Original Article

Determination of Quality of Life and Related Factors in Overweight Women Living in Rural Areas

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Abstract

Background: Obesity is more common among women living in rural areas of Türkiye and being overweight affects the quality of life of women. **Aim:** Through this study, we aimed to determine the quality of life and related factors of overweight women living in rural areas. **Materials and Methods:** This is a descriptive correlational study. The data were collected using the Personal Information Form and the Scale of Quality-of-Life Overweight Women (SMQLOW) between April and June 2020. The study sample comprised women with a body mass index (BMI) of 25 and above. **Results:** The study included 201 women, 41.8% of the participants were in the 36–51 age group and 50.2% had a BMI between 30 and 49.2 (obese). It was determined that the quality of life of women was at a moderate level. The difference between the total SMQLOW score with respect to age, educational status, economic status, occupation of the spouse, general health status, and BMI were found to be statistically significant ($P < 0.05$). We examined the correlation of some variables with the total scale score of overweight women. A significant positive and weak correlation was found between weight and the SMQLOW total score (r = 0.390, $P = 0.001$). There was a positively weak and highly significant, correlation between waist circumference and SMQLOW total score (r = 0.277, $P < 0.001$). **Conclusion:** Preventing obesity may improve the quality of life among rural women in the study Population.

Keywords: *Healthy lifestyle, obesity in women, quality of life, rural areas*

Introduction

One of the most important factors affecting an individual's satisfaction with life is being healthy. The protection and promotion of health will increase the quality of life.[1-5] Obesity in adults is associated with Health-related Quality of Life (HRQoL). One of the most important factors affecting the quality of life among women is to have a healthy weight. Various studies have revealed a relationship between BMI and quality of life.[1-4] In the study conducted by Ozyurek and Cogalan (2018), it was found that the quality of life of obese women in rural areas is low.[1] For women, being overweight affects physical well-being, self-esteem, social interactions, family relationships, sex life, and working life.[2,3]

Many studies have reported a higher prevalence of obesity in rural areas.[3-5] One of the reasons for this is limited access to health services and a lack of personnel in rural institutions.[2] Another reason is that the health services provided by governments in rural areas are rather limited compared to urban areas.[3] These can adversely affect the behaviors for the promotion of health and prevention of diseases. Many studies in the literature on the quality of life in overweight/obese women in Turkey and in the world.[2-17] However, there are few studies evaluating the quality of life of obese women in rural areas.[10,17] This study was conducted to determine the quality of life of overweight women in rural areas and its related factors.

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Materials and Methods

Medhods

This is a descriptive correlational study. The population of the study comprised overweight women in women with a BMI of 25 and above. Before starting the research, the SMQLOW questionnaire was applied to "30" overweight women. After this application, the standard deviation of the questionnaire was determined as 1.0. The sample size was calculated using the n = (z x SS/d) v 2 formula, which is used when the population is unknown. In the formula, assuming a 95% confidence level and deviation d = 0.16, n = (1.96 × 1.0/0.16) 2 = 192. A total of 201 participants were included in the study. The cluster sampling method was used as the sampling method in the research. A total of 201 women were reached, 50 women from each street. The 'household' was taken as the sample unit. Each cluster consisted of 50 households and clusters were determined from health center districts proportionally to the population. The first cluster in the health center region was determined randomly, and the systematic sampling method was used to determine the other cluster heads. Data collection was started from the houses with the head of the cluster, then three houses were skipped and the fourth house was reached, and data collection was continued until 50 women were completed in each cluster.

Personal information form

The data were collected between April 1 and June 30, 2020, by a midwife of … Health House, one of the researchers, uses a Personal Information Form and the Quality of Life Scale for Overweight Women.

The following inclusion criteria were considered: 1) A BMI of 25 and above, 2) being literate, 3) not being pregnant, 4) being in the age range of 18–65, 5) not on any medication, 6) no history of any diseases that would restrict physical activity, neurological and psychiatric disorders, rheumatic diseases, metabolic and endocrine system diseases, digestive system diseases, or cancer.

In Turkey, according to one definition, rural areas are communities with a population density of <150 people/km². The total population of …. Health House region is 2439 and covers an area of 35 km² with a population density of 69 people/km² (TSPO 2020). This population comprises people living in districts and in rural areas. Regions under the …. Health House complies with the definition of rural areas in terms of population, education, transportation, and social life. The Health House usually serves people living in the surrounding villages. Only one midwife works in this health center. This institution has many shortcomings in terms of technology and personnel compared to hospitals and family health centers in urban centers.

The data were collected by using a Personal Information Form and the Scale of Quality of Life for Overweight Women. The personal information form consisted of a total of 12 questions including socio-demographic characteristics (age, occupation, educational status, marital status, spouse's occupation, number of children) and health status (problems caused by being overweight, illness, height, weight, BMI).

