

# Evaluation of the frequency and awareness of obesity among healthcare workers

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**Abstract. – OBJECTIVE:** The aim of this study is to determine the frequency of obesity in healthcare workers and to evaluate the awareness of obesity by using Obesity Awareness Scale.

**SUBJECTS AND METHODS:** This descriptive frequency study was conducted between January 1 and March 31, 2021, in 17 Family Health Centers in the Health Training and Research Area. 119 health personnel working in Family Health Centers were included in the study. The Body Mass Index (BMI) classification accepted by the World Health Organization for adults was used to determine obesity. Obesity Awareness Scale adapted to the Turkish language was used to evaluate obesity awareness.

**RESULTS:** The frequency of obesity among healthcare workers was 11.8% and overweight was 37.8%. 51.9% of physicians were overweight, 14.8% were obese; 38.5% of midwives were overweight, 15.4% were obese; 24.4% of the nurses were overweight and 9.8% were obese. The mean BMI of the participants was  $18.00 \pm 0.52$  for underweight,  $22.65 \pm 1.35$  for normal,  $27.32 \pm 1.43$  for overweight, and  $31.53 \pm 1.68$  for obese. The obesity awareness total score average of the participants was  $63.97 \pm 7.47$  (high level). According to the obesity awareness scale sub-dimension mean scores, obesity awareness was  $28.7 \pm 3.9$  (high), nutrition awareness was  $20.0 \pm 3.1$  (high), and physical activity was  $15.3 \pm 1.8$  (good).

**CONCLUSIONS:** The frequency of obesity was found to be low, and the awareness of obesity was found to be high among HCWs in Family Health Centers. In addition, obesity was mostly detected in physicians, midwives, and nurses. Urgent act policies are needed to encourage both patients and HCWs to the awareness and prevention of obesity and to have a healthy lifestyle.

*Key Words:*

Overweight, Obesity, Awareness, Frequency, Healthcare workers.

## Introduction

Obesity, a condition characterized by excessive fat accumulation and storage in the body, has become a global epidemic<sup>1,2</sup>. The increasing prevalence of obesity has turned into the main reason for metabolic disorders and an independent risk factor for all-cause of mortality in developed and developing countries<sup>2</sup>. In a systematic review<sup>3</sup> was shown that obesity was associated with significantly lower obesity-specific health-related quality of life (HRQoL) in all populations. Another systematic review<sup>4</sup> suggested that obesity was estimated in the range of 0.7-2.8% of a country's total health expenditures, causing approximately 30% more medical costs for obese individuals than their normal-weight peers.

Obesity affects approximately one in every 10 people and has become an important public health problem by causing morbidity and mortality in the general population<sup>1</sup>. HCWs might be role models to encourage people to the awareness and prevention of obesity and to have a healthy lifestyle. In contrast, similar to the general population, the increasing prevalence of obesity has affected healthcare workers (HCWs) and caused early retirement, chronic disease morbidity, and mortality among HCWs<sup>5</sup>. In a recent study<sup>6</sup> conducted in Malaysia 33.1% of healthcare workers were overweight and 21.1% were obese. In a study<sup>7</sup> focused on obesity among HCWs in England, the prevalence of obesity was found to be higher in nurses (25.1%), other health professionals (14.39%), and people working in non-health-related occupations (23.5%), but lower than informal care personnel (31.88%). Obesity rises the probability of musculoskeletal and mental health disorders and life-limiting diseases (cardiovascular disease, stroke, diabetes, etc.) in HCWs<sup>5,7,8</sup>. These conditions of illness have increased the absence ratios of work and become a potency matter

for the utility and sustainability of the healthcare system by remarkably decreasing the capability of the healthcare workforce in HCWs<sup>7</sup>.

