

THE RELATIONSHIP BETWEEN GYNECOLOGIC CANCER AND REPRODUCTIVE HEALTH AWARENESS AND OBESITY IN WOMEN: A CROSS-SECTION STUDY

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Abstract: Purpose: This study was conducted to determine the effect of obesity awareness on gynecological cancer and reproductive health awareness in women.

Materials and Methods: This study is a cross-sectional study. The sample of the study consisted of overweight and obese women. Data were collected using the introductory information form, obesity awareness scale, and gynecological cancers awareness scale via a Google form.

Results: Obesity was found to have a statistically significant association with reproductive health, including the risk for pregnancy and baby, uterus, ovary and breast cancer, menstrual irregularity, age of first menstruation, polycystic ovary syndrome, cesarean section risk, preeclampsia, gestational diabetes, still-birth risk, birth defects, the chance of conception, the success of fertility treatment, early menopause, osteoporosis, baby weight, and iron deficiency anemia. The total mean score Obesity Awareness Scale and Gynecologic Cancer Awareness Scale was significantly higher among those who believed in this association. A highly significant positive correlation was observed between total and sub-dimension mean scores of women's Obesity Awareness Scale and Gynecologic Awareness Scale.

Conclusion: It has been determined that obesity awareness in women is related to reproductive health and gynecological cancer awareness.

Keywords: Obesity, Gynecologic cancer, Reproductive health, Awareness.

INTRODUCTION

Obesity is characterized by the abnormal or excessive accumulation of fat in the body, posing a signifi-

cant health risk. It is a substantial global public health issue that is on the rise (1). According to the World Health Organization (WHO), people with a body mass index of 25 kg/m² and above are overweight, while those with a body mass index of 30 kg/m² and above are obese.

In 2016, 13% of the world's adult population (15% for women; 11% for men) were obese (2). According to the Turkish Statistical Institute (TSI, 2019), one in five people (21.1%) in Turkey is obese (24.8% for women; 17.3% for men) (3). Obesity is more common in women than in men because of increased fat tissue, metabolic rate, mood swings, and sedentary life resulting from hormonal fluctuations (such as pregnancy, childbirth, and menopause) (4, 5, 6). Obesity in women causes cycle irregularities, polycystic ovary syndrome, infertility, risky pregnancy, and problems related to the birth process, adversely affecting reproductive health (7-10). Furthermore, obesity is associated with an increased risk of gynecologic cancers. Research shows that obesity is positively correlated with breast, endometrial, and ovarian cancer (11-14). We need to raise women's awareness of obesity to prevent gynecologic cancers and reduce its adverse effects on reproductive health (15). Women who are aware of the impact of obesity on gynecologic cancers and reproductive health may be more likely to reach and maintain a healthy weight. Research suggests that people with high awareness of obesity are better at managing body weight and improving their quality of life (16, 17). However, most women are unaware of the impact of obesity on reproductive health (18, 19). Therefore, all health professionals should counsel women regarding the consequences of obesity on reproductive health (18). While there has been a growing body of

awareness-based research in recent years, there is no research focusing on the effect of obesity awareness on gynecologic cancer and reproductive health awareness. Hence, this study aims to determine the effect of obesity awareness on gynecologic cancer and reproductive health awareness. This study will fill a gap in the literature, help us make a societal assessment, and guide health professionals in planning training and consultancy programs.

MATERIAL AND METHODS

Study Design and Participants

This cross-sectional and descriptive study aimed to evaluate the effect of obesity awareness on gynecologic cancer and reproductive health awareness in women.

The study sample comprised women residing in a southern province of Turkey diagnosed with obesity. Data collection took place in the province of Osmaniye from July to March 2021. Simple, random sampling was employed to recruit participants, ensuring an equal opportunity for all individuals in the population to be selected. A power analysis was conducted to determine the appropriate sample size, revealing that a sample of 420 participants would be sufficient to detect significant differences.

Inclusion criteria:

1. Being 18-65 years of age
2. Having no learning difficulties,
3. Having no hearing-speech problems,
4. Having no mental disorders
5. Being overweight or obese.

