Original article

Relationship of dietary habits, attitudes and behaviors with anthropometric measurements in adult women

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Abstract. *Background and aim:* This study aimed to determine relationship of dietary habits, attitudes and behaviors with anthropometric measurements in 300 women aged 19-65 years (150 employed women and 150 unemployed women) living in Lefkoşa, North Cyprus Turkish Republic between February, 2018 and June, 2020. *Methods:* In all subjects, data regarding sociodemographic characteristics, dietary habits and anthropometric measurements were recorded. All subjects completed Eating Attitudes Test (EAT-26) and Dutch Eating Behavior Questionnaire (DEBQ). *Results:* Mean body mass index (BMI) was 26.6±5.9 kg/m^2 and 26.5±5.7 kg/m^2 in employed and unemployed women, respectively. There was no significant difference in BMI based on employment status ($p>0.05$). Based on BMI, of the employed and unemployed woman, 48.7% and 40% were classified as normal while 26.6% and 35.3% as overweight and 24.7% and 24.7% as obese, respectively. It was found that emotional eating and restrained eating scores were increased by increasing BMI in both employed and unemployed women. A significant difference was found between BMI and emotional eating score in employed women ($p<0.05$). The relationship of anthropometric measurements with EAT-26 and DEBQ scores were evaluated by correlation analysis. It was found that weak but significant correlations were found between EAT-26 and DEBQ scores in both groups ($r=0.335$, $p<0.001$ and $r=0.253$, $P=0.002$). The DEBQ score was significantly correlated with BMI in employed women ($r)=0.182$; $p=0.026$) although it was correlated with waist: hip ratio in unemployed women ($r=-0.232$; $p=0.004$). In both employed and unemployed women, significant correlations were found among BMI, waist circumference and waist hip ratio ($p<0.001$). *Conclusions:* Development of correct dietary habits, attitudes and behaviors are important to protect and improve public health and quality of life.

Key words: Nutritional status, dietary habits, eating behavior, eating attitude, eating disorders

Introduction

The World Health Organization defines health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (1). Today, urbanization, economic advances, globalization and rapid alterations in lifestyle have also lead changed in dietary habits, predisposing development of both health and nutritional problems such as obesity and many chronic diseases worldwide. The changes in lifestyle have resulted in excessive energy intake and malnutrition together with insufficient physical activity and sedentary life (2).

The life includes infancy, childhood, adulthood and old age. In these periods, the health is maintained by sufficient and balanced diet (3). The sufficient and balanced nutrition is an important, presumably the most important, factor to maintain a healthy and strong life of individuals and society as well as economic and social progression and improved welfare of society (4). The sufficient and balanced diet is intake of all nutrients required for body functions at sufficient

amount and appropriate use of these nutrients (5). The sufficient and balances diet comprise foundation of health, which is also among protective factors playing role in reduction disease incidence and minimization of relevant health problems (6).

The causality of eating disorders and obesity includes environmental, psychosocial, genetic and biological predisposition. In depression and anxiety, there are problematic eating behaviors causing obesity such as excessive eating, frequent high-calorie snacking, night eating and binge eating (7). Individuals may eat more than normal when they feel pressure or they are angry, stressful, sad or cheerful (8). Dietary habits include number of meals per day, the foods consumed at main meal and refreshment and their amount, food quality during preparation of meal, cooking and service methods. The dietary habits are influenced by sociocultural factors as well as psychological alterations (9). In addition, educational status, income level and nutrition level, traditions, climate, environment and geographic region also drive dietary habits (10).

Attitude can be defined as a settled tendency to exhibit positive or negative reactions towards a certain object, condition, organization or person (11). Eating attitudes and behaviors can be affected by many factors including genetics, environment, emotional status, sociodemographic characteristics, past experiences, cultural or religious beliefs, media, body perception, obesity or appetite etc. The changes in eating attitudes can lead health problems such as eating disorders. The eating behavior is subjected to several emotions such as stress, boredom, happiness, pleasure or excitement (12).