The high prevalence of obesity and overweight in HCWs is an important public health problem that should be prevented. An accurate evaluation of the frequency and awareness of obesity among HCWs is required. Allen<sup>9</sup> developed a scale in the United States; this scale was aimed at measuring the effect of obesity awareness, nutritional habits, thoughts about physical activity, and obesity education on individuals. However, the prevalence and frequency of obesity have been mostly examined in current studies<sup>5,7,8,10,11</sup>, and the issue of obesity awareness among healthcare professionals has not been adequately investigated in Turkey. In this respect, our study can be considered one of the first studies conducted on HCWs using the Obesity Awareness Scale (OAS) in Turkey.

The aim of this study is to determine the frequency of obesity in HCWs and to evaluate the awareness of obesity by using OAS. In addition, this study can make important contributions to public health policies that focus on preventing obesity among HCWs.

## Subjects and Methods

### Study Area

Diyarbakir is a central south-eastern city of Turkey and has a total of 17 districts, 4 of which are near the center of the town. The Cooperation Protocol on the Establishment of a Health Training and Research Area (HTRA) was signed on July 31, 2018, between the Governorship of Diyarbakir and Dicle University. This cooperation aims to carry out scientific research to determine the health problems of the public in order to improve health services and support the Ministry of Health by providing feedback. Yenişehir, one of the central districts of Diyarbakir, was defined as the study area for HTRA. The total population of Diyarbakir province<sup>12</sup> in 2021 was 1,791,373, and the population of the Yenişehir district<sup>13</sup> was 217,012. In HTRA, 17 Family Health Centers (FHC) provide primary health care services with a total of 132 health personnel, including 54 general practitioners, 51 nurses, 13 midwives, 3 emergency medicine technicians (EMTs)/paramedics, and 11 medical secretaries.

### Study Design

Ethics committee approval and permission from the local health authority were obtained

before the study. This study was conducted as a descriptive, frequency study between January 1 and March 31, 2021, among HCWs working in HTRA Family Health Centers. Non-volunteers, participants with communication problems, non-HCWs in HTRA, and participants who gave incomplete answers to the survey questions were excluded from the study. No sample was calculated in this study. Informed consent was obtained from the participants, and 119 agreed to participate in the study. The variables of age, gender, marital status, occupation, duration of employment, and education of the participants were collected by face-to-face survey method. Also, the awareness of obesity was evaluated by using the Obesity Awareness Scale through a face-to-face survey method. Weight and height were measured by going to FHCs and using a mechanical personnel scale with a height gauge (KINLEE brand, JSA-180 model and serial No: 2015, CAP 180 kilograms, GRAD 1 kilograms, on the date of July 1, 2020, calibrated by the biomedical unit of Dicle University Medical Faculty Hospital). The measurements of participants were made with the heels together, without shoes, and wearing light clothing (without any equipment such as a phone, belt, etc.), with the arms at their sides and facing forward, in an upright position. Body mass index (BMI) was derived by dividing the measured weight (kilograms) of the participants by the square of their height (meters). BMI was categorized according to World Health Organization (WHO) criteria<sup>1</sup> for adults and defined as <18.5 kg/m<sup>2</sup> underweight, 18.5-24.9 kg/m<sup>2</sup> normal, 25.0-29.9 kg/m<sup>2</sup> overweight, ≥30.0 obese.

### Obesity Awareness Scale

Validity and reliability analysis of the OAS was performed in Turkey, and Cronbach's alpha value of general internal consistency was found to be 0.87 (strong level)<sup>14</sup>. The OAS<sup>9</sup> consists of 20 items in a 4-point Likert type (Table I). The scale has three sub-dimensions as obesity awareness, nutrition awareness, and physical activity awareness. The scale was scored as "1= I strongly disagree", "2= I disagree", "3= I agree", and "4= I totally agree". The evaluation was made on the scale total score of the participant. The obesity awareness scale total score was categorized as "0-20 Low, 21-40 Moderate", "41-60 Good", and "61-80 High". The mean score for the obesity awareness sub-dimension was categorized as "0-9 Low", "10-18 Moderate", "19-27 Good", and "28-36 High". The mean score for the sub-di-