Exclusion criteria:

1. Having gynecologic cancer,
2. Having a hysterectomy,
3. Declining to participate,
4. Having a mental disorder
5. Having communication problems due to language differences

Data were collected using a demographic characteristics questionnaire, a Reproductive Health Awareness Form, the Gynecologic Cancer Awareness Scale (GCAS), and the Obesity Awareness Scale (OAS).

Demographic Characteristics Questionnaire; The demographic characteristics questionnaire was constructed following an extensive review of the literature by the researchers (18, 19). It comprised a total of 35 items, with 13 items assessing sociodemographic characteristics and 22 items focusing on knowledge pertaining to the impacts of obesity on reproductive health.

Obesity Awareness Scale (OAS); The Obesity Awareness Scale (OAS) was developed by Allen and adapted to Turkish by Kafkas and Özen (20, 21). The

scale consists of 21 items and three subscales: obesity awareness (8 items), nutrition (7 items), and physical activity (8 items). The scale has a Cronbach's alpha of 0.872, which was 0.863 in this study.

Gynecologic Cancer Awareness Scale (GCAS);

The Gynecologic Cancer Awareness Scale (GCAS) was developed by Dal and Ertem (22). The scale consists of 41 items and four subscales: (1) routine control of gynecologic cancers and awareness of serious illness perception, (2) awareness of gynecologic cancer risks, (3) awareness of prevention of gynecologic cancers, and (4) early diagnosis and information awareness in gynecologic cancers. The total score ranges from 41 to 205, with higher scores indicating higher awareness of gynecologic cancers. The scale demonstrated high internal consistency, with a Cronbach's alpha coefficient of 0.944 (22), which was found to be 0.936 in the present study.

Reproductive Health Awareness Form; The Reproductive Health Awareness Form was developed by the researchers through an extensive review of the relevant literature. The form encompassed 22 items, focusing on women's knowledge, attitudes, and perceptions regarding reproductive health.

The data were collected online (Google Docs) by the researchers between April 2021 and September 2021. Women who met the inclusion criteria were reached through social media platforms. Prior to data collection, participants were provided with detailed information regarding the research objectives and procedures. Each participant was given approximately 20-25 minutes to complete the data collection forms.

Statistical Analyses

Statistical Package for Social Sciences (SPSS) 25 program was used in the analysis of the data. Normality was tested using skewness and kurtosis values. Number, percentage, mean, standard deviation, median, and minimum-maximum values were used for descriptive data. The data were analyzed using the Mann-Whitney U test, independent samples t-test, One Way ANOVA test, Welch test, Kruskal-Wallis test, Chi-Square test, and Pearson Correlation. Cronbach's alpha analysis was also used.

RESULTS

Table 1 shows the participants' sociodemographic characteristics.

There was a significant difference in sociodemographic characteristics (marital status, education, pap smear test, age, body mass index, number of pregnancies, and number of children) between overweight and obese participants ($p < 0.05$). Obese participants were older than overweight participants. More obese

Table 1. Socio-demographic characteristics of overweight and obese women (n : 420)

