Chron Precis Med Res 2025; 6(1): 12-19
DOI: 10.5281/zenodo.15085690

ORIGINAL ARTICLE
ORİJİNAL ARAŞTIRMA

Effects of Exercise and Weight Loss Diet and Lifestyle Change on Anthropometric Measurements, Family Dynamics and Quality of Life

Egzersiz ve Zayıflama Diyeti ile Yaşam Tarzı Değişiminin Antropometrik Ölçümler, Aile Dinamikleri ve Yaşam Kalitesine Etkileri

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ABSTRACT

Aim: To examine the effects of exercise and weight loss diet on physical health, psychosocial well-being, and family dynamics.

Material and Method: Changes in body composition and psychosocial effects were analyzed in two married couples without chronic diseases who followed a personalized diet and exercise program for 12 weeks. Family dynamics were assessed through semi-structured interviews, liver steatosis was evaluated using magnetic resonance imaging, and quality of life was measured using a researcher-developed form. Additionally, the impact of family interaction and support mechanisms on the process was analyzed based on participants' feedback.

Results: Significant decreases in body weight ($p<0.05$) and body mass index ($p<0.05$) were found. In addition, there was a statistically significant improvement in the waist/hip ratio ($p<0.05$), which is an indicator of central adiposity. When biochemical findings were analyzed, decreases in triglyceride ($p>0.05$) and low-density lipoprotein cholesterol ($p>0.05$) levels were observed, and these changes were evaluated as positive in terms of cardiovascular health in obesity management. Decreases in alanine aminotransferase and gamma-glutamyl transferase levels indicate the effect of body weight loss on liver health. A significant increase in 25-hydroxy vitamin D levels was observed, which was thought to be associated with increased sun exposure through walking exercise. Reductions in parameters related to liver steatosis were noted but did not reach statistical significance. Participants reported that the process positively impacted physical health, family communication, and support mechanisms, with spousal motivation and support playing a key role in program sustainability.

Conclusion: Exercise and dietary interventions positively impact both physical and psychosocial health, shaping family dynamics in the process. To evaluate the long-term sustainability of couple support mechanisms, larger randomized controlled trials with 6–12 month follow-ups are recommended.

Keywords: Obesity, exercise, nutrition, quality of life

ÖZ

Amaç: Egzersiz ve zayıflama diyeti ile yaşam tarzı değişiminin bireylerin fiziksel sağlığı, psikososyal refahı ve aile dinamikleri üzerindeki etkilerini incelemektir.

Gereç ve Yöntem: 12 hafta boyunca kişiselleştirilmiş beslenme ve egzersiz programı uygulayan, kronik hastalığı olmayan, iki evli çiftin vücut kompozisyonlarındaki değişimler ve psikososyal etkiler birlikte incelenmiştir. Aile dinamikleri yarı yapılandırılmış görüşmelerle değerlendirilmiş, karaciğer steatozu manyetik rezonans görüntüleme ile, yaşam kalitesi ise araştırmacılar tarafından geliştirilen bir form kullanılarak ölçülmüştür. Ayrıca, aile içi etkileşim ve destek mekanizmalarının sürece etkisi katılımcıların geri bildirimleri doğrultusunda analiz edilmiştir.

Bulgular: Vücut ağırlığında ve beden kütle indeksinde anlamlı azalmalar olduğu saptanmıştır ($p<0,05$). Ayrıca, merkezi yağlanma göstergesi olan bel/kalça oranında ($p<0,05$) istatistiksel olarak anlamlı bir iyileşme tespit edilmiştir. Biyokimyasal bulgular incelendiğinde, trigliserid ($p>0,05$) ve düşük yoğunluklu lipoprotein kolesterol ($p>0,05$) seviyelerinde azalma gözlenmiş olup, bu değişimler obezite yönetiminde kardiyovasküler sağlık açısından olumlu olarak değerlendirilmiştir. Alanin aminotransferaz ve gama-glutamil transferaz seviyelerindeki düşüşler, vücut ağırlığı kaybının karaciğer sağlığı üzerindeki etkisini göstermektedir. 25-hidroksi vitamin D seviyelerinde belirgin bir artış gözlenmiş, bu artışın bireylerin yürüme egzersizi ile güneşe maruz kalma süresindeki artışla ilişkilendirildiği düşünülmüştür. Katılımcılar, sürecin fiziksel sağlık, aile içi iletişim ve destek mekanizmaları üzerinde olumlu etkileri olduğunu ve eşler arasındaki motivasyon ve desteğin programın sürdürülebilirliğinde önemli bir rol oynadığını bildirmiştir.

Sonuç: Egzersiz ve diyet müdahaleleri, hem fiziksel hem de psikososyal sağlığı olumlu yönde etkileyerek aile dinamiklerini şekillendirmektedir. Çiftler arasındaki destek mekanizmalarının uzun vadeli sürdürülebilirliğini değerlendirmek için 6-12 aylık takiplerle daha geniş örneklem gruplarında rastgele kontrollü çalışmalar önerilmektedir.

Anahtar Kelimeler: Obezite, egzersiz, beslenme, yaşam kalitesi

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Başvuru Tarihi/Received: 10.02.2025
Kabul Tarihi/Accepted: 19.03.2025

INTRODUCTION

Obesity is among the important public health problems that cause a decrease in psychosocial welfare levels as well as negatively affecting the physiological health of individuals. The importance of lifestyle interventions based on diet, exercise, and behavior change is increasing in the fight against obesity on a global scale (1,2). However, the long-term sustainability and effectiveness of these interventions are directly related to the motivation levels and social support networks of individuals (3,4).