**Table I.** The Obesity Awareness Scale.

Number	Opinions (Please choose one of the 4 boxes appropriate for you in the table below.) Answer with a sign as (X)	I strongly disagree	I disagree	I agree	I totally agree
1.	Childhood obesity is increasing within school, community, and country? (OA-3).	1	2	3	4
2.	It is important for families to eat together on most nights to be healthy? (NA-5)	1	2	3	4
3.	Obese children have a higher risk of developing health problems associated with their weight such as diabetes? (OA-2).	1	2	3	4
4.	Most obese children will outgrow their obesity and be a normal weight as an adult? (OA-7).	1	2	3	4
5.	Drinking 8 glasses of water every day is important to be healthy? (NA-6).	1	2	3	4
6.	Peer pressure (peers exercise and eating habits) plays a major role in causing obesity? (OA-8).	1	2	3	4
7.	Playing video games, watching TV, or spending time on the computer instead of playing outside or participating in a sport has a major role in causing obesity? (OA-4).	1	2	3	4
8.	If I don't do physical activity regularly, I feel restless. (NA-3).	1	2	3	4
9.	Obese children may have more problems with self-esteem and friendships? (OA-5).	1	2	3	4
10.	Magazines, movies, and TV commercials (media) all play a major role in causing obesity? (OA-9).	1	2	3	4
11.	Eating a variety of foods each day contributes to a healthy diet? (NA-1).	1	2	3	4
12.	It is important to eat a good, nutritious breakfast every morning to be healthy? (NA-2).	1	2	3	4
13.	Burning calories during exercise is essential in maintaining a healthy body weight. (PhAA-3).	1	2	3	4
14.	Poor eating behaviors such as eating junk food everyday has a major role in causing obesity?(NA-4).	1	2	3	4
15.	Exercising regularly can provide stress relief and relaxation? (PhAA -1).	1	2	3	4
16.	A BMI (body mass index) of 32 is a healthy BMI? (PhAA -5)	1	2	3	4
17.	Doing 30-60 minutes of moderate to vigorous exercise 3 days a week is sufficient to maintain a healthy body weight (PhAA -4).	1	2	3	4
18.	Walking for short distances (10 minutes) or doing minimal amount of activity is sufficient to be healthy and prevent poor health effects (PhAA -2).	1	2	3	4
19.	If other people in your family are obese, you are more likely to become obese? (OA-6).	1	2	3	4
20.	Being a normal weight is important for me to be a healthy person? (OA-1) .	1	2	3	4

OA: Obesity Awareness, NA: Nutrition Awareness, PhAA: Physical Activity Awareness

mension of nutritional awareness was categorized as “0-6 Low”, “07-12 Medium”, “13-18 Good”, “19-24 High”. The level of nutritional awareness score and the mean score for the physical activity awareness sub-dimension were categorized as “0-5 Low”, “06-10 Medium”, “11-15 Good”, and “16-20 High”. In the physical activity awareness

sub-dimension, the statement “BMI value of 32 is a healthy BMI value” is scored in reverse, recorded as i.e., 1=4, 2=3, 3=2, 4=1.

**Statistical Analysis**

The data obtained from the study were analyzed using IBM SPSS Statistics for Windows,

**Table II.** Sociodemographic characteristics of the participants.

Characteristics	N (%)
<b>Age group (year)</b>	
21-30	36 (30.3)
31-40	48 (40.3)
>40	35 (29.4)
<b>Gender</b>	
male	52 (43.7)
female	67 (56.3)
<b>Education</b>	
high school	17 (14.3)
university	78 (65.5)
Master's/doctorate/specialization	24 (20.2)
<b>Marital status</b>	
single	31 (26.1)
married	88 (73.9)
<b>Job</b>	
physician	54 (45.4)
nurse	41 (34.5)
midwife	13 (10.9)
emergency medical technician/paramedic	3 (2.5)
medical secretary	8 (6.7)
<b>Length of work in the profession (year)</b>	
<5	21 (17.6)
5-10	42 (35.3)
>10	56 (47.1)
<b>Body Mass Index (kg/m<sup>2</sup>)</b>	
underweight (<18.5)	2 (1.7)
normal (18.5-24.9)	58 (48.7)
overweight (25.0-29.9)	45 (37.8)
obese (≥30)	14 (11.8)
<b>Total</b>	<b>119 (100.0)</b>

kg: kilogram, m<sup>2</sup>: meter square.