	Overweight	Obese	Total	
	Median (Min-Max)	Median (Min-Max)	Median (Min-Max)	p
Age	29 (18-60)	40 (19-68)	34 (18-68)	P^a=.000
Marital Status	n (%)	n (%)	n (%)	
Single	107 (44.2)	55 (30.9)	162 (38.6)	P^b=0.006
Married	135 (55.8)	123 (69.1)	258 (61.4)	
Level Of Income				
Income < Expense	84 (34.7)	61 (34.3)	145 (34.5)	P^b=0.944
Income = Expense	123 (50.8)	93 (52.2)	216 (51.4)	
Income > Expense	35 (14.5)	24 (13.5)	59 (14)	
Educational Status				
Literate	15 (6.2)	12 (6.7)	27 (6.4)	p^b=.000
Primary School Graduate	17 (7)	48 (27)	65 (15.5)	
Secondary School Graduate	19 (7.9)	17 (9.6)	36 (8.6)	
High School Graduate	69 (28.5)	45 (25.3)	114 (27.1)	
Graduated From a University	122 (50.4)	56 (31.5)	178 (42.4)	
Working Status				
Employed	97 (40.1)	59 (33.1)	156 (37.1)	p^b=0.146
Nonemployed	145 (59.9)	119 (66.9)	264 (62.9)	
Family Type				
Nuclear Family	210 (86.8)	154 (86.5)	364 (86.7)	p^b=0.938
Extended family	32 (13.2)	24 (13.5)	56 (13.3)	
Living Place				
City	208 (86)	146 (82)	354 (84.3)	p^b=0.427
Town	8 (3.3)	10 (5.6)	18 (4.3)	
Village	26 (10.7)	22 (12.4)	48 (11.4)	
Pap Smear Test Make Status				
Yes	54 (22.3)	62 (34.8)	116 (27.6)	P^b=0.005
No	188 (77.7)	116 (65.2)	304 (72.4)	
Obesity Education Taking Status				
Yes	41 (16.9)	38 (21.3)	79 (18.8)	P^b=0.254
No	201 (83.1)	140 (78.7)	341 (81.2)	
	Median (Min-Max)	Median (Min-Max)	Median (Min-Max)	
BMI	27.8 (25–29.8)	33.7 (30–77.8)	29.3 (25–77.8)	P^a=.000
Number of Pregnancies	1 (0-8)	2 (0-11)	2 (0-11)	P^a=.000
Number of Children	1 (0-6)	2 (0-10)	1 (0-10)	P^a=.000

p^a: Mann Whitney U test p^b: Chi-Square test

participants had pap smear tests than overweight participants. More obese participants were married than overweight participants. Obese participants were less educated than overweight participants. The statistical difference between the two groups was due to the difference between the groups with primary school and bachelor’s degrees. The two groups did not significantly differ by income, employment, family type, place of residence, and training in obesity (p > 0.05).

Participants had a mean OAS and GCAS score of 60.94 ± 6.23 and 155.39 ± 18.63, respectively (p > 0.05). Overweight participants had a significantly higher OAS “nutrition” subscale score than obese participants (p < 0.05). Overweight participants had significantly higher GCAS “awareness of prevention of gynecologic cancers” and “early diagnosis and information awareness in gynecologic cancers” subscale scores than obese participants (p < 0.05) (Table 2).

Table 2. Distribution of scale means of overweight and obese women (n : 420)

	Overweight	Obese	Total		Cronbach's Alpha
	Ort ± SS	Ort ± SS	Ort ± SS	p; t	
OAS	61.35 ± 6.25	60.39 ± 6.17	60.94 ± 6.23	p:0.121; t:1.554	0.863
	Median (Min-Max)	Median (Min-Max)	Median (Min-Max)	P; U	
Obesity Awareness	27 (17-36)	28 (17-35)	27 (17-36)	p:0.802; U:21231.500	
	Ort ± SS	Ort ± SS	Ort ± SS	p; t	
Nutrition	18.92 ± 2.42	18.38 ± 2.46	19 ± 2.45	p:0.025 ; t:2.245	
Physical Activity	14.92 ± 1.74	14.77 ± 1.84	14.86 ± 1.78	p:0.389; t:0.862	
GCAS	156.49 ± 19.05	153.9 ± 17.99	155.39 ± 18.63	p:0.159; t:0.257	0.936
Routine Control in Gynecological Cancers and Awareness of Perception of Serious Disease	86.74 ± 12.6	85.35 ± 12.31	86.15 ± 12.48	p: 0.261; t: 1.126	
	Median (Min-Max)	Median (Min-Max)	Median (Min-Max)	P; U	
Awareness of Gynecological Cancer Risks	29 (18-45)	29 (17-45)	29 (17-45)	p: 0.742; U: 21134.000	
Awareness of Prevention from Gynecological Cancers	23 (8-30)	22 (6-30)	22 (6-30)	p: 0.043 ; U: 19060.000	
Early Diagnosis and Information Awareness in Gynecological Cancers	18 (8-20)	17 (10-20)	17 (8-20)	p: 0.026 ; U: 18840.000	

t: Independent Samples t Test, U: Mann Whitney U test

Table 3. Distribution of scale averages by women's socio-demographic characteristics (n : 420)