This study aimed to determine dietary habits, attitudes and behaviors, and anthropometric measurements in employed and unemployed women living in Lefkoşa, North Cyprus Turkish Republic.

Materials and methods

Study settings, time and sample selection

This study included 300 volunteer women aged 19-65 years (150 employed women and 150 unemployed women) living in Lefkoşa, North Cyprus Turkish Republic. As using employment status as main factor, it was estimated that at least 200 women should be included to study for power of 0.80 and alpha error of 0.05 by G-Power 3.0.1 power analysis(13). The women aged <19 years or >65 years and pregnant/breastfeeding women were excluded. The study was approved by Ethics Committee of International Cyprus University (approval # 044-340/10.01.2019).

Data collection and assessment

Questionnaire

The survey was completed for all participants by a researcher using face-to-face interview method. The questionnaire includes 18 items on demographic characteristics, health information and dietary habits. In all participants, anthropometric measurements were recorded as body weight (kg), height, waist circumference (cm) and hip circumference; The height of the individuals was measured by measuring the distance from the top of the head to the ground, standing upright in the frankfort plane, without shoes, with the heels, back and head touching the wall (14). Waist circumference measurements were measured over the midpoint between the lowest rib and the iliac crest, paying attention to the arms at both sides and the feet together (15). Hip circumference was measured from the side of the individual, passing through the widest point of the hip when standing and with the hips parallel to the floor (16).

BMI (kg/m^2) was calculated in all participants and assessed according to WHO classification (17). Eating disorder was assessed using Eating Attitudes Test (EAT-26) while eating behaviors and attitudes were assessed using Dutch Eating Behavior Questionnaire (DBEQ).

The EAT-26 was developed to determine tendency to manifest eating disorder in women by Garner and Garfinked; the test includes 16 items classified in diet, bulimia and oral control subscales (18). Total score ranges from 0 to 53. The cut-off is established as 20 points. The subjects with score≥20 points are classified to be at risk for eating disorder while those with score<20 points are classified to be not at risk

for eating disorder (19). The Turkish validity and reliability study of the EAT 26 scale was conducted by Değirmenci. (20).

In our study, eating behaviors were assessed using DEBQ which was first developed by Van Strein et al. The Turkish validity and reliability study was conducted by Bozan et al (21). The questionnaire includes 3 subscales (restrained eating, emotional eating and external eating). It is rated by 5-points Likert scale (1, never; 2, rare; 3, sometimes;4, often; 5, very often). The restraining eating subscale includes first 10 items (item 1-10) whereas emotional eating subscale includes items 11-23 and external eating subscale includes items 24-33. No total score is calculated in DEBQ; only subscale scores are calculated. Item 31 is reverse scored. There is no cut-off value for subscales while higher scores are associated with unfavorable eating behavior (21).

All participants gave written informed consent.

Statistical analysis

Data were analyzed using SPSS (Statistical Package for Social Sciences) version 21.0. Demographic characteristics and other categorical variables are presented as frequency. In tables, quantitative variables are presented as mean ($\bar{X}$) ± standard deviation (SD) and median) while categorical variables are presented as count (n) and percent (%). To determine statistical analysis method for assessment of hypotheses, Kolmogorov-Smirnov and Shapiro-Wilk tests were used. The normality of data distribution were asssesed using Levene test. As data set failed to meet parametric distribution assumption, Non-parametric Spearman hypothesis test was used for analyses. Mann Whitney U test was used for comparisons between two independent group. Kruskal-Wallis test was used to compare >2 groups; if a difference was detected, paired comparisons were performed (22).

Results

Table 1 presents distribution subjects according to demographic characteristics. While 35.3% of employed women were aged 19-29 years, 28.0% of unemployed women were aged 19-29 years. While 33.3% of employed women and 44.0% of unemployed women were high school graduate, 44.0% of employed women and 26.7% of unemployed women had college degree. While 26.0 of employed women were government employee, 38.0% were self employed. While 76.0% of unemployed women were housewife, 17.3% were student.