Women's measurements

Height and weight were measured in a room reserved for this study in the Health House with the same measurement tools that were calibrated before the application. Height measurement was made without shoes, with the heels touching the floor and the wall, the back upright, and the head in the normal anatomical position. Weight measurement was made upon removing excessive clothes and shoes. BMI was calculated by dividing the body weight in kilograms by the square of height in meters. All measurements were made in the morning during fasting.

The scale of Quality-of-Life Overweight Women (SMQLOW)

This scale was used to evaluate the quality of life in overweight women. SMQLOW was developed by Kitiş, Hisar, and Hisar (2020). The Cronbach alpha coefficient of the scale was 0.967, and the coefficients of the sub-scales were between 0.772–0.961. In the validity study, item-total correlation coefficients were between 0.564 and 0.839. SMQLOW consists of 4 sub-scales with a total of 40 items: These are Self-care and Physical Activity (16 items), Sex Life (9 items), Public Distresses (11 items), and Self-Perception (4 items). The items are five-point Likert type (1 = Not true at all, 2 = Somewhat untrue, 3 = Somewhat true, 4 = True, 5 = Very true). Higher scores on the scale indicate lower quality of life.[6]

Ethical approval

Ethical approval from Necmettin Erbakan University Meram Medical Faculty Medicine and Non-Medical Device Research Ethics Committee (2020/2276) and written permissions from Meram Provincial Health Directorate were obtained.

Data analysis

The normality of the SMQLOW was checked with the Kolmogorov–Smirnov normality test. Descriptive statistics were presented as numbers, percentages, mean, and standard deviations. Data were presented as percentage, mean, standard deviation, median, and quartiles. Mann–Whitney U test was used for the comparison of two groups, whereas Kruskal–Wallis

test was used for three or more groups. $P < 0.05$ was accepted as statistically significant.

Table 1: Findings about the health status of the participants (*n*=201)

Characteristics	*n*	%
General Health Status		
1 to 4 (poor	19	9.5
5–7 (moderate)	119	59,2
8–10 (good)	63	31.3
Having Difficulty In Doing Daily Work		
Yes	40	19.9
No	161	80.1
Distresses		
Walking	40	19.9
Working	34	16.9
Sweating	25	12.5
Doing work	18	9.4
Food craving	18	9.4
Being affected by peoples' stare	15	7.6
Not being able to wear the outfit she wants	15	7.6
Wearing socks and shoes	11	5.5
Psychological problems	9	4.6
While performing personal hygiene	8	4.2
Sexuality	8	4.2
Disease Status		
Backache	40	19.9
Hypertension	37	18.4
Reflux	19	9.4
Depression	16	8,0
Fatty Liver	12	6.0
Varicosis	11	5.4
Asthma	8	4.0
Diabetes	8	4.0
Sleep apnea	5	2,5
No Problem	45	22.4
BMI Value		
Between 25–29.9 (Overweight)	100	49.8
Between 30–42.9 (Obese)	101	50.2

Spearman Correlation analyses were conducted between the quantitative data and the total SMQLOW scores. Correlation coefficients were evaluated as follows: 0.00–0.25 very weak (negligible) relationship, 0.26–0.49 weak relationship, 0.50–0.69 moderate relationship, 0.70–0.89 strong relationship, 0.90–1.0 very strong relationship.

Results

Socio-demographic characteristics of the participants are as follows: 41.8% of the participants were between the ages of 36–51, 81.1% were housewives, 58.2% were primary school graduates, 64.1% were farmers, 94% had children, 71.4% had children between the ages of 1–3, and 63.7% had moderate economic status.

Table 1 shows the health status of the participants. 9.5% of the participants had a general health status between 1–4 (poor), 19.9% had difficulty doing daily activities due to excess weight, 19.9% were tired while walking, 19% had back pain, 18.4% had high blood pressure, and 50.2% had a BMI between 30 and 49.2 (obese).

Table 2 shows the mean SMQLOW and sub-scale scores. Mean scores obtained from the sub-scales ranked from the highest to the lowest were Self-Perception $\bar{x} \pm$ SD 3.20 ± 1.12, Public Distresses $\bar{x} \pm$ SD 2.32 ± 0.90, Self-care and Physical Activity $\bar{x} \pm$ SD 2.02 ± 0.62, and Sex life $\bar{x} \pm$ SD 1.60 ± 0.79. The mean total score was $\bar{x} \pm$ SD 2.29 ± 0.86.