	OAS	Testing and Materiality	GCAS	Testing and Materiality
	Ort ± SS		Ort ± SS	
Age				
18-34	61.06 ± 6.32		156.19 ± 18.42	
35-51	61.19 ± 6.13	F:1.559	155.91 ± 18.85	F: 2,751
52-68	59.26 ± 5.97	p:0.203	148.77 ± 17.99	p: 0.065
Marital Status				
Single	61.39 ± 6.26	t:1.164	155.05 ± 18.86	t: - 0.299
Married	60.66 ± 6.2	p:0.245	155.61 ± 18.52	p: 0.765
Level Of Income				
Income < Expense	60.84 ± 6.14	3>1	153.48 ± 18.46	3>1, 3>2
Income = Expense	60.49 ± 6.36	F:3.450	154.61 ± 17.97	F: 5.997
Income > Expense	62.86 ± 5.64	p:0.033	162.98 ± 19.85	p:0.003
Educational Status				
Literate	61.48 ± 6.25		150.22 ± 20.64	
Primary School Graduate	60.35 ± 5.93		149.57 ± 17.95	
Secondary School Graduate	58.31 ± 5.76	5 > 3	153.11 ± 17.3	5 > 2
High School Graduate	60.42 ± 6.37	F:3.228	154.18 ± 18.22	F: 4.739
Graduated From a University	61.94 ± 6.17	p:0.013	159.54 ± 18.32	p: 0.001
Working Status				
Employed	61.34 ± 6.83	t:0.965	160.35 ± 19.57	t: 4.149
Nonemployed	60.71 ± 5.84	p:0.335	152.47 ± 17.43	p: 0.000

Family Type				
Nuclear Family	61.19 ± 5.97	t:1.754	156.64 ± 18.27	t: 3.546
Extended family	59.34 ± 7.54	p:0.084	147.29 ± 19.07	p:0.000
Living Place				
City	60.84 ± 6.19		155.99 ± 18.27	
Town	62.11 ± 6.41	F:0.421	156.33 ± 17.69	F: 1.769
Village	61.25 ± 6.53	p:0.657	150.65 ± 21.15	p: 0.172
Pap Smear Test Make Status				
Yes	61.11 ± 5.94	t:0.344	159.43 ± 19.33	t: 2.766
No	60.88 ± 6.34	p:0.731	153.85 ± 18.15	p: 0.006
Obesity Education Taking Status				
Yes	63.04 ± 6.7	t:3.360	165.49 ± 19.22	t: 5.534
No	60.46 ± 6.02	p:0.001	153.05 ± 17.71	p: 0.000
BMI				
25-29,9	61.35 ± 6.25	t:1.554	156.49 ± 19.05	t:1.411
30 and over	60.39 ± 6.17	p:0.121	153.9 ± 17.99	p: 0.159
Number of Pregnancies				
0-1	61.31 ± 6.24		154.79 ± 19.06	
1 and 3	61.15 ± 6.18	F:1.762	157.35 ± 17.83	F: 2.204
4 and over	59.8 ± 6.26	p:0.168	152.33 ± 19.22	p: 0.112
Number of Children				
0-1	61.43 ± 6.35		155.05 ± 19.03	2 > 3
1 and 3	60.71 ± 6.07	F:0.870	157.77 ± 18.06	F: 5.344
4 and over	60.41 ± 6.37	p:0.420	149.11 ± 18.05	p: 0.005

t: Independent Samples t Test, F: One Way ANOVA test

Table 4. Mean OAS and GCAS scores according to reproductive health awareness (n : 420)