Table 2 presents mean (standard deviation) anthropometric measurements of women included. The frequency of women with BMI of 18.5-24.9 kg/m^2 (normal) was 48.7% and 40.0 while frequency of women with BMI>30 kg/m^2 (obese) was 24.7% and 24.7% among employed and unemployed women, respectively. The frequency of women with normal waist circumference was 46.0% and 40.0% while the frequency of those with a risky waist circumference was 17.3% and 24.7% in employed and unemployed women, respectively. The waist: hip ratio was found to be risky in 28.0% of employed women and 34.0% of unemployed women. The waist: height ratio was found to be highly risky in 20.7% of employed women and 22.0% of unemployed women. No significant differences were found in body weight, height, BMI, waist circumference, waist: hip ratio and waist-height ratio according to employment status.

Table 3 presents frequency of skipped meal and its distribution according to reasons for skipping meal. It was found that 12.7% and 16.0% of employed and unemployed women were skipping breakfast, respectively; no significant correlation was found between employment status and missed breakfast (χ^2:2.732; p>0.05) or reason for skipping breakfast (χ^2:2.494; p>0.05) . Of employed and unemployed women, 4.7% and 6.7% reported that they were skipping lunch, respectively. It was determined that 50% and 45.5% of employed and unemployed women, respectively, skipped lunch because they could not find time, and 35% and 31.8% did not have the habit of having lunch.

No significant relationship was found between employment status and skipping lunch (χ^2:0.585; p>0.05).

It was found that 0.7% and 2.0% of employed and unemployed women were skipping dinner while 8.7% and 2.7% were occasionally skipping dinner, respectively. It was found that the reasons for skipping dinner

Table 1. Distribution of participants according to demographic characteristics.

	Employed (n=150)		Unemployed (n=150)		Total (n=300)	
	n	%	n	%	n	%
Age (years)						
19-29	53	35.3	42	28.0	95	31.7
30-39	35	23.3	27	18.0	62	20.7
40-49	43	28.7	30	20.0	73	24.3
50 or older	19	12.7	51	34.0	70	23.3
Marital status						
Married	99	66.0	108	72.0	207	69.0
Single	41	27.3	39	26.0	80	26.7
Divorced-widow	10	6.7	3	2.0	13	4.3
Educational status						
Primary school	5	3.4	23	15.3	28	9.3
Secondary school	8	5.3	19	12.7	27	9.0
High school	50	33.3	66	44.0	116	38.7
University	66	44.0	40	26.7	106	35.3
Post-graduate	21	14.0	2	1.3	23	7.7
Occupation						
Housewife	0	0.0	114	76.0	114	38.0
Government employee	39	26.0	0	0.0	39	13.0
Healthcare professional	27	18.0	4	2.7	31	10.3
Freelancer	57	38.0	3	2.0	60	20.0
Student	0	0.0	26	17.3	26	8.7
Teacher	27	18.0	3	2.0	30	10.0

were lack of habit of having dinner in 14.3% and 28.6% of employed and unemployed women whereas loss of appetite in 35.7% and 57.1%, respectively. Of employed women, 50% reported that they were skipping lunch due to untimeliness.

Table 4 presents distribution of DEBQ and EAT-26 scores according to employment status. It was found that mean DEBQ restraining eating score was 27.9±7.8 and 25.4±8.4 in employed and unemployed women. The mean DEBQ emotional eating score was 31.0±13.4 and 26.0±14.1 in employed and unemployed women, respectively, indicating a significant difference between groups ($p<0.05$). Again, mean EAT-26 oral control score was 3.7±3.3 and 4.6±3.6 in employed and unemployed women, respectively, indicating a significant difference between groups ($p<0.05$).