version 26.0 (IBM Corp., Armonk, NY, USA). Descriptive data were presented as percentages (%) and numbers (n). Means ( $\bar{x}$ ) of continuous variables are shown with standard deviation (SD). The analyses were based on the Kolmogorov-Smirnov test (if the number of participants in each group is 30 or above) and graphs were used to determine whether the continuous data were normally distributed. In addition, the normality of the variables is not only assessed with normality tests but also with skewness and kurtosis coefficient values, histograms, Q-Q plots, and box plots. Considering all these criteria, non-parametric tests were used for all the variables. Since the parametric assumptions were not met in the analysis of the group averages, the Mann-Whitney U test to compare the two group averages, and the

Kruskal-Wallis' test was evaluated to compare the averages of more than two groups. A  $p$ -value <0.05 was considered statistically significant.

## Results

Of the 132 HCWs in HTRA 17 Family Health Centers, the rate of participation in the study was 90.2% (n=119). The mean age of the participants was 35.73±8.89 (minimum 21, maximum 62), 32.16±7.12 in females, and 40.33±8.89 in males.

70.6% of the participants were under the age of 40 and 43.7% were male. Most of them had a university or higher education level (85.7%). Approximately 8 out of 10 people were physicians (45.4%) and nurses (34.5%). The average working time in the profession was 140.3±94.7 months. Those working in the profession for 5 years or more constituted 82.4%. The frequency of obesity among HCWs was 11.8% and overweight was 37.8% (Table II).

The frequency of obesity was found to be higher in males (19.2%) than in females (6.0%). 51.9% of physicians were overweight, 14.8% were obese; 38.5% of midwives were overweight, 15.4% were obese; 24.4% of the nurses were overweight and 9.8% were obese. No obesity was detected in ETT/paramedic and medical secretaries (Table III). The mean BMI of the participants was 18.00±0.52 for underweight, 22.65±1.35 for normal, 27.32±1.43 for overweight, and 31.53±1.68 for obese. The mean BMI was only for males (28.31±3.48) in the 31-40 age group, compared to females (23.3±2.74) ( $U=67.50$   $p=0.001$ ); it was found to be significantly higher in physicians (26.60±3.37) than non-physician personnel (24.36±3.36) ( $U=1,067.50$   $p=0.001$ ).

The obesity awareness total score average of the participants was 63.97±7.47 (high). Obesity awareness scale sub-dimension mean scores showed that obesity awareness was 28.7±3.9 (high), nutrition awareness was 20.0±3.1 (high), and physical activity was 15.3±1.8 (good). There was no statistically significant difference in obesity awareness sub-dimensions and total scores between sociodemographic variables and BMI groups ( $p>0.05$ ) (Table IV).

## Discussion

HCWs are expected to act as role models for society. HCWs provide consultancy services to

society regarding health risks. Determining the disease risk factors of HCWs and taking interventions to reduce them in terms of protecting public health is very important. Increasing awareness of obesity among HCWs can be beneficial in defining and preventing the obesity problem to protect both their and public health.

The prevalence or frequency of obesity among HCWs have been investigated in a number of recent studies<sup>5,7,8,10,11</sup>. Both the frequency and awareness of obesity among HCWs were evaluated in this study. In this respect, this study can be considered one of the first studies about obesity among HCWs using an awareness scale. In this study, the frequency of obesity was found to be low (11.8%) and the mean total score of obesity awareness was found 63.97±7.47 (high) among HCWs in Family Health Centers, which are primary healthcare institutions. Although obesity was detected in physicians, midwives, and nurs-

es, obesity was not observed in EMTs/paramedics and medical secretaries.