	OAS	Testing and materiality	GCAS	Testing and materiality
Reproductive Health Awareness Questions	Ort ± SS		Ort ± SS	
Does obesity affect women's reproductive health?				
Yes	61.7 ± 5.79		157.81 ± 17.51	
No	54.22 ± 6.91	F = 16.534	134.33 ± 21.48	F = 18.819
I don't know	58 ± 6.9	p = 0.000	145.97 ± 19.26	p = 0.000
Does being obese pose a risk to the pregnancy period?				
Yes	61.43 ± 6.07		156.67 ± 18.29	
No	54.33 ± 7.11	F=13.766	138.44 ± 19.65	F= 10.457
I don't know	56.77 ± 5.36	p = 0.000	144.23 ± 16.9	p = 0.000
Is the presence of obesity in the mother risky for the baby?				
Yes	61.53 ± 6.04		157.42 ± 18.05	
No	54.5 ± 7.34	F = 13.992	137 ± 17.84	F = 17.561
I don't know	58 ± 5.66	p = 0.000	144.22 ± 16.99	p = 0.000
Does obesity affect the risk of uterine cancer in women?				
Yes	62.6 ± 6.7		161.59 ± 18.25	
No	58.86 ± 7.44	W = 12.094	147.5 ± 22.65	F = 20.998
I don't know	59.64 ± 5.33	p = 0.000	150.51 ± 17.05	p = 0.000

Does obesity affect the risk of ovarian cancer in women?				
Yes	62.68 ± 6.01		162 ± 17.23	
No	57.61 ± 6.55	F = 17.000	152 ± 19.25	F = 27.591
I don't know	59.5 ± 5.94	p = 0.000	149.08 ± 17.71	p = 0.000
Does obesity affect the risk of breast cancer in women?				
Yes	62.77 ± 6.02		161,09 ± 18,25	
No	59.09 ± 7.39	F = 12.446	150.71 ± 19.94	F = 13.398
I don't know	59.88 ± 5.87	p = 0.000	151.9 ± 17.7	p = 0.000
Does obesity cause menstrual irregularity in women?				
Yes	61.9 ± 6.01		157.75 ± 18.36	
No	57.07 ± 6.05	F = 16.720	144.8 ± 18.59	F = 11.451
I don't know	58.43 ± 5.98	p = 0.000	149.64 ± 17.21	p = 0.000
Does being obese affect the risk of polycystic ovary syndrome?				
Yes	62.36 ± 5.96		159.58 ± 18.17	
No	57.79 ± 8.46	F = 15.283	141.79 ± 23.44	F = 16.215
I don't know	59.24 ± 5.88	p = 0.000	150.69 ± 17.24	p = 0.000
Does obesity affect the risk of cesarean delivery in women?				
Yes	62.08 ± 5.77		158.38 ± 18.62	
No	55.69 ± 7.47	F = 19.085	141.44 ± 17.26	F = 14.402
I don't know	58.75 ± 6.27	p = 0.000	149.68 ± 16.65	p = 0.000
Does obesity affect the risk of miscarriage during pregnancy?				
Yes	61.76 ± 5.93		157.78 ± 18.55	
No	59 ± 8.19	F = 6.429	148.87 ± 20.31	F = 6.287
I don't know	59.64 ± 6.18	p = 0.002	151.73 ± 17.75	p = 0.000
Does obesity affect the age of first menstruation in women?				
Yes	61.64 ± 5.95		158.34 ± 17.88	
No	58.95 ± 6.38	F = 4.358	141.36 ± 22.48	F = 12.398
I don't know	59.94 ± 6.55	p = 0.017	152.02 ± 17.9	p = 0.000
Does obesity affect the risk of preeclampsia during pregnancy?				
Yes	62.34 ± 6		161.46 ± 18.76	
No	56.6 ± 8.91	F = 11.063	141.6 ± 20.82	F = 19.985
I don't know	60.27 ± 5.85	p = 0.000	152.03 ± 16.83	p = 0.000
Does obesity affect the risk of gestational diabetes?				
Yes	61.92 ± 6.04		158.32 ± 18.67	
No	55.67 ± 6.33	F = 15.816	139.08 ± 17.33	F = 16.133
I don't know	58.7 ± 5.9	p = 0.000	148.71 ± 15.92	p = 0.000
Does obese pregnancy affect the baby's risk of stillbirth?				
Yes	62.14 ± 5.96		159.81 ± 19.04	
No	58.74 ± 8.2	W = 7.172	146.9 ± 20.13	F = 12.242
I don't know	60.06 ± 5.92	p = 0.001	152.19 ± 16.82	p = 0.000
Does being obese in pregnant women affect the baby's weight?				
Yes	62.1 ± 5.91		160.47 ± 17.19	
No	60.03 ± 6.05	F = 6.948	152.82 ± 18.82	F = 16.337
I don't know	59.77 ± 6.54	p = 0.001	149.34 ± 18.59	p = 0.000
Does obesity affect the protectiveness of hormonal birth control methods?				
Yes	61.8 ± 6.31		159.18 ± 18.34	
No	59.24 ± 7.53	F = 3.351	153.71 ± 22.65	F = 5.711
I don't know	60.6 ± 5.84	p = 0.05	152.84 ± 17.67	p = 0.000