Table 5 presents distribution of DEBQ and EAT-26 scores according to BMI. In employed women, mean DEBQ emotional eating score was 35.3±14.5 in obese women, 33.8±12.9 in overweight women and 27.4±12.2 in women with normal BMI. Significant differences were found in emotional eating according to BMI ($p=0.004$). In unemployed women, mean DEBQ external eating score was 25.0±8.3 in obese women, 24.7±8.8 in overweight women and 29.4±8.0 in women with normal BMI. Significant differences were found in external eating according to BMI ($p=0.003$).

In employed women, mean EAT-26 dieting score was 13.3±6.5 in obese women, 13.9±6.6 in overweight women and 9.5±6.1 in women with normal BMI. Significant difference was found in dieting according to BMI ($p<0.001$). In unemployed women, it was found as

Table 2. Mean (standard deviation) anthropometric measurements of women included.

	Employed (n=150)		Unemployed (n=150)		Test Statistics	p
	$\bar{X}$	SS	$\bar{X}$	SS		
Body weight (kg)	69.3	16.4	67.8	15.8	-0.538	0.591
Height (m)	1.61	.066	1.59	.065	-1.938	0.053
	n	**%**	**n**	**%**		
BMI (kg/m^2)						
18.5-24.9 (normal)	73	48.7	60	40.0	3.088	0.214
25-29.9 (overweight)	40	26.6	53	35.3		
>30 (obese)	37	24.7	37	24.7		
Mean±SD (kg/m^2)	26.6	5.9	26.5	5.7	0.299	0.765
Waist circumference (cm)						
<94 M/<80 F (normal)	69	46.0	60	40.0	2.586	0.275
≥94 M/≥80 F (at risk)	26	17.3	37	24.7		
≥102 M/≥88 F (at high risk)	55	36.7	53	35.3		
Mean±SD	83.7	15.4	84.3	15.4	0.557	0.577
Waist: hip ratio						
<0.9 M/0.85 F (normal)	108	72.0	99	66.0	1.262	0.261
≥0.9 M/≥0.85 F (at risk)	42	28.0	51	34.0		
Mean±SD	0.8	0.1	0.8	0.1	0.718	0.473
Waist: height raito						
Low (<0.4)	9	6.0	8	5.3	1.149	0.765
Normal (0.4-<0.5)	63	42.0	55	36.7		
At risk (≥0.5-<0.6)	47	31.3	54	36.0		
At high risk (≥0.6)	31	20.7	33	22.0		
Mean±SD	0.5	0.1	0.5	0.1	0.998	0.318

BMI: body mass index; *<0.05; χ^2: Pearson chi-square test and MWU: Mann Whitney U test

12.7±5.9 in obese women, 10.7±6.7 in overweight women and 9.6±6.0 in women with normal BMI, indicating significant differences according to BMI (p=0.022).

In employed women, mean EAT-26 oral control score was found as 2.7±2.2 in obese women, 2.7±2.2 in overweight women and 4.7±3.9 in women with normal BMI, indicating significant differences according to BMI (χ^2:8.182;p=0.017). In unemployed women, it was found as 4.0±2.6 in obese women, 3.4±3.0 in overweight women and 6.0±4.2 in women with normal BMI, indicating significant differences according to BMI (p=0.001).

Table 6 presents associations between anthropometric measurements and EAT-26 and DEBQ scores. These associations were evaluated using correlations analyses. In both groups, there were significant but weak correlations between EAT-26 and DEBQ scores(p=0.000 r=0.335 and P=0.002 r=0.253) . No significant correlation was observed between EAT-26 scores and anthropometric measurements in both employed and unemployed women. It was found that DEBQ score was correlated with BMI in employed women (p=0.026 r=0.182) while it was correlated with waist-hip ratio in unemployed women (p=0.004 r= - 0.232). It was found that there were significant correlations among BMI, waist circumference and waist-hip ratio, considered as body fat, in both employed and unemployed women (p=0.000).

Table 3. Frequency of skipped meal and its distribution according to reasons for skipping meal.

