

**Table 1 General variables of the participants in the study among quartiles of ED in overweight and obese women**

variables	Total	Q1 (n=97)	Q2 (n=98)	Q3 (n=98)	Q4 (n=98)	P value	P* value
<b>Quantitative variables</b>							
<b>Demography</b>							
Age(y)	36.79±9.14	40.38±8.49	36.91±8.57	35.44±9.45	34.36±9.08 <sup>b</sup>	< 0.001	0.001
PA(METs h/week)	1199.82±2121.61	1645.44±2898.40	1543.38±2687.46	847.43±723.82	647.13±586.61 <sup>b</sup>	0.01	0.008
Weight(kg)	80.69±11.78	79.3769±10.66	81.3474±12.15	80.7780±12.36	81.2297±11.94	0.65	0.94 <sup>a</sup>
<b>Blood pressure</b>							
SBP(mmHg)	111.41±15.07	109.74±19.25	112.88±14.56	109.79±12.27	113.61±12.37	0.30	0.18
DBP(mmHg)	77.63±10.53	77.35±13.39	78.01±9.74	76.16±9.28	79.18±8.60	0.42	0.39
<b>Biochemical assessment</b>							
FBS(mmol/l)	87.47±9.52	87.41±9.30	87.63±10.20	86.44±9.00	88.31±9.59	0.79	0.5
TC(g/dL)	185.72±36.59	194.48±38.89	181.75±33.12	180.58±31.61	184.72±40.96	0.13	0.42
HDL(mg/dL)	46.99±10.96	46.47±12.90	48.18±10.61	44.74±9.58	48.24±9.89	0.29	0.22
LDL(mg/dL)	95.30±24.28	98.62±25.14	93.88±21.59	94.68±23.39	93.61±27.30	0.627	0.63
TG(g/dL)	117.28±59.21	120.85±58.57	106.78±47.53	116.60±55.86	125.02±70.79 <sup>b</sup>	0.38	0.01

### Anthropometric parameters

<b>Height(cm)</b>	161.13±5.92	160.41±5.72	160.95±5.31	162.26±6.69	160.93±5.84	0.18	0.44 <sup>a</sup>
<b>WHR</b>	1.18±4.74	0.94±0.05	0.93±0.05	1.94±9.55	0.93±0.05	0.38	0.92 <sup>a</sup>
<b>WC(cm)</b>	99.22±9.77	98.73±9.20	99.53±10.37	98.85±9.91	99.79±9.70	0.86	0.86 <sup>a</sup>
<b>BMI(kg/m<sup>2</sup>)</b>	31.10±4.12	30.91±3.98	31.39±4.22	30.60±4.04	31.49±4.27	0.42	0.48 <sup>a</sup>

### Qualitative variables

<b>Marital status</b>							
<b>Single</b>	121	22(18.18)	27(22.32)	33(27.27)	39(32.23)	0.56	0.82
<b>Married</b>	270	70(25.9)	68(25.2)	70(25.9)	62(23.0)		
<b>Education</b>							
<b>Illiterate</b>	4	0(0)	1(25)	2(50)	1(25)	0.83	0.32
<b>Diploma</b>	69	13(18.84)	24(34.78)	23(33.33)	9(13.05)		
<b>Bachelor and higher</b>	318	79(24.8)	82(25.8)	77(24.2)	80(25.2)		
<b>Economy status</b>							
<b>Low</b>	37	9(24.3)	12(32.5)	7(18.9)	9(24.3)	0.46	0.31
<b>Moderate</b>	198	38(19.19)	56(28.29)	62(31.31)	42(21.21)		
<b>High</b>	156	48(30.8)	36(23.1)	35(22.4)	37(23.7)		
<b>Family members</b>							
<b>&gt; 4</b>	320	72(22.5)	81(25.30)	83(25.9)	84(26.3)	0.23	0.31

	≤ 4	71	33(46.48)	14(19.72)	11(15.49)	13(18.31)		
<b>History of weight loss</b>		195	53(27.18)	52(26.67)	52(26.67)	38(19.48)	< 0.001	0.05
<b>in past year</b>								
<b>Job</b>								
<b>Yes</b>		232	51(22)	55(23.70)	67(28.90)	59(25.40)		
<b>No</b>		159	40(25.15)	40(25.15)	29(18.23)	50(31.47)	0.02	0.04
<b>Income status</b>								
<b>Low</b>		1	0	0	0	1(100)		
<b>Moderate</b>		6	2(33.33)	2(33.33)	1(16.67)	1(16.67)		
<b>Good</b>		123	20(16.26)	25(20.32)	33(26.83)	45(36.59)	< 0.001	0.01
<b>High</b>		261	60(22.98)	77(29.51)	58(22.23)	66(25.28)		