Does maternal obesity affect newborn birth defects?				
Yes	62.49 ± 6.05		161.8 ± 17.48	
No	60.05 ± 6.94	F = 11.652	152.5 ± 20.1	F = 23.887
I don't know	59.54 ± 5.92	p = 0.000	149.43 ± 17.39	p = 0.000
Does being obese affect the chances of conceiving?				
Yes	61.58 ± 6.09		157.75 ± 18.89	
No	59.5 ± 7.23	F = 5.702	146.7 ± 17.36	F = 9.410
I don't know	59.26 ± 5.98	p = 0.004	150.25 ± 16.27	p = 0.000
Does being obese affect the success of fertility treatment?				
Yes	61.58 ± 5.98		157.99 ± 18.66	
No	59.73 ± 6.23	F = 4.816	149.95 ± 18.41	KW = 18.86
I don't know	59.54 ± 6.64	p = 0.009	149.76 ± 17.22	p = 0.000
Does obesity affect early menopause?				
Yes	62.4 ± 5.94		161.38 ± 17.96	
No	60.49 ± 6.48	F = 13.148	148.36 ± 15.94	F = 24.473
I don't know	59.19 ± 6.08	p = 0.000	149.62 ± 17.73	p = 0.000
Does obesity cause osteoporosis in women?				
Yes	62.24 ± 5.52		160.76 ± 17.02	
No	60.69 ± 8.08	W = 7.395	152.85 ± 20.88	F = 12.616
I don't know	59.92 ± 6.12	p = 0.001	151.48 ± 18.35	p = 0.000
Does obesity cause iron deficiency anemia in women?				
Yes	62.59 ± 5.72		160.99 ± 18.16	
No	58.86 ± 6.54	F = 10.945	149.8 ± 21.5	F = 13.592
I don't know	60.1 ± 6.26	p = 0.000	152.16 ± 17.14	p = 0.000

F: One Way Anova test, W: Welch test, KW: Kruskal-Wallis test

Table 5. The relationship between the mean scores of OAS and GCAS (n : 420)

		OAS	Obesity Awareness	Nutrition	Physical Activity
GCAS	r*	.500	.436	.442	.359
	p	0.000	0.000	0.000	0.000
Routine Control in Gynecological Cancers and Awareness of Perception of Serious Disease	r*	.423	.364	.405	.270
	p	0.000	0.000	0.000	0.000
Awareness of Gynecological Cancer Risks	r*	.322	.321	.214	.256
	p	0.000	0.000	0.000	0.000
Awareness of Prevention from Gynecological Cancers	r*	.354	.288	.327	.274
	p	0.000	0.000	0.000	0.000
Early Diagnosis and Information Awareness in Gynecological Cancers	r*	.470	.383	.379	.437
	p	0.000	0.000	0.000	0.000

*Pearson Correlation

Table 3 shows the distribution of scale scores by sociodemographic characteristics. Income, education, and training in obesity significantly affected participants' OAS scores (p < 0.05). Participants with a positive income (income > expense), those with bachelor's degrees, and those who had received training in obesity before had significantly higher OAS scores. Participants' GCAS scores significantly differed by income, education, employment, family type, pap smear test,

training in obesity, and the number of children (p < 0.05). Participants with a positive income, those with bachelor's degrees, those with jobs, those with nuclear families, those who had a pap smear test, those who had received training in obesity, and those with 1-3 children had higher GCAS scores.