There was a statistically significant difference in the Public Distresses sub-scale scores with respect to educational status, economic status, the profession of the spouse, difficulty in doing daily work, and BMI ($P < 0.05$). Advanced analysis revealed that this difference was between high school/university graduates and primary school graduates and between women whose spouses were farmers, tradesmen, and workers. In terms of economic status, the difference in Public Distresses sub-scale scores was between those with good and moderate economic status. There was no statistically

Table 2: Total SMQLOW score and sub-scale scores in overweight women (*n*=201)

Sub-scales	Number of items	Minimal	Maximal	$\bar{x}$	SD
Self-care and Physical Activity					
Items 1–16	16	1	3.94	2.0202	0.6202
Sex life					
Items 17–25	9	1	5	1.6064	0.7983
Public Distresses					
Items 26–36	10	1	4.55	2.3284	0.9082
Self-Perception					
Items 37–40	4	1	5	3.2065	1.1223
Total	40	1	5	2.2903	0.8622

Table 3: Correlations between total scale score and some variables (*n*=201)

	r	r_s	*P*
Age	0.94		0.974
Number of children	0.25		0.730
General health status		−253	0.001
Height (cm)		−147	0.037
Weight	0.390		0.001
Waist circumference	0.277		0.001
BMI	0.516		0.001

significant difference in this sub-scale with respect to the profession, a profession of the spouse, number of children, and general health status ($P > 0.05$).

The correlation of some variables with the total scale score of overweight women was examined. The correlations between age, number of children, general health status, height, weight, waist circumference, and BMI of the individuals participating in the study and the total SMQLOW scores were evaluated. A significant, positive, and weak correlation was found between weight and SMQLOW total score (r = 0.390, $P = 0.001$). There was a significant, positive, and weak correlation between waist circumference and SMQLOW total score (r = 0.277, $P < 0.001$). Furthermore, a significant and moderate correlation was found between BMI and the SMQLOW total score (r = −0.516, $P = 0.001$). A very weak (negligible) negative correlation was found between general health status, height, and total SMQLOW score (rs = −253, $P < 0.01$; rs = −147, $P = 0.01$; r = −0.187, respectively). No significant correlation was found between age and number of children and total SMQLOW score ($P > 0.05$).

Discussion

This study was conducted to determine the quality of life of overweight women living in rural areas and related factors. The quality of life of the participants was found to be moderate, and the difference in the quality of life with respect to age, number of children, general health status, height, weight, waist circumference, and BMI were found to be statistically significant. From highest to lowest, scale sub-dimensions that were negatively affected were Self-Esteem, Public Distresses, Personal Care, Physical Activity, and Sexual Life.

While the concept of being lean is appreciated in today's societies, obese individuals are ostracized and exposed to various negative labels. Considering that self-esteem is affected by interpersonal relationships and the meaning the individual gives to these relationships, negative feedback from the environment causes a decrease in self-esteem. Various studies have found a relationship between psychological factors and obesity.[7,14,16] In the study conducted by Kolotkin *et al.* (2017), all participants stated that they experienced negative emotions, such as disappointment, anger, shame, and depression due to their weight.[7] However, although 49.8% of the participants were overweight and 50.2% were obese in the present study, their self-esteem was found to be moderate [Tables 1 and 2]. The reason for this situation is related to the way women living in rural areas perceive weight. In the study by Islam, *et al*. (2020) titled "Self-perception and quality of life among overweight and obese rural women in Bangladesh," women evaluated themselves as very healthy despite being overweight. In the present study, 59.2% of the participants stated that their general health status was moderate, and 31.3% stated that their general health status was good.[17] The reason for the high self-reported health status of obese and overweight rural women can be explained by their low socioeconomic status.

Sexual health is a component of health that affects a woman's quality of life. Obesity is one of the factors affecting sexual health. In the present study, it was found that obesity affects the quality of sexual life at a low level, and as BMI increases, its effects on sexual life increase, and the difference between them is statistically significant ($P < 0.05$) [Table 2]. In the study of Kolotkin *et al*. (2017) titled "Development of a Clinical Trials Version of the Impact of Weight on Quality of Life-Lite Questionnaire (IWQOL-Lite Clinical Trials Version): results from two qualitative studies," it was reported that overweight women had problems or concerns about sexual activity.[7] These are insufficient energy/weakness, shortness of breath, self-consciousness, or decreased libido. In the study of Kucuk *et al*.[8] (2018) conducted with 184 participants, the participants stated that they mostly experienced sexual problems due to obesity. Being overweight can be affected by concerns, such as being disliked and having difficulty in moving. In one study, 90.5% of the participants stated that they were not satisfied with their own bodies because they were obese and they preferred normal-weight people as sexual partners.[17] These people may have acted in this way to reduce the difficulties they experienced. In the present study, it was found that obesity affects the quality of sexual life at a low level. The reason for this may be related to the positive attitudes of the social culture in rural areas toward weight or the difficulty of women in expressing their sexual satisfaction level. Küçük *et al*. (2018) found that the sexual satisfaction levels of obese women were normal, and reported that there was no significant relationship between BMI and sexual satisfaction. In the present study, the difference between

Sexual Life and BMI was found to be statistically significant ($P < 0.05$).