*Abbreviations: SD Standard deviation, PA: physical activity, SBP: systolic blood pressure, DBP: diastolic blood pressure, mmHg, millimeter of mercury, TC: total cholesterol, FBS: fasting blood sugar; HDL: high-density lipoprotein; LDL: low-density lipoprotein, WHR: waist to hip ratio, BMI: body mass index, WC: waist circumference.*

*Quantitative variables were showed by means±SD and qualitative variables were showed by number (percentage).*

*P values resulted from one-way ANOVA analysis and chi-2 test. P-value < 0.05 was significant.*

*\*P values resulted from ANCOVA analysis and were adjusted for age, BMI, PA, and energy intake.*

*<sup>a</sup> BMI considered as collinear and variables just adjusted for age, energy, and PA.*

*Bonferroni Post-hoc test was used to investigate differences between quartiles. <sup>b</sup> shows the variable difference between Q3 and Q4 of ED quartile.*

**Table 2. Dietary intake of macronutrient and components according to the ED quartiles in overweight and obese women**

<b>Variables</b>	<b>Total</b>	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>	<b>P value</b>	<b>P value*</b>
<b>Amounts per day</b>	<b>Mean±SD</b>	<b>(n=97)</b>	<b>(n=98)</b>	<b>(n=98)</b>	<b>(n=98)</b>		
<b>Food groups</b>							
<b>Fruits(g/d)</b>	516.24±335.98	599.41±349.19 <sup>a</sup>	581.48±358.59 <sup>a</sup>	494.36±287.20	366.99±294.80 <sup>b</sup>	< <b>0.001</b>	< <b>0.001</b>
<b>Vegetables(g/d)</b>	428.87±260.62	532.87±293.04 <sup>a</sup>	506.65±256.13 <sup>a</sup>	363.99±186.32 <sup>b</sup>	288.25±210.83 <sup>b</sup>	< <b>0.001</b>	< <b>0.001</b>
<b>Nuts(g/d)</b>	14.12±16.12	12.90±16.88	15.94±15.30	13.93±13.33	13.68±18.90	0.7	0.74
<b>Animal fat(g/d)</b>	4.00±6.74	3.21±6.66	3.93±6.16	4.70±7.16	4.23±7.04	0.6	0.88
<b>Dairy products(g/d)</b>	377.85±235.52	396.98±233.98	415.95±223.91 <sup>a</sup>	394.40±220.57	293.41±250.84 <sup>b</sup>	<b>0.01</b>	<b>0.002</b>
<b>Meat(g/d)</b>	62.73±46.78	60.99±40.23	70.74±51.42	61.23±33.59	57.30±59.33	0.37	0.29
<b>Sugar sweetened beverages(g/d)</b>	20.71±46.87	18.58±54.11	16.87±34.61	31.63±62.92	15.50±20.72	0.15	0.50
<b>Refined grains(g/d)</b>	425.77±218.06	339.67±172.65 <sup>a</sup>	423.67±199.81	478.81±224.61 <sup>b</sup>	471.73±249.48 <sup>b</sup>	< <b>0.001</b>	<b>0.008</b>
<b>Whole grains (g/d)</b>	7.63±10.56	8.11±10.61	8.20±11.34	8.39±11.12	5.58±8.76	0.37	0.34
<b>Legumes (g/d)</b>	52.93±41.67	46.57±39.67 <sup>a</sup>	65.70±51.58 <sup>b</sup>	48.97±41.32	50.32±26.93	<b>0.02</b>	<b>0.04</b>
<b>Macronutrients</b>							
<b>Protein(g/d)</b>	87.96±28.13	80.30±26.61 <sup>a</sup>	93.90±28.64 <sup>b</sup>	91.24±26.95 <sup>b</sup>	86.23±28.73	<b>0.005</b>	<b>0.02</b>
<b>Total fat(g/d)</b>	91.52±32.20	76.06±28.04 <sup>a</sup>	92.41±28.13	94.80±28.46	102.96±37.70	< <b>0.001</b>	< <b>0.001</b>