Table 4 shows the participants' OAS and GCAS scores by their answers to questions about reproductive health awareness. The two groups had similar lev-

els of awareness of reproductive health. The groups significantly differed in their answers to the question, "Does obesity affect the risk of gestational diabetes during pregnancy?" More overweight participants responded "yes" to the question than obese participants ($p < 0.05$). Participants who believed that obesity was associated with reproductive health, risky birth, uterine, ovarian, and breast cancer, menstrual irregularity, polycystic ovary syndrome, cesarean delivery, pre-eclampsia, gestational diabetes, stillbirth, congenital disabilities, fertility treatment success, early menopause, osteoporosis, baby weight, and iron deficiency anemia had higher OAS and GCAS scores ($p < 0.05$). Participants who thought that obesity affected the protectiveness of hormonal birth control methods had a statistically higher GCAS score ($p < 0.05$).

Table 5 shows the mean scale scores. A statistically significant positive correlation was observed between the total scores and subscale scores of OAS and GCAS ($p < 0.05$).

DISCUSSION

Obesity is associated with many obstetric and gynecological problems in terms of reproductive health. Participants were highly aware of the effects of obesity on reproductive health. More overweight participants responded "yes" to the question "Does obesity affect the risk of gestational diabetes during pregnancy?" than obese participants.

It was found that Polish women with high BMI knew more about gestational diabetes (23). Ersoy et al. conducted a study on women with obesity and reported two results (24). First, women were adequately aware of the effects of obesity on pregnancy. Second, women who regarded obesity as a high-risk factor for gestational diabetes had significantly higher BMI values than those who did not. Our results are consistent with the literature.

Participants had a mean OAS score of 60.94 ± 6.23 , indicating sufficient awareness. Terzi et al., Özkan et al., and Sözen et al. found that women had a mean OAS score of 60.6 ± 7.0 , 60.64 ± 9.86 , and 61.73 ± 6.01 , respectively (25, 26, 27). Our results are consistent with the literature.

Participants had a mean GCAS score of 155.39 ± 18.63 , suggesting above-average awareness of gynecologic cancer. Özcan et al., Alp Dal et al., and Kaya Şenol et al. reported that women had a mean GCAS score of 150.53 ± 18.26 , 161.19 ± 19.27 , and 150.7 ± 20.6 , respectively (28, 29, 30). Gözüyeşil et al. determined that women had a median GCAS score of 153 (57-201). Our results are consistent with the literature (31).

Overweight participants had higher GCAS "awareness of prevention of gynecologic cancers" and

"early diagnosis and information awareness in gynecologic cancers" subscale scores than obese participants. Research also shows that women with higher BMI are less aware of gynecologic cancers (28).

Obese women are less likely to participate in cervical cancer screening (32, 33). However, some studies show that obese women attend screenings more often (34). Participants with a positive income, those with bachelor's degrees, and those who had received training in obesity had higher awareness of obesity. Evaluated the awareness of women of reproductive age about the risks of obesity and found that low-income women knew less about the risks of obesity evaluated overweight and obese people's attitudes towards obesity and found that those with higher education levels were more aware of the effects of obesity on health (35, 36). Investigated how much pregnant women knew about obesity and determined that women with higher levels of education knew more about the risks of obesity looked into the impact of a public education campaign for obesity and reported that education was associated with obesity awareness (37, 38).

Employed participants with a positive income, bachelor's degrees, and nuclear families were more aware of gynecologic cancers. Found that self-employed and highly educated low-income women had lower awareness of gynecologic cancers than other groups (29). Gözüyeşil et al. determined that high-income women had higher awareness of gynecologic cancers (31). Reported no significant relationship between income, employment status, and gynecologic cancer awareness (28, 30). Stated that women with primary school degrees were less aware of gynecologic cancers than others (29). Although earlier studies have reported different results, high-income working women are likely to be more aware of cancer because they are likely to have higher education and more access to information. Most working women in Turkey live in nuclear families and have higher education and more access to information, which may explain why they are more aware of gynecologic cancers.