In the present study, it was determined that public distress affects the quality of life of overweight women moderately. However, many studies found a positive correlation between BMI and negative psychosocial profile.[12,13,16] Kassem *et al*. (2021) reported an increase of 3% in anxiety/depression with each unit increase in BMI in overweight or obese individuals.[2] In the studies conducted by Kolotkin *et al.* (2017), obese participants stated that they did not want to engage in social activities because they were self-conscious, and it was determined that these feelings and behaviors were more common in women.[7] However, in a study conducted in rural areas, 55% of women defined obesity as a symbol of happiness. In the same study, when asked about the definition of beauty, 43.7% of the participants stated that behavior and personality were the most important indicators, followed by facial beauty, and body shape. This result is not surprising. This is because women in rural areas live in communities that believe that attractiveness and value of the person are based on character rather than communities that attach importance to body shape and facial appearance, as in urban societies. In the present study, there was a statistically significant difference in the Public Distresses sub-scale scores with respect to educational status, economic status, the profession of spouse, difficulty in doing daily work, and BMI ($P < 0.05$).

There is a direct relationship between being overweight and deteriorating living conditions. Quality of life was found to be moderate in the present study. In a study conducted by Ozyurek, and Cogalan, (2020), it was found that being overweight and obese negatively affects the quality of life in Galician women living in rural areas, which supports the results of the present study.[1] It was determined that this is mostly the case for the physical health dimensions. According to the study of Emre and Öner (2018), it was determined that the prevalence of obesity in women was higher in rural areas compared to urban areas, and it was found that the reason for this was low education level, inadequate socioeconomic status, low physical activity, and unhealthy diet.[10] Low socioeconomic status in rural areas increases obesogenic behavior. In the present study, it was determined that those with poor economic status had a worse quality of life. In similar studies, it was determined that obese individuals have the worse physical quality of life compared to normal individuals.[1,14,18] This may be due to the relationship between healthy living conditions and economic status. In another study, it was determined that the quality of life of housewives in rural areas was normal or moderate. In the present study, quality of life was also found to be low in women with low educational levels. In addition, while the quality of life of overweight/obese women who were literate was lower in terms of personal care and physical activity sub-dimensions compared to women with primary education, quality of life in the dimensions of sex life, public distress, and self-esteem increased as the education level increased.[19,20] This may be due to the fact that as the education level of women increases, psychological sensitivity may also increase. In the systematic review titled, "A systematic review of reviews: exploring the relationship between obesity, weight loss, and health-related quality of life" by Kolotkin and Andersen (2017), it was determined that being overweight/obese has a negative effect on the quality of life. In the present study, a statistically significant and moderate correlation was found between BMI and quality of life.[7] In the study conducted by Zawisza *et al*. (2021), quality of life was found to be lower in overweight and obese individuals compared to those with normal weight ($18.5 < BMI < 25$ kg/m^2). In the same study, low quality of life was found to be statistically significant in Class III obese individuals (BMI ≥40). Likewise, a significant moderate correlation was found between BMI and total quality of life scores.[18] Being overweight also negatively affects health status. In the study conducted by Kolotkin and Andersan (2017), the relationship between (Health-related Quality of Life EQ-5D) health dimensions and diabetes, heart disease, osteoarthritis, high blood pressure and being overweight and HRQoL was revealed.[7] In the present study, the correlations between women's health status and total quality of life scores were evaluated. A negligible, weak, significant, and positive correlation was found between weight and total Quality of Life score ($r = 0.390$, $P = 0.001$) [Table 3]. In the study conducted by Kolotkin *et al.* (2017), it was observed that the parameters of quality of life improved with a 5% reduction in the weight of the participants.[7]

Conclusions

This study was conducted to determine the quality of life of overweight women living in rural areas and related factors. As a result, a very weak (negligible) negative correlation was found between general health status and height and total Quality of Life score. No significant correlation was found between age and number of children and total Quality of Life score. The quality of life was found to be moderate in this study. While the results are similar to some studies in the literature, there are also studies with conflicting results.

In light of the above results, more comprehensive studies that would include weight perception, diet, physical activity status, and quality of life of women living in rural areas would be recommended.

Compliance with ethical standards

The Ethics Committee of Medical Faculty, Selcuk University, granted ethical approval to our study (No.: E 203867 dated 01.05.2022). Moreover, we obtained the necessary permissions from the institutions where we collected the data. All participants also provided their written informed consent to participate in the research prior to data collection.

Consent to participate

Written consent were obtained from all participants included in the study.

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Nil.

Conflicts of interest

There are no conflicts of interest

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