<b>Carbohydrate(g/d)</b>	357.42±109.95	333.98±108.30 <sup>a</sup>	370.37±104.34	378.36±120.96 <sup>b</sup>	346.66±101.33	<b>0.02</b>	0.39
<b>Micronutrients</b>							
<b>SFA (g/d)</b>	27.24±10.52	23.60±9.95 <sup>a</sup>	28.23±10.90	28.45±9.66	28.67±10.81	<b>0.002</b>	0.57
<b>Cholesterol(mg/d)</b>	258.25±107.64	243.46±103.63	271.36±114.28	266.16±102.56	251.60±108.82	0.26	0.39
<b>PUFA (g/d)</b>	19.43±9.03	15.28±7.32 <sup>a</sup>	18.86±7.18 <sup>b</sup>	19.68±7.12 <sup>b</sup>	23.96±11.67 <sup>c</sup>	< <b>0.001</b>	< <b>0.001</b>
<b>MUFA (g/d)</b>	30.82±11.94	25.33±10.34 <sup>a</sup>	30.87±10.18 <sup>b</sup>	31.22±9.74 <sup>b</sup>	35.92±14.64 <sup>c</sup>	< <b>0.001</b>	< <b>0.001</b>
<b>EPA (g/d)</b>	0.03±0.04	0.03±0.04	0.03±0.04	0.03±0.04	0.03±0.04	0.59	0.5
<b>DHA (g/d)</b>	0.10±0.12	0.10±0.11	0.10±0.11	0.11±0.13	0.09±0.12	0.64	0.54
<b>Trans fatty acids(mg/d)</b>	0.00±0.00	0.00±0.00	0.00±0.00	0.00±0.00	0.00±0.00	0.27	0.18
<b>Total fiber(g/d)</b>	45.64±19.35	40.56±16.56 <sup>a</sup>	47.74±17.16	46.11±21.02	48.10±21.60 <sup>b</sup>	<b>0.02</b>	0.52
<b>Caffeine(mg/d)</b>	147.24±142.07	257.04±221.05 <sup>a</sup>	147.49±82.00 <sup>b</sup>	114.46±63.91 <sup>c</sup>	67.87±45.95 <sup>c</sup>	< <b>0.001</b>	< <b>0.001</b>
<b>Vitamins</b>							
<b>A(RAE)</b>	735.84±383.58	808.13±473.20	810.24±383.29	760.32±349.61	560.60±238.10 <sup>a</sup>	< <b>0.001</b>	< <b>0.001</b>
<b>C(mg/d)</b>	181.42±114.74	207.30±118.06 <sup>a</sup>	214.52±146.26 <sup>a</sup>	168.12±81.56 <sup>b</sup>	134.02±80.31 <sup>b</sup>	< <b>0.001</b>	< <b>0.001</b>
<b>D(µg/d)</b>	1.89±1.48	2.01±1.55	2.01±1.79	2.03±1.40 <sup>a</sup>	1.50±1.02 <sup>b</sup>	<b>0.03</b>	<b>0.006</b>
<b>E(mg/L)</b>	16.60±8.82	13.31±6.61	16.53±7.72	16.03±7.65	20.55±11.23 <sup>a</sup>	< <b>0.001</b>	< <b>0.001</b>
<b>B1 (mg/d)</b>	2.06±0.65	1.77±0.58 <sup>a</sup>	2.10±0.56	2.19±0.71	2.18±0.67	< <b>0.001</b>	<b>0.01</b>
<b>B2 (mg/d)</b>	2.19±0.78	2.06±0.75 <sup>a,c</sup>	2.36±0.88 <sup>b</sup>	2.27±0.78	2.05±0.67 <sup>c</sup>	<b>0.01</b>	< <b>0.001</b>
<b>B3(mg/d)</b>	25.34±9.09	22.56±7.91 <sup>a</sup>	26.21±8.26	26.46±9.65	26.11±9.97	<b>0.009</b>	0.97
<b>B6 (mg/d)</b>	2.12±0.69	2.08±0.72	2.27±0.68 <sup>a</sup>	2.17±0.65	1.96±0.68 <sup>b</sup>	<b>0.017</b>	< <b>0.001</b>
<b>Folate (µg/d)</b>	601.95±177.69	573.21±172.62	629.30±164.65	620.82±192.26	583.60±177.07	0.08	<b>0.001</b>
<b>B12(µg/d)</b>	4.18±2.21	3.96±1.75	4.52±2.51 <sup>a</sup>	4.62±2.50 <sup>b</sup>	3.62±1.84 <sup>c</sup>	<b>0.005</b>	<b>0.002</b>
<b>K(µg/d)</b>	270.39±271.40	268.28±336.99	332.81±302.13 <sup>b</sup>	258.60±213.61	219.14±196.14 <sup>c</sup>	<b>0.03</b>	<b>0.02</b>
<b>Minerals</b>							
<b>Sodium(mg/d)</b>	4317.45±1614.18	3751.07±1477.56 <sup>a</sup>	4278.84±1228.00	4616.46±1724.52 <sup>b</sup>	4631.33±1837.94 <sup>b</sup>	< <b>0.001</b>	<b>0.06</b>
<b>Potassium(mg/d)</b>	4323.67±1557.23	4596.61±1608.85	4817.97±1567.28	4297.11±1476.28	3558.27±1275.21 <sup>a</sup>	< <b>0.001</b>	< <b>0.001</b>
<b>Calcium (mg/d)</b>	1210.84±466.44	1161.71±458.02	1335.17±514.50 <sup>a</sup>	1244.86±428.89	1096.69±428.86 <sup>b</sup>	<b>0.003</b>	< <b>0.001</b>
<b>Iron (mg/d)</b>	24.61±17.98	20.02±17.38 <sup>a</sup>	27.04±20.24 <sup>b</sup>	25.76±17.42	25.58±15.99	<b>0.03</b>	0.36
<b>Phosphorus(mg/d)</b>	1611.36±497.66	1515.92±497.89 <sup>a,c</sup>	1731.94±515.45 <sup>b</sup>	1674.02±493.36	1519.31±451.60 <sup>c</sup>	<b>0.003</b>	< <b>0.001</b>
<b>Magnesium (mg/d)</b>	456.21±146.86	442.97±147.85	497.90±145.59 <sup>b</sup>	459.82±152.08	422.47±132.81 <sup>c</sup>	<b>0.004</b>	< <b>0.001</b>

