Turkey has higher obesity prevalence than European countries, the overweight prevalence was 40% and the obesity prevalence was 16% (14).

Obesity prevalence is also lower in our study. This may be due to the fact that primary health care workers are more conscious of obesity than the general population.

In our study, obesity prevalence was increasing in males and elderly. It has been reported that the prevalence of obesity is high in men and increases with age in a study conducted in Trabzon, 20 years and over in the population (15). A study from U.S. was reported that obesity prevalence have been increasing with increasing age in America, and obesity was increasing both men and women, and overweight prevalence in men was higher in women, and obesity prevalence in women was higher than men since 1980s (16, 17). Similar results reported from Turkey or countries around Turkey, such as Iran, Egypt, Saudi Arabia and Jordan (15, 18-25).

In our study, we observed higher overweight / obesity in physicians than midwives / nurses. We expected the opposite result because the midwives / nurses were mostly women. However, we must also consider that physicians are a more elderly group. By opinion of researchers, the real cause of this result that physicians have less physical activity and worse nutrition. Zhu et al. (26) were reported a systematic review about doctors' and nurses' own weight status and their weight management practices. By Zhu et al. (26), the final decision as follows: health professionals are not immune to overweight and obesity. Various studies' results as follows: 8%

of Canadian physicians were obese (27). From eleven European countries, 31.76% of general practitioners were overweight and 7.13% were obese (28). In the U.S., a survey of 760 nurses reported that almost 54% were overweight or obese (29). A recent report from the U.K. Department of Health reported that of the 1.2 million staff in the National Health Service, 300 000 would be classified obese and a further 400 000 as overweight (30). From Turkey, a survey realized among 182 doctors and 319 nurses at different hospitals and primary health care services in Afyonkarahisar. The obesity prevalence of health workers was reported 7.7 % that is smaller than the general obesity prevalence. These data show that the low obesity in health workers was related to their small ages, which are in agreement with other results (31).

At the end of this whole discussion, we cannot say that obesity is different in the health workers compared to the general population of the same age group and same sex group.

**Limitations:** In this study, results of waist / hip ratio and hip circumference were not presented because the results of hip measurement could not be obtained sufficiently.

**Conclusion:**

Overweight and obesity prevalence was found higher in males, in 50 and over age groups, and in physicians. We need to accept that health workers acquired unhealthy eating habits and adopt a sedentary lifestyle. Their work intensity and stress may cause them. It is recommended that proper nutritional habits be acquired in line with the requirements for health workers and various physical activity programs should be implemented.

**Table 1: Percent distribution of some characteristics of participants**

		n	%
<b>Gender</b>	Female	1950	64.7
	Male	1063	35.3
<b>Obesity status</b>	Thin	59	2.0
	Normal	1369	45.4
	Overweight	1178	39.1
	Obese	407	13.5

**Table 2: Average of age and body composition of participants**

Body composition	Average	Standard deviation
<b>Age</b>	40.71	8.30
<b>Height</b>	1.66	0.08
<b>Weight</b>	71.40	14.73
<b>Waist Circumferences</b>	86.77	13.40
<b>Body Mass Index</b>	25.56	4.13

**Table 3. Obesity status according to sociodemographic characteristics**

	Overweight %	Obesity %	p
<b>Gender</b>			
Male	55.8	18.0	<0.001
Female	30.0	11.1	
<b>Age</b>			
39 age and below	29.5	8.4	<0.001
50 and over	53.1	19.2	
<b>Occupational group</b>			
Physician	46.4	18.5	<0.001
Midwife / nurse	32.2	9.0	

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