	Employed (n=150)		Unemployed (n=150)		Total (n=300)		χ^2	p
	n	%	n	%	n	%		
Skipping a meal								
Breakfast								
Yes	19	12.7	24	16.0	43	14.3	2.732	0.255
No	107	71.3	111	74.0	218	72.7		
Sometimes	24	16.0	15	10.0	39	13.0		
Lunch								
Yes	7	4.7	10	6.7	17	5.7	0.585	0.746
No	130	86.7	128	85.3	258	86.0		
Sometimes	13	8.7	12	8.0	25	8.3		
Dinner								
Yes	1	0.7	3	2.0	4	1.3	-	-
No	136	90.6	143	95.3	279	93.0		
Sometimes	13	8.7	4	2.7	17	5.7		
Snack								
Yes	23	15.3	34	22.7	57	19.0	7.354	0.025*
No	68	45.4	78	52.0	146	48.7		
Sometimes	59	39.3	38	25.3	97	32.3		
Reason for skipping main meal								
Breakfast (n: 43) (n: 39) (n: 82)								
No time	20	46.5	14	35.9	34	41.5	2.494	0.476
No habit	12	27.9	16	41.0	28	34.1		
No appetite	10	23.3	9	23.1	19	23.2		
Lose weight	1	2.3	0	0.0	1	1.2		
Lunch (n: 20) (n: 22) (n: 42)								
Lack of time	10	50.0	10	45.5	20	47.6	-	-
Lack of habit	7	35.0	7	31.8	14	33.3		
Lack of appetite	3	15.0	2	9.1	5	12.0		
Lose weight	0	0.0	3	13.6	3	7.1		
Dinner (n: 14) (n: 7) (n: 21)								
No time	7	50.0	0	0.0	7	33.3	-	-
No habit	2	14.3	2	28.6	4	19.0		
No appetite	5	35.7	4	57.1	9	42.9		
Lose weight	0	0.0	1	14.3	1	4.8		
Main meal status								
1	3	2.0	3	2.0	6	2.0	-	-
2	27	18.0	41	27.3	68	22.7		
3	120	80.0	106	70.7	226	75.3		

Table 3 (*Continued*)

	Employed (n=150)		Unemployed (n=150)		Total (n=300)		χ^2	p
	n	%	n	%	n	%		
Snacks								
Not doing	8	5.3	12	8.0	20	6.7		
1	35	23.3	49	32.7	84	28.0		
2	61	40.7	50	33.3	111	37.0	9.681	0.046*
3	34	22.7	36	24.0	70	23.3		
4	12	8.0	3	2.0	15	5.0		

*<0.05; χ^2: Pearson Ki-kare Testi

Table 4. Distribution of DEBQ and EAT-26 scores according to employment status.

	Employment Status					
	Employed		Unemployed			
	$\bar{X}$	SS	$\bar{X}$	SS	MWU	p
DEBQ						
Restrained eating	27.9	7.8	25.4	8.4	-2.966	0.003*
Emotional eating	31.0	13.4	26.0	14.1	-3.824	<0.001**
External eating	27.6	8.1	26.7	8.6	-1.168	0.243
EAT-26						
Dieting	11.6	6.6	10.7	6.3	-1.168	0.285
Bulimia	1.6	2.4	2.2	2.9	1.384	0.166
Oral control	3.7	3.3	4.6	3.6	2.498	0.012*

*<0.05;**<0.001; MWU: Mann Whitney U test

Discussion and conclusion

In our study, it was found that 35.3% of employed women were in the age group of 19-29 years, 28.7% in age group of 40-49 years while 28.0%, and 34.0% of unemployed women were in the age groups of 19-29 years and >50 years, respectively (Table 1).

In a study by Ayaz et al., it was reported that 0.6% of employed women were in the age group of ≤19 years, 33.4% in age group of 20-29 years, 40.1%, 18.3% in age group of 30-39 years, 5.7% in age group of 40-49 years, 5.7% in age group of 50-59 years and 1.9% in the age group of ≥60 years while 1.8%, 23.3%, 30.7%, 29.7%, 11.7% and 2.8% of unemployed women were in the age groups of ≤19 years, 20-29 years, 30-39 years, 40-49 years, 50-59 years and ≥60 years in agreement with our study (23).