<b>Zinc (mg/d)</b>	12.88±4.26	11.65±4.12 <sup>a</sup>	13.97±4.36 <sup>b</sup>	13.40±4.17 <sup>c</sup>	12.44±4.03	<b>0.001</b>	<b>&lt; 0.001</b>
<b>Copper (mg/d)</b>	1.95±0.70	1.74±0.65 <sup>a</sup>	2.06±0.63 <sup>b</sup>	2.09±0.86 <sup>c</sup>	1.90±0.58	<b>0.002</b>	0.06
<b>Manganese (mg/d)</b>	7.65±3.34	7.60±3.54	8.00±3.13	7.59±3.55	7.39±3.15	0.65	0.06
<b>Selenium (µg/d)</b>	121.32±42.59	101.88±36.11 <sup>a</sup>	122.66±36.98	128.74±47.40	132.16±43.13	<b>&lt; 0.001</b>	<b>0.002</b>

*Data are presented as Mean ±SD.*

*SD: Standard deviation, SAFA: saturated fatty acids, PUFA: polyunsaturated fatty acids, MUFA: monounsaturated fatty acids, EPA: eicosapentaenoic acid, DHA: docosahexaenoic acid,*

*P values resulted from ANOVA analysis. P-value < 0.05 is significant.*

*\*P values presented resulted from ANCOVA analysis and were adjusted for energy intake.*

*<sup>a,b,c,d</sup> Bonferroni Post-hoc test was used: means with the same letters indicate no significant difference. Any difference between two means carrying different letters is significant at 0.05. Variable without any letters did not show any differences.*

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**Table 3 Characteristics of body compositions and inflammatory markers levels of participants among ED quartiles**

<b>Variables</b>	<b>Total Mean±SD</b>	<b>Q1 (n=97)</b>	<b>Q2 (n=98)</b>	<b>Q3 (n=98)</b>	<b>Q4 (n=98)</b>	<b>P value</b>	<b>P* value</b>
<b>BFM (kg)</b>							
Crude	34.35±8.33	33.74±7.89	34.87±8.34	33.66±8.26	35.13±8.86	0.51	-
Model 1	33.71±8.10	33.18±7.89	34.30±8.53	32.85±7.65	34.58±8.38	-	0.62
Model 2	33.59±8.19	33.18±7.89	33.77±8.54	32.82±7.85	34.72±8.59	-	0.61
<b>FFM(kg)</b>							
Crude	46.40±5.64	45.79±5.23	46.39±5.56	46.99±6.19	46.45±5.60	0.55	-
Model 1	46.78±5.63	46.22±4.93	46.97±5.93	47.35±5.97	46.63±5.77	-	0.92
Model 2	46.64±5.59	46.22±4.93	46.92±5.76	46.97±5.93	46.51±5.91	-	0.95
<b>BMC(kg)</b>							
Crude	2.64±0.35	2.60±0.32	2.66±0.34	2.70±0.38	2.64±0.36	0.27	-
Model 1	2.67±0.36	2.63±0.31	2.71±0.36	2.71±0.39	2.64±0.38	-	0.57
Model 2	2.66±0.36	2.63±0.31	2.71±0.36	2.68±0.38	2.64±0.39	-	0.61
<b>SMM(kg)</b>							
Crude	25.49±3.41	25.13±3.13	25.41±3.35	25.77±3.67	25.68±3.53	0.58	-