The pap smear test is the most effective method for the early diagnosis of cervical cancer (39). Our participants who took pap smear tests were more aware of gynecologic cancers than those who did not. Also found that women who took pap smear tests were more aware of gynecologic cancers than those who did not (40).

Participants with 1-3 children were more aware of gynecologic cancers than those with more than three children. Evaluated the awareness of women of reproductive age and postmenopausal period about gynecological cancers and determined that women with 1-3 children were more aware of gynecologic cancers than those with more than three children (30).

Participants who were aware of the effects of obesity on reproductive health were also more aware of obesity than those who were not. Reported that women knew enough about obesity and its effects on health (41). Investigated how much women of reproductive age knew about the effects of obesity on reproductive health and found that most women had a positive tendency towards obesity and did not know enough about its effects on reproductive health (42).

Screening and early detection are critical to reducing cancer-related death rates (43). However, women apply to healthcare institutions too late because they do not know enough about health risks and ignore their health problems (28).

We must raise women's awareness to protect them from cancer and cancer-related deaths. Our results showed that women who were aware of the effects of obesity on reproductive health were more aware of gynecological cancers than those who were not.

CONCLUSION

Our results indicate that overweight and obese women who are more aware of obesity are also more aware of reproductive health and gynecological cancers. Income, education, and training in obesity affect women's awareness of obesity. Income, education, employment status, family type, pap smear test, training in obesity, and the number of children affect women's awareness of gynecologic cancers. Healthcare professionals should consider the sociodemographic characteristics of women to solve the problem of obesity. They should provide women with training to raise their awareness of obesity and its adverse effects on reproductive health. Therefore, authorities should

provide healthcare professionals with in-service training programs to raise their awareness of the effects of obesity on women's health. In addition, researchers should focus on obesity awareness in large samples.

Ethical Approval

The study received approval from the Scientific Research and Publication Ethics Committee of a state university. The initial page of the online questionnaire served as the electronic informed consent form. All participants were provided with comprehensive information about the study's purpose and procedure, and they were explicitly informed that their participation was entirely voluntary, with the freedom to withdraw from the study at any point. Each stage of the research adhered to the ethical principles outlined in the Declaration of Helsinki by the World Medical Association.

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DA; writing, detailed review DKŞ; literature search EÜ; literature search, statistics CA; literature search, statistics. All authors have reviewed and endorsed the manuscript.

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Sažetak

VEZA IZMEĐU GINEKOLOŠKOG KARCINOMA, SVESTI O REPRODUKTIVNOM ZDRAVLJU I SVESTI O GOJAZNOSTI KOD ŽENA: STUDIJA PRESEKA

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Cilj: Ovo istraživanje je sprovedeno kako bi se utvrdio uticaj svesti o gojaznosti na svest o ginekološkom karcinomu i reproduktivnom zdravlju kod žena.

Materijali i metode: Ovo je studija preseka. Uzorak studije činile su žene sa prekomernom težinom i gojaznošću. Podaci studije prikupljeni su korišćenjem obrasca sa osnovnim informacijama, skale svesti o gojaznosti i skale svesti o ginekološkim karcinomima putem Google obrasca.

Rezultati: Utvrđeno je da gojaznost ima statistički značajnu povezanost sa reproduktivnim zdravljem, uključujući rizik za trudnoću i bebu, karcinom materice, jajnika i dojke, menstrualne nepravilnosti, uzrast kod prve menstruacije, sindrom policističnih jajnika, rizik od preeklampsije, gestacijski dijabetes, rizik od mrtvorodenosti, poremećaje pri rođenju, šansu za začecje, uspeh lečenja neplodnosti, rana menopauza, osteoporoza, težina bebe i nedostatak gvožđa - ukupni prosečni rezultati skale svesnosti o gojaznosti i skale svesnosti o ginekološkim karci-

nomima kod onih koji smatraju da su ove stavke povezane su statistiċki znaċajno viŝi. Utvrđena je visoko znaċajna pozitivna korelacija izmeđü ukupnih i poddimenzionalnih proseċnih vrednosti skale svesnosti o gojaznosti i skale svesnosti o ginekoloŝkim karcinomima kod űena.

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