In our study, of employed women, 3.4% were graduated from primary school, 5.3% from secondary school, 33.3% from high school, 44.0% from university and 14.0% had post-graduate degree while these rates were 15.3%, 12.7%, 44.0%, 26.7% and 1.3% in unemployed women, respectively (Table 1). In a study by Sevim, it was found that 0.4% of employed women were graduated from primary school while 1.6% from secondary school, 14.1% from high school, 61.5% from university and 18.6% had post-graduate degree (24).

In a study by Arslan et al., it was found that 49.1% of unemployed women (housewife) were graduated from primary school while 8.4% from secondary school, 29.8% from high school and 12.8% had university or higher degree(25). The secondary school and high school graduation rates were comparable among unemployed women.

Table 5. Mean DEBQ and EAT-26 scores according to BMI.

	BMI							
	Normal		Overweight		Obese			
	$\bar{X}$	SS	$\bar{X}$	SS	$\bar{X}$	SS	KW	p
DEBQ EMPLOYED								
Restrained eating	26.8	8.3	30.6	5.9	27.4	8.0	5.556	0.062
Emotional eating	27.4	12.2	33.8	12.9	35.3	14.5	10.826	0.004*
External eating	28.2	7.8	27.0	7.6	27.4	9.3	0.852	0.653
EAT-26 EMPLOYED								
Dieting	9.5	6.1	13.9	6.6	13.3	6.5	16.663	<0.001**
Bulimia	1.5	2.3	1.9	2.5	1.7	2.3	0.480	0.787
Oral control	4.7	3.9	2.7	2.2	2.7	2.2	8.182	0.017*
DEBQ UNEMPLOYED								
Restrained eating	24.3	8.5	26.3	9.1	26.0	7.1	2.125	0.346
Emotional eating	24.9	10.8	25.6	16.0	28.3	15.8	1.223	0.543
External eating	29.4	8.0	24.7	8.8	25.0	8.3	11.528	0.003*
EAT-26 UNEMPLOYED								
Dieting	9.6	6.0	10.7	6.7	12.7	5.9	7.621	0.022*
Bulimia	2.4	2.8	2.1	2.5	2.2	3.5	0.638	0.727
Oral control	6.0	4.2	3.4	3.0	4.0	2.6	14.796	0.001*

*<0.05;**<0.001; Kruskal-Wallis

In our study, mean body weight was 69.3±16.4 kg in employed women whereas 67.8±15.8 kg in unemployed women. The height of employed women was found to be 1.61 meter and the height of unemployed women was 1.59 meter.

In agreement with our study, mean body weight was found as 71.9±15.82 while mean height was found as 165.1±6.72 cm among adult women according to TBSA 2017 data (26).

In our study, the BMI was classified as normal in 48.7%, overweight in 26.7% and obese in 24.7% of employed women while it was normal in 40.0%, overweight in 35.3% and obese 24.7% of unemployed women. Mean BMI was 26.6±5.9 in employed women and 26.5.±5.7 in unemployed women. According to TBSA 2017 data, mean BMI was 28.8±6.92 in adult women in Turkey (26).

In our study, waist circumference was classified as normal in 46.0%, at risk in 17.3% and at high risk in 36.7% of employed women while normal in 40.0%, at risk in 24.7% and at high risk in 35.3% of unemployed women. The waist: hip ratio was classified as normal in 72.0% and at risk in 28.0% of employed women while normal in 66.0% and at risk in 34.0% of unemployed women. The waist-height ratio was classified as normal in 42.0%, at low risk in 6.0%, at risk in 31.3% and at high risk in 20.7% of employed women while normal in 36.7%, at low risk in 5.3%, at risk in 36.0% and at high risk in 22.0% of unemployed women. No significant differences were found in body weight, height, BMI, waist circumference, waist: hip ratio and waist-height ration according to employment status (p>0.05) (Table 2).