**Table 3 Characteristics of body compositions and inflammatory markers levels of participants among ED quartiles**

Model 1	25.70±3.34	25.44±2.93	25.75±3.55	26.00±3.50	25.63±3.44	-	0.96
Model 2	25.62±3.32	25.44±2.93	25.73±3.45	25.78±3.49	25.55±3.52	-	0.97
<b>SLM(kg)</b>							
Crude	43.65±5.37	43.18±4.94	43.41±5.40	44.29±5.83	43.76±5.33	0.52	-
Model 1	43.98±5.37	43.60±4.64	43.80±5.84	44.63±5.60	43.97±5.43	-	0.91
Model 2	43.97±5.26	43.60±4.64	44.21±5.43	44.28±5.58	43.86±5.56	-	0.96
<b>TBF (%)</b>							
Crude	42.04±5.41	42.09±5.31	42.49±5.08	41.42±5.15	42.18±6.11	0.59	-
Model 1	43.98±5.37	43.60±4.64	41.7692	40.7552	41.4852	-	0.80
Model 2	41.32±5.48	41.37±5.24	41.40±5.00	40.91±5.07	41.58±6.73	-	0.92
<b>VFA(cm²)</b>							
Crude	42.04±5.41	42.09±5.31	42.49±5.08	41.42±5.15	42.18±6.11	0.60	-
Model 1	43.98±5.37	43.60±4.64	41.7692	40.7552	41.4852	-	0.39
Model 2	168.00±115.64	156.69±39.91	161.90±38.50	189.46±228.74	166.97±35.82	-	0.37
<b>VFL(cm²)</b>							
Crude	16.71±12.62	19.23±24.53	16.09±3.26	15.55±3.28	15.97±3.07	0.17	-
Model 1	16.84±15.39	20.17±28.90	15.78±3.26	15.78±3.26	15.79±2.96	-	0.11



**Table 3 Characteristics of body compositions and inflammatory markers levels of participants among ED quartiles**

Model 2	16.85±15.81	20.17±28.90	15.53±3.27	15.19±3.34	15.82±3.04	-	0.10
<b>FFMI (kg/m<sup>2</sup>)</b>							
Crude	18.19±6.94	19.21±13.63	17.89±1.63	17.77±1.52	17.91±1.55	0.45	-
Model 1	18.46±8.46	19.88±16.05	17.98±1.61	17.87±1.38	17.96±1.47	-	0.42
Model 2	18.49±8.69	19.88±16.05	17.99±1.54	17.84±1.40	17.95±1.50	-	0.51
<b>FMI (kg/m<sup>2</sup>)</b>							
Crude	13.30±3.26	13.29±3.30	13.48±3.19	12.83±3.14	13.60±3.45	0.40	-
Model 1	13.03±3.19	13.08±3.28	13.16±3.18	12.50±2.86	13.38±3.30	-	0.45
Model 2	13.02±3.22	13.08±3.37	12.98±3.19	12.57±2.92	13.46±3.37	-	0.38
<b>WC (cm)</b>							
Crude	99.23±9.78	98.73±9.20	99.53±10.37	98.85±9.91	99.79±9.70	0.86	-
Model 1						-	0.86
Model 2	98.63±9.63	98.05±8.98	98.50±10.42	98.32±9.63	99.85±9.67	-	0.80
<b>WHR</b>							
Crude	1.18±4.75	0.93±0.05	0.93±0.05	1.94±9.55	0.93±0.05	0.38	-
Model 1						-	0.92

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Model 2	0.93±0.05	0.93±0.05	0.93±0.05	0.93±0.06	0.94±0.05	-	0.91
<b>Trunk fat (kg)</b>							
Crude	16.71±3.55	16.48±3.34	16.93±3.64	16.43±3.48	17.04±3.77	0.55	-
Model 1	16.49±3.53	16.18±3.35	16.67±3.65	16.19±3.32	16.97±3.81	-	0.60
Model 2	16.43±3.57	16.18±3.35	16.45±3.68	16.17±3.40	17.02±3.92	-	0.56
<b>FLL(kg)</b>							
Crude	5.04±1.20	4.97±1.22	5.15±1.21	4.91±1.11	5.14±1.26	0.32	-
Model 1	5.04±1.20	4.97±1.22	5.15±1.21	4.91±1.11	5.14±1.26	-	0.60
Model 2	5.02±1.21	4.97±1.22	5.07±1.20	4.91±1.15	5.16±1.29	-	0.49
<b>FLA (kg)</b>							
Crude	2.87±1.11	2.75±1.03	2.98±1.19	2.75±0.99	3.00±1.23	0.48	-
Model 1	2.87±1.11	2.75±1.03	2.98±1.19	2.75±0.99	3.00±1.23	-	0.93
Model 2	2.85±1.12	2.75±1.03	2.92±1.19	2.75±1.01	3.03±1.26	-	0.49
<b>FRL (kg)</b>							
Crude	5.07±1.21	5.00±1.24	5.18±1.22	4.94±1.13	5.18±1.28	0.33	-
Model 1	5.07±1.21	5.00±1.24	5.18±1.22	4.94±1.13	5.18±1.28	-	0.60
Model 2	5.06±1.22	5.00±1.24	5.10±1.21	4.94±1.16	5.20±1.31	-	0.49