WHO reported<sup>1</sup> that the worldwide prevalence of obesity nearly tripled between 1975 and 2016. In the Turkey Nutrition and Health Survey 2019 report<sup>15</sup>, 24.2% of individuals in the Southeastern Anatolia region of Turkey were found to be obese. In this study, the frequency of obesity among HCWs was 11.8%, higher in males (19.2%) than females (6.0%) in a central south-eastern city of Turkey. Kit et al<sup>16</sup> conducted a study on HCWs, 28.4% of primary HCWs in Malaysia were found overweight and 21.5% were found obese. The prevalence of obesity among healthcare workers is 30.3% in Cameroon<sup>17</sup>. It was detected 12.5% in Ghana<sup>18</sup> and 16.1% in Saudi Arabia<sup>19</sup>. In this study, the frequency of obesity is generally lower than in other studies<sup>16-19</sup>. This may be due to differences in sample size, countries, study period, and sociodemographic characteristics.

**Table III.** Body Mass Index frequency according to sociodemographic characteristics.

Characteristics	Low (<18.5) N (%)	Normal (18.5-24.9) N (%)	Overweight (25.0-29.9) N (%)	Obese (≥30) N (%)	Total N (%*)
<b>Age group (year)</b>					
21-30	2 (5.6)	21(58.2)	11 (30.6)	2 (5.6)	36 (30.3)
31-40	-	25 (52.0)	14 (29.2)	9 (18.8)	48 (40.3)
>40	-	12 (34.3)	20 (57.1)	3 (8.6)	35 (29.4)
<b>Gender</b>					
male	-	14 (26.9)	28 (53.9)	10 (19.2)	52 (43.7)
female	2 (3.0)	44 (65.6)	17 (25.4)	4 (6.0)	67 (56.3)
<b>Education</b>					
high school	2 (11.8)	8 (47.0)	5 (29.4)	2 (11.8)	17 (14.3)
university	-	40 (51.3)	32 (41.0)	6 (7.7)	78 (65.5)
Master's/doctoral/specialization	-	10 (41.7)	8 (33.3)	6 (25.0)	24 (20.2)
<b>Marital status</b>					
single	1 (3.2)	16 (51.6)	10 (32.3)	4 (12.9)	31 (26.1)
married	1 (1.1)	42 (47.7)	35 (39.8)	10 (11.4)	88 (73.9)
<b>Job</b>					
physician	-	18 (33.3)	28 (51.9)	8 (14.8)	54 (45.4)
nurse	2 (4.9)	25 (61.0)	10 (24.4)	4 (9.8)	41 (34.5)
midwife	-	6 (46.2)	5 (38.5)	2 (15.4)	13 (10.9)
emergency medical technician/paramedic	-	3 (100.0)	-	-	3 (2.5)
medical secretary	-	6 (75.0)	2 (25.0)	-	8 (6.7)
<b>Length of work in the profession (year)</b>					
<5	1 (4.8)	14 (66.7)	5 (23.8)	1 (4.8)	21 (17.6)
5-10	1 (2.4)	22 (52.4)	13 (31)	6 (14.3)	42 (35.3)
>10	-	22 (39.3)	27 (48.2)	7 (12.5)	56 (47.1)
<b>Total</b>	<b>2 (1.7)</b>	<b>58 (48.7)</b>	<b>45 (37.8)</b>	<b>14 (11.8)</b>	<b>119 (100.0)</b>

\*% of column.