In a study by Bilgiç, it was found that mean body weight was 60.2±9.63 and 64.5±9.58 while mean height was 163.2±6.81 and 160.4±7.15 in employed and unemployed women respectively (27).

In a study by Uluçay, it was found that 48.6% of employed women had normal BMI; 40.0% had overweight BMI and 11.4% had obese BMI while 47.6%

Table 6. Associations between anthropometric measurements and EAT-26 and DEBQ scores.

Employed n:150		**BMI**	**Waist Circumference**	**Waist: hip ratio**	**EAT**	**DEBQ**
EAT	r	0.117	0.022	- 0.098		0.335
	p	0.153	0.788	0.234		**0.000**
DEBQ	r	0.182	0.123	0.039	0.335	
	p	**0.026**	0.135	0.639	**0.000**	
BMI	r		0.887	0.482	0.117	0.182
	p		**0.000**	**0.000**	0.153	**0.026**
Waist circumference	r	0.887		0.711	0.022	0.123
	p	**0.000**		**0.000**	0.788	0.135
Waist: hip ratio	r	0.482	0.711		- 0.098	0.039
	p	**0.000**	**0.000**		0.234	0.639
Unemployed n:150						
EAT	r	0.025	- 0.028	- 0.082		0.253
	p	0.764	0.733	0.318		0.002
DEBQ	r	- 0.063	- 0.147	- 0.232	0.253	
	p	0.446	0.072	0.004	**0.002**	
BMI	r		0.881	0.505	0.025	- 0.063
	p		**0.000**	**0.000**	0.764	0.446
Waist circumference	r	0.881		0.771	- 0.028	- 0.147
	p	**0.000**		**0.000**	0.733	0.072
Waist: hip ratio	r	0.505	0.771		- 0.082	- 0.232
	p	**0.000**	**0.000**		0.318	0.004

Spearman's correlation coefficient

of unemployed women had normal BMI; 38.1% had overweight BMI and 14.3% had obese BMI. Again, the author reported that the waist circumference was normal in 46.7%, at risk in 17.1% and at high risk in 36.2% of employed women while normal in 41.0%, at risk in 25.7% and at high risk in 33.3% of unemployed women. In addition, it was found that waist: hip ratio was normal in 67.6% and at risk in 32.4% of employed women while normal in 70.5% and at risk in 29.5% of unemployed women (28). These studies reported comparable body weight, height, BMI, waist circumference, waist: hip ratio and waist: height ratio.

In our study, of the women included, 72.7% were having regular breakfast whereas 86.0% were having regular lunch and 93.0% were having regular dinner. According to TBSA 2017 data, 86.4% of adult women were having regular breakfast whereas 67.6% were having regular lunch and 95.7% were having regular dinner (26). The frequency of women having regular lunch was comparable. In our study, it was found that 80.0% of employed women and 70.7% of unemployed women were having 3 main meals. Of the women included, 6.7% reported that they are having no snack while 37.0% reported that they are having two refreshments. A significant difference was found in having snack according to employment status(χ^2=9.681;p=0.046) (Table 3).

In a study by Çıltık, it was found that 84.6% of employed women and 69.3% of unemployed women were having 3 main meals (29). In a study by Işık, it was seen that 19.0% of subjects were having no refreshments while 34.7% were having 2 refreshments (30). It can be seen that consumption of 3 main meals and 2 refreshments were similar in these studies.

In our study, in employed and unemployed women, DEBQ emotional eating scores were 31.05±13.4 and 26.0±14.1 while DEBQ restraining eating scores were 27.9±7.8 and 25.4±8.4 and DEBQ external eating scores were 27.6±8.1 and 26.7±8.6, respectively. In a study by Bekiroğlu, DEBQ emotional eating , restrained eating score and external eating scores were 29.02±11.81, 27.69±8.01 and 26.66±7.34 in adult women, respectively, in agreement with our study (31).