**Table 3 Characteristics of body compositions and inflammatory markers levels of participants among ED quartiles**

FRA (kg)							
Crude	2.85±1.11	2.77±1.03	2.95±1.21	2.72±0.99	2.99±1.2	0.49	-
Model 1	2.85±1.11	2.77±1.03	2.95±1.21	2.72±0.99	2.99±1.22	-	0.47
Model 2	2.84±1.12	2.77±1.03	2.89±1.20	2.72±1.01	3.01±1.25	-	0.49
TBW(Liters)							
Crude	34.10±4.15	33.66±3.86	34.07±4.08	34.53±4.54	34.14±4.10	0.57	-
Model 1	34.33±4.11	33.92±3.63	34.50±4.32	34.66±4.32	34.27±4.22	-	0.93
Model 2	34.26±4.10	33.97±3.64	34.43±4.22	34.52±4.35	34.19±4.32	-	0.97
ICW(Liters)							
Crude	21.05±2.58	20.77±2.39	21.00±2.54	21.30±2.81	21.12±2.58	0.57	-
Model 1	21.23±2.56	20.99±2.22	20.99±2.23	20.99±2.23	20.99±2.24	-	0.97
Model 2	21.16±2.53	20.99±2.23	21.24±2.60	21.30±2.68	21.12±2.69	-	0.97
ECW(Liters)							
Crude	13.11±1.68	12.91±1.53	13.15±1.69	13.35±1.92	13.05±1.56	0.35	-
Model 1	13.16±1.61	13.00±1.47	13.00±1.47	13.00±1.47	13.00±1.47	-	0.84
Model 2	13.12±1.60	13.00±1.47	13.23±1.65	13.22±1.69	13.07±1.65	-	0.91
PAI-1(mg/dl)							

**Table 3 Characteristics of body compositions and inflammatory markers levels of participants among ED quartiles**

Crude	16.46±30.21	15.54±25.29	21.08±40.61	12.59±17.51	14.81±28.20	0.59	-
Model 1	15.88±30.53	13.90±22.76	21.14±41.02	12.22±17.31	13.48±29.45	-	0.87
Model 2	16.66±31.77	13.90±22.76	23.60±43.19	12.40±18.39	13.65±30.92	-	0.79
<b>TGF-beta(mg/dl)</b>							
Crude	79.02±49.40	92.53±82.35	75.44±30.37	71.14±28.83	77.12±37.34	0.24	-
Model 1	78.89±50.68	95.28±85.12	75.67±30.64	71.30±30.44	72.52±34.19	-	0.27
Model 2	79.80±52.22	95.28±85.12	76.88±30.84	70.23±28.76	73.51±35.82	-	0.41
<b>hs-CRP(mg/dl)</b>							
Crude	4.37±4.70	4.57±4.96	3.45±4.08	4.61±4.46	5.06±5.25	0.28	-
Model 1	4.33±4.77	4.62±5.13	3.32±4.11	4.57±4.50	5.08±5.27	-	0.13
Model 2	4.34±4.79	4.62±5.13	3.43±4.30	4.46±4.66	4.98±5.00	-	0.26

**Abbreviation: SD: standard deviation, BFM: body fat mass, FFM: fat-free mass, WHR: waist to hip ratio**

**WC: waist circumference, BMC: bone mineral content, FMI: fat mass index, FFMI: fat-free mass index, SMM: skeletal muscle mass, SLM: soft lean mass, TBF: total body fat, VFA: visceral fat area, VFL: visceral fat level, FLL: fat left leg, FRL: fat right leg, FLA: fat left arm, FRA: fat right arm, TBW: total body water, ECW: extracellular water, ICW: intracellular water, hs-CRP: high-sensitive C-reactive protein, TGF-beta: transforming growth factor-β, PAI-1: plasminogen activator inhibitor- 1.**

**Total mean±SD are presented. P<0.05 is significant.**

**\*P values were adjusted. Model 1: adjusted for age and PA. Model 2: adjusted for model 1 + marital, income, job, education, and economic status**

**Table 4 Association between body composition subcategories and ED among overweight and obese women**

<b>Variables</b>	<b><math>\beta^*</math></b>	<b>95% CI</b>	<b>P value</b>
<b>FRA(kg)</b>			
Crude	0.16	0.01-0.31	<b>0.03</b>
model 1	0.17	0.00-0.33	<b>0.04</b>
model 2	0.24	0.05-0.43	<b>0.01</b>
<b>FLA(kg)</b>			
Crude	0.15	-0.00-0.30	<b>0.05</b>
model 1	0.15	-0.01-0.32	0.06
model 2	0.22	0.03-0.41	<b>0.02</b>
<b>Trunk fat (kg)</b>			
Crude	0.37	-0.07-0.83	0.10

model 1	0.44	-0.05-0.93	0.07
model 2	0.68	0.13-1.23	<b>0.01</b>
<b>FRL(kg)</b>			
Crude	0.18	0.01-0.34	<b>0.02</b>
model 1	0.19	0.02-0.37	<b>0.02</b>
model 2	0.27	0.07-0.47	<b>0.008</b>
<b>FLL(kg)</b>			
Crude	0.18	0.01-0.34	<b>0.02</b>
model 1	0.19	0.01-0.36	<b>0.03</b>
model 2	0.26	0.06-0.46	<b>0.008</b>
<b>TBW(Liters)</b>			
Crude	0.60	0.06-1.13	<b>0.02</b>
model 1	0.52	-0.07-1.11	0.08
model 2	0.72	0.05-1.39	<b>0.03</b>
<b>ICW(Liters)</b>			
Crude	0.39	0.05-0.72	<b>0.02</b>