**Table IV.** Obesity awareness sub-dimensions and total scores by sociodemographic and Body Mass Index.

Characteristics	Obesity ( $\bar{X}\pm SD$ )	Nutrition ( $\bar{X}\pm SD$ )	Physical activity ( $\bar{X}\pm SD$ )	OAS total ( $\bar{X}\pm SD$ )
<b>Gender</b>				
male	28.94±2.99	20.08±2.93	15.54±1.95	64.56±6.58
female	28.48±4.48	19.90±3.23	15.15±1.65	63.52±8.12
	U=1,685.5, $p>0.05$	U=1,712.5, $p>0.05$	U=1582.0, $p>0.05$	U=1,673.50, $p>0.05$
<b>Education</b>				
high school	28.71±5.69	19.53±4.13	15.47±1.55	63.71±10.86
university and above	28.68±3.55	20.05±2.90	15.29±1.83	64.02±6.82
	U=846.50, $p>0.05$	U=832.50, $p>0.05$	U=775.50, $p>0.05$	U=852.50, $p>0.05$
<b>Marital status</b>				
single	28.87±3.96	20.39±3.41	15.52±2.10	64.77±8.56
married	28.61±3.90	19.83±3.00	15.25±1.68	63.69±7.08
	U=1,257.5, $p>0.05$	U=1,140.0, $p>0.05$	U=1,226.0, $p>0.05$	U=11,151.50, $p>0.05$
<b>Job</b>				
physician	29.48±2.95	20.41±2.92	15.43±1.89	65.31±6.27
non-physician	28.02±4.45	19.62±3.20	15.23±1.71	62.86±8.22
	U=1,338.0, $p=0.025^*$	U=1,475.0, $p>0.05$	U=1,688.50, $p>0.05$	U=1,424.0, $p>0.05$
<b>Length of work in the profession (year)</b>				
<5	28.38±2.85	20.67±2.46	15.62±1.28	64.67±5.31
≥5	28.74±4.09	19.83±3.20	15.26±1.88	63.83±7.87
	U=903.5, $p>0.05$	U=886.0, $p>0.05$	U=896.0, $p>0.05$	U=1,008.50, $p>0.05$
<b>Body mass index (kg/m<sup>2</sup>)</b>				
underweight (<18.5)	28.00±5.66	19.50±4.95	15.50±0.71	63.00±11.31
normal (18.5-24.9)	27.98±4.32	19.76±3.25	15.14±1.75	62.88±7.93
overweight (25.0-29.9)	29.27±3.60	20.27±3.05	15.51±1.90	65.04±7.51
obese (≥30)	29.79±2.19	20.00±2.03	15.43±1.79	65.21±4.42
	KW=3.17, $p>0.05$	KW=0.86, $p>0.05$	KW=0.69, $p>0.05$	KW=1.90, $p>0.05$
<b>Body mass index (kg/m<sup>2</sup>)</b>				
underweight/normal (<25)	27.98±4.31	19.75±3.33	15.15±1.73	62.88±7.93
overweight /obese (≥25)	29.39±3.31	20.20±2.83	15.49±1.85	65.08±6.87
	U=1,448.0, $p>0.05$	U=1,664.0, $p>0.05$	U=1,637.0, $p>0.05$	U=1,511.50, $p>0.05$

\* $p<0.05$  significant. kg: kilogram, m<sup>2</sup>: meter square, OAS: Obesity awareness scale, U: Mann-Whitney U test, KW: Kruskal-Wallis' test.

In a study<sup>16</sup> conducted in Malaysia, the prevalence of obesity was found to be higher in nurses (50.0%) than in doctors (7.6%) and other healthcare workers (42.4%). In a study<sup>20</sup> conducted among medical doctors in Rivers State, Nigeria, 62.7% of the doctors were found to be overweight and 27.5% to be obese. Blake et al<sup>21</sup> reported that in the United Kingdom, nurses and midwives were recommended by the governing bodies to act as role models, whereas rates of overweight or obesity were high. According to the perceived weight category, 31.5% of the participants defined themselves as overweight or obese, and more than half (58.4%) stated that they were not satisfied with their current weight. In a study<sup>22</sup>, more than 80% of North Carolina emergency medical service personnel (medical responder, EMT, registered nurse) were overweight (38.1%) or obese (42.3%). In a study by Davison et al<sup>23</sup> in Portugal, 58.8% of EMTs were found to be pre-obese and 9.8% to be obese. In this study, 51.9% of the physicians were overweight and 14.8% were obese; 38.5% of midwives were overweight, 15.4% were obese; 24.4% of the nurses were overweight and 9.8% were obese. Overweight and obesity were not detected in EMTs/paramedic and medical secretaries. This result was found to be consistent with the literature on physicians, but low in non-physician healthcare professionals. The reason for this difference may be due to the fact that the sample size is not the same, and the studies were conducted in different countries and in facilities that provide health services at different levels.