In our study, in employed and unemployed women, EAT-26 dieting scores was 11.6±6.6 and 10.7±6.3 while EAT-26 bulimia score was 1.6±2.4 and 2.2±2.9 and EAT-26 control score was 3.7±3.3 and 4.6±3.6, respectively (Table 4). In a study by Yıldırım et al., it was found that EAT-26 dieting, bulimia and oral control scores were 10.79±7.26, 2.81±3.45 and 4.27±4.51, respectively, in agreement with our study (32).

In our study, it was found that, in employed women, mean DEBQ restraining eating score was 26.8±8.3 in normal women, 30.6±5.9 in overweight women and 27.4±8.0 in obese women while mean DEBQ emotional eating score was 27.4±12.2, 33.8±12.9, 35.3±14.5 and mean DEBQ external eating score was 28.2±7.8, 27.0±7.6, 27.4±9.3, respectively.

In a study by Bekiroğlu et al. it was found that mean DEBQ emotional eating score was 29.11±13.06 in normal women, 24.93±10.56 in overweight women and 33.00±8.84 in obese women while mean DEBQ restraining eating score was 27.23±7.52, 26.64±7.73, 22.70±8.00 and mean DEBQ external eating score was 26.95±7.3, 26.89±5.61, 27.00±8.45, respectively (28). The external eating and restrained eating scores were comparable in normal and obese women between these two studies.

In a study by Koçak, it was found that mean DEBQ restrained eating score was 22.19±7.65 in normal women, 26.16±7.03 in overweight women and 24.21±6.22 in obese women while mean DEBQ emotional eating score was 22.91±12.32, 29.1±15.02, 33.11±16.92 and mean DEBQ external eating score was 25.87±8.3, 27.56±8.11, 27.66±7.49, respectively (33).

In another study, it was reported that obese women scored significantly higher in all DEBQ subscales when compared to women with normal BMI in German population. It was found that Emotional and external eating scores were higher in obese women when compared to overweight women (34). In our study, restrained eating score was found to be higher in obese women when compared to overweight women and those with normal BMI. Higher scores indicates unfavorable eating behavior. In our study, it was seen that restraining eating and emotional eating scores were increased by increasing BMI. In the literature, similar results have been reported. These data suggest that women with normal BMI are more cautious about nutrition.

In our study, it was found that mean EAT-26 dieting scores in employed and unemployed women were 9.5±6.1 and 9.6±6.0 in women with normal BMI, 13.9±6.6 and 10.7±6.7 in overweight women and 13.3±6.5 and 12.7±5.9 in obese women, respectively. Again, mean EAT-26 bulimia scores were 1.5±2.3 and 2.4±2.8, 1.9±2.5 and 2.1±2.5, 1.7±2.3 and 2.2±3.5 while mean EAT-26 oral control scores were 4.7±3.9 and 6.0±4.2, 2.7±2.2 and 3.4±3.0, 2.7±2.2 and 4.0±2.6, respectively (Table 5).

In a study by Göküstün, it was found that mean EAT-26 dieting score was 8.59±6.24 in women with normal BMI, 9.47±5.89 in overweight women and 8.67±5.13 in obese women, respectively while mean EAT-26 bulimia scores were 2.21±2.85, 2.73±3.27 3.50±3.94 and mean EAT-26 oral control scores were 4.76±3.84, 4.13±4.03, 1.33±1.63, respectively (35). In these two studies, EAT-26 scores were comparable in women with normal BMI but there were differences in overweight and obese women. However, the scores were below 20 points (cut-off) in these women, indicating no risk for eating behavior disorder.

In conclusion, frequency of women normal BMI was higher among employed women when compared to unemployed women while frequency of overweight women was higher among unemployed women and frequency of obese women was comparable between employed and unemployed women. In employed and unemployed women, DEBQ restrained and emotional eating scores were lower in women with normal BMI while DEBQ emotional eating score was higher in obese women when compared to overweight and normal women.

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