model 1	0.33	-0.03-0.70	0.07
model 2	0.45	0.04-0.87	<b>0.03</b>
<b>ECW(Liters)</b>			
Crude	0.21	-0.00-0.43	<b>0.05</b>
model 1	0.18	-0.06-0.43	0.13
model 2	0.27	-0.009-0.55	<b>0.05</b>
<b>BFM(kg)</b>			
Crude	1.10	0.01-2.18	<b>0.04</b>
model 1	1.22	0.04-2.40	<b>0.04</b>
model 2	1.74	0.41-3.07	<b>0.01</b>
<b>FFM(kg)</b>			
Crude	0.82	0.09-1.55	<b>0.02</b>
model 1	0.70	-0.10-1.50	0.08
model 2	0.98	0.07-1.89	<b>0.03</b>
<b>BMC(kg)</b>			
Crude	0.04	-0.00-0.08	0.06

model 1	0.02	-0.02-0.07	0.26
model 2	0.05	-0.005-0.10	0.07
<b>SMM(kg)</b>			
Crude	0.56	0.12-1.01	<b>0.01</b>
model 1	0.47	-0.01-0.96	<b>0.05</b>
model 2	0.56	0.02-1.09	<b>0.04</b>
<b>SLM(kg)</b>			
Crude	0.77	0.08-1.46	<b>0.02</b>
model 1	0.66	-0.09-1.43	0.08
model 2	0.95	0.09-1.80	<b>0.03</b>
<b>TBF (%)</b>			
Crude	0.20	-0.47-0.87	0.55
model 1	0.39	-0.30-1.10	0.26
model 2	0.61	-0.16-1.40	0.12
<b>WHR</b>			
Crude	0.13	-0.66-0.92	0.74



model 1	0.001	-0.007-0.009	0.80
model 2	0.003	-0.005-0.01	0.44
<b>WC(cm)</b>			
Crude	1.09	-0.19-2.38	0.09
model 1	1.14	-0.26-2.55	0.10
model 2	1.78	0.19-3.37	<b>0.02</b>
<b>VFA(cm²)</b>			
Crude	5.12	-10.08-20.34	0.50
model 1	7.73	-9.63-25.10	0.38
model 2	10.66	-10.78-32.12	0.32
<b>VFL(cm²)</b>			
Crude	-0.74	-1.98-0.49	0.23
model 1	-0.78	-2.20-0.63	0.27
model 2	-0.64	-2.41-1.12	0.47
<b>FFMI (kg/m²)</b>			
Crude	0.15	-0.04-0.34	0.12

model 1	0.18	-0.02-0.39	0.08
model 2	0.23	0.01-0.46	<b>0.04</b>
<b>FMI (kg/m<sup>2</sup>)</b>			
Crude	0.29	-0.12-0.70	0.16
model 1	0.39	-0.04-0.82	0.07
model 2	0.55	0.08-1.03	<b>0.02</b>

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*All values are presented as 95% Confidence intervals (95% CI). P-value < 0.05 is significant.*

*Abbreviation: BFM: body fat mass, FFM: fat-free mass, BMC: Bone mineral content, FMI: fat mass index, FFMI: fat-free mass index, SMM: skeletal muscle mass, SLM: soft lean mass, TBF: body fat, VFA: visceral fat area, VFL: visceral fat level, FLL: fat left leg, FRL: fat right leg, FLA: fat left arm, FRA: fat right arm, TBW: total body water, ECW: extracellular water, ICW: intracellular water, WHR: waist to hip ratio, WC: waist circumference*

*$\beta$  \* regression coefficients refer to the ED (kcal/g) difference.*

*Model 2: Adjusted for age, PA, job, education and marital status.*

*Model 3: Adjusted for model 2 + family members, history of having weight loss, economy and income status.*

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**Table 5: The association of the mediating effect of inflammatory factors on BC subcategories between ED quartiles in overweight and**

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		ED		
BCs <sup>a</sup>		$\beta$ *	95%CI	P-value
FRA(kg)	PAI-1	0.04	-0.20-0.29	0.70
	TGF- $\beta$	0.13	-0.08-0.35	0.22
	hs-CRP	0.24	0.009-0.48	<b>0.04</b>
FLA(kg)	PAI-1	0.04	-0.19-0.29	0.70
	TGF- $\beta$	0.13	-0.08-0.34	0.23
	hs-CRP	0.23	-0.001-0.47	<b>0.05</b>
Trunk fat (kg)	PAI-1	0.27	-0.63-1.17	0.54
	TGF- $\beta$	0.56	-0.27-1.40	0.18
	hs-CRP	0.82	0.10-1.54	<b>0.02</b>
FRL(kg)	PAI-1	0.08	-0.21-0.38	0.55