In a research<sup>24</sup>, awareness of abdominal obesity among healthcare workers was found 16.7% (18.7% for doctors, 9.6% for nurses, and 3.8% for other health personnel). In the study of Zengin and Kirkbir<sup>25</sup>, the obesity awareness total score average was  $3.20 \pm 7.20$ . According to the obesity awareness scale sub-dimension mean scores; obesity awareness was  $3.15 \pm 3.97$ , nutrition awareness was  $3.37 \pm 2.73$  and physical activity was  $3.11 \pm 2.00$ . Obesity awareness mean scores were found to be significantly higher in female students ( $3.25 \pm 0.41$ ) than in male students ( $3.06 \pm 0.44$ ). In this study, the mean total score of obesity awareness was  $63.97 \pm 7.47$  (high). According to the obesity awareness scale sub-dimension mean scores, obesity awareness was  $28.7 \pm 3.9$  (high), nutrition awareness was  $20.0 \pm 3.1$  (high), and physical activity was  $15.3 \pm 1.8$  (good). This result is higher than other studies. This may be due to the difference in the sample and the health facilities.

The high frequency of overweight and obesity among HCWs, in general, necessitates the initiation of therapeutic lifestyle change in this group. Therefore, we recommend that public health intervention programs combat obesity primarily target groups of HCWs at risk of obesity. In addition, workplace programs can be designed to prevent and control obesity and overweight in healthcare settings.

### **Strength and Limitation**

There are some limitations in the present study. The study cohort was relatively small, HCWs were included from 17 Family Health Centers in Yenisehir, one of the central districts of Diyarbakir. Because the cooperation protocol area was defined as only Yenisehir district for HTRA. The results cannot be generalized to the whole city and country. A large size cohort of HCWs can provide more knowledge on the magnitude of the frequency and awareness of obesity. The awareness of the participants was evaluated objectively with the Obesity Awareness Scale adapted to the Turkish language. This study contains valuable findings for the awareness of obesity among HCWs as it uses an objective scale in accordance with the literature.

### **Conclusions**

The frequency of obesity was found to be low, and the awareness of obesity was found high among HCWs in Family Health Centers, which are primary healthcare institutions. In addition, obesity was mostly detected in physicians, midwives, and nurses. Urgent act policies are needed to encourage both patients and HCWs to the awareness and prevention of obesity and to have a healthy lifestyle.

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### **Conflict of Interest**

The Authors declare that they have no conflict of interests.

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This study was not funded by any grant.

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### **Ethics Approval**

This study was performed in line with the principles of the Declaration of Helsinki. Approval was granted by the Non-Interventional Clinical Research Ethics Committee of Dicle University Faculty of Medicine (date: September 03, 2020, No. 296).

### Informed Consent

Informed consent was obtained from the health workers.

### Availability of Data and Materials

The dataset used and analyzed during the current study is available from the corresponding author upon reasonable request.

### Authors' Contributions

All authors contributed to the study's conception and design. Material preparation, data collection, and analysis were performed by Hıdır SARI, Zehra KILINÇ, Şeyhmus SOYSAL and Mehmet ÖZEL. The first draft of the manuscript was written by Hıdır SARI and all authors commented on previous versions of the manuscript. All authors read and approved the final version of the manuscript.

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