	TGF- $\beta$	0.16	-0.09-0.43	0.21
	hs-CRP	0.25	-0.01-0.52	0.06
<b>FLL(kg)</b>	PAI-1	0.07	-0.21-0.37	0.60
	TGF- $\beta$	0.15	-0.10-0.41	0.23
	hs-CRP	0.24	-0.02-0.50	0.07
<b>TBW(Liters)</b>	PAI-1	-0.03	-1.23-1.16	0.95
	TGF- $\beta$	0.29	-0.85-1.44	0.60
	hs-CRP	0.72	-0.27-1.72	0.15
<b>ICW(Liters)</b>	PAI-1	0.006	-0.73-0.74	0.98
	TGF- $\beta$	0.19	-0.51-0.90	0.58
	hs-CRP	0.44	-0.15-1.05	0.14
<b>ECW(Liters)</b>	PAI-1	-0.04	-0.51-0.42	0.85
	TGF- $\beta$	0.09	-0.34-0.53	0.65
	hs-CRP	0.27	-0.11-0.67	0.16
<b>BFM(kg)</b>	PAI-1	0.54	-1.42-2.52	0.57

	TGF- $\beta$	1.17	-0.63-2.98	0.19
	hs-CRP	1.84	0.11-3.57	<b>0.03</b>
<b>FFM(kg)</b>	PAI-1	-0.06	-1.71-1.57	0.93
	TGF- $\beta$	0.38	-1.18-1.95	0.62
	hs-CRP	0.96	-0.39-2.32	0.16
<b>BMC(kg)</b>	PAI-1	-0.03	-0.13-0.07	0.56
	TGF- $\beta$	-0.003	-0.10-0.10	0.96
	hs-CRP	0.03	-0.05-0.11	0.42
<b>SMM(kg)</b>	PAI-1	0.13	-0.01-0.03	0.78
	TGF- $\beta$	0.25	-0.67-1.18	0.58
	hs-CRP	0.59	-0.20-1.38	0.14
<b>SLM(kg)</b>	PAI-1	0.13	-0.02-0.06	0.81
	TGF- $\beta$	0.38	-1.09-1.86	0.60
	hs-CRP	-0.04	-1.58-1.50	0.95
<b>(%) TBF</b>	PAI-1	0.56	-0.82-1.95	0.42

	TGF- $\beta$	0.77	-0.54-2.09	0.24
	hs-CRP	0.71	-0.32-1.74	0.17
<b>WHR</b>	PAI-1	0.001	-0.01-0.01	0.96
	TGF- $\beta$	0.004	-0.01-0.01	0.59
	hs-CRP	0.009	-0.003-0.02	0.13
<b>WC(cm)</b>	PAI-1	0.57	-1.93-3.08	0.64
	TGF- $\beta$	1.45	-0.96-3.87	0.23
	hs-CRP	2.33	0.26-4.39	<b>0.02</b>
<b>VFA(cm<sup>2</sup>)</b>	PAI-1	3.03	-6.97-13.04	0.54
	TGF- $\beta$	5.83	-3.61-15.28	0.22
	hs-CRP	8.20	0.40-15.99	<b>0.03</b>
<b>VFL(cm<sup>2</sup>)</b>	PAI-1	0.30	-0.65-1.27	0.52
	TGF- $\beta$	0.56	-0.33-1.46	0.21
	hs-CRP	0.64	-0.03-1.33	0.06
<b>FFMI (kg/m<sup>2</sup>)</b>	PAI-1	0.06	-0.35-0.47	0.77

	TGF- $\beta$	0.17	-0.18-0.53	0.33
	hs-CRP	0.23	-0.09-0.57	0.16
<b>FMI (kg/m<sup>2</sup>)</b>	PAI-1	0.27	-0.51-1.06	0.49
	TGF- $\beta$	0.47	-0.23-1.19	0.18
	hs-CRP	0.60	0.01-1.20	<b>0.04</b>

*Abbreviation: BCs: body compositions, BFM: body fat mass, FFM: fat-free mass, TBW: total body fat, BMC: bone mineral content, FMI: fat mass index, FFMI: fat-free mass index, SMM: skeletal muscle mass, SLM: soft lean mass, WC: waist circumference, WHR: waist to hip ratio, TBF: total body fat, hs-CRP: high-sensitive C-reactive protein, TGF-beta: transforming growth factor- $\beta$ , PAI-1: plasminogen activator inhibitor- 1, ECW: extracellular water, ICW: intracellular water.*

*<sup>a</sup> All variables were adjusted for family members, history of having weight loss, age, economic status, PA, marital status, income status, education, and job. Logistic regression was used;  $\beta$  \* regression coefficients refer to ED (kcal/g) groups difference. All values are presented as 95% Confidence intervals (95% CI). P-value < 0.05 is significant.*