It is essential to identify the barriers encountered in the process of body weight management and to develop strategies to overcome these barriers. Common obstacles include low motivation, time constraints, and physical discomfort (5,6). Factors that facilitate this process include self-efficacy perception, support from health professionals, and individual goal-setting behaviors (7,8). It is known that family solidarity and common lifestyle changes increase individuals' motivation in body weight management (9,10). It has been reported that joint exercise and nutrition programs, especially among married couples, effectively reduce body weight and improve hepatic steatosis levels (11, 12). The improvement in physical well-being associated with weight loss contributes to higher-quality time spent among family members and an increase in shared activities. Effective use of social support mechanisms increases the success of body weight management programs and positively affects individuals' psychological well-being (13,14).

The literature emphasizes the positive effects of supporting exercise and dietary habits by the personal and social environment on lifestyle changes. It has been found that exercise programs conducted with spouses and family members increase the resistance levels of individuals in the process of body weight management and ensure the permanence of healthy living habits (12). The positive changes experienced during this process strengthen familial cohesion and enhance mutual support among individuals. In addition, regular follow-up, goal setting and supportive motivational mechanisms have been reported to play a critical role in this process (4).

This study examines the contributions of exercise and nutrition programs implemented by married couples to their quality of life. It aims to analyze the effects of body weight control and improvements in hepatic steatosis on family dynamics over a 12-week period.

MATERIAL AND METHOD

Research Design and Ethical Statement

This study was designed as a case study, one of the qualitative research methods. The ethical permission required for the study was discussed at the Ethics Commission of the Rectorate of Gazi University meeting dated 24.12.2024, numbered 21, and approved with Research Code No. 2025-19.

This study was conducted between January 1, 2025, and February 10, 2025.

Participants

The study by Osuka et al. (2015) was used as a reference to determine the number of participants to be included in the study. The power analysis indicated that, with a Type I error (α) of 0.05, an effect size of 1.65, and a power of 80%, at least 4 participants were required for the study (38).

Criterion sampling, one of the purposive sampling methods, was preferred in the selection of participants. This study was conducted with two married couples who experienced weight loss, resided in Amasya, and had no chronic diseases. These participants were selected from among 22 volunteers who took part in a doctoral study, which was approved by the Non-Interventional Clinical Research Ethics Committee of the Rectorate of Amasya University (approval number: 190521, dated 24.04.2024) and for which data collection was completed on 30.09.2024.

Data Collection Tools

The interview technique based on a predetermined question and answer format was used and the data were collected through open-ended forms prepared by the researchers. In the preparation of open-ended questions, the sub-dimensions of the "Obese Specific Quality of Life Scale" developed by Patrick et al. (2004) and adapted into Turkish by Nazmiye Çıray Gündüzoğlu and Çiçek Fadıloğlu in 2014 were utilized (15,16).

Anthropometric Measurements

All anthropometric measurements were performed by the same researcher at the medical center using a standardized protocol and a calibrated device from Seca, Germany (17). Height and body weight measurements were performed with a stadiometer with an accuracy of 0.1 cm and a medically certified scale on an empty stomach between 08:00-09:00 in the morning, with the participants wearing light clothing and barefoot. Body weight, fat mass and percentage, lean mass, and skeletal muscle mass were assessed using the bioelectrical impedance analysis method with Inbody 370S (South Korea).

Blood Sampling

Blood sampling was performed by taking approximately 5 ml of blood from the participants' forearm veins after fasting for at least 12 hours. The sampling day was performed on an empty stomach between 08:00 and 09:00 in the morning. Lipid profile, Alanine aminotransferase (ALT), aspartate aminotransferase (AST), and gamma-glutamyl transferase (GGT) were

measured using the Beckman Coulter AU5800 (Beckman Coulter Inc, CA 92821, USA) device

Magnetic Resonance Imaging

Morphometric examination was performed using a 1.5T magnet (Siemens Magnetom Avanto 1.5T, device serial number: 792 MR 63317) and a standard head coil. T1-weighted axial plane measurements were performed, and FoV read: 420 ms, FoV Phase: 81.3 %, slice thickness: 6mm, TR:170ms TE1: 2.38 ms. Factors were applied.

Quantification of the degree of steatosis was performed using the previously described formula (percentage of signal intensity loss):

[(Liver in phase/Spleen in phase) - (Liver out of phase/ Spleen out of phase)] / [(Liver in phase/Spleen in phase)] × 100

Steatosis grade was obtained using selected threshold values of 5.9% or less, 6-26.1%, 26.2-36.8%, and greater than 36.8% for 0, 1, 2, and 3, respectively. The percentages of signal intensity loss and steatosis grades were determined and compared by measuring the MR images obtained before and after the diet (18).

Nutrition Plan

Mifflin-St. Jeor equations were used to determine the energy needs of individuals using their current weight. Dietary energy was obtained by subtracting 500-750 kcal/day from total energy expenditure. A 5% weight loss was targeted in 12 weeks with a weight loss of 0.5-1 kilogram per week with differences between individuals. The planned weight loss diet prescription was composed of 50-60% of daily calories from carbohydrates, 15-20% from proteins, and 25-30% from fats.

Exercise Plan

The exercise intensity of the individuals was determined by determining the target heart rate using the Karvonen method (19). Walking exercises were planned to be performed five days a week. They were initially started at a low intensity level of 30% and gradually increased to a 70% intensity level. It aimed to increase the sessions, which initially lasted 30 minutes, to 60 minutes per day at the end of twelve weeks to support the individual's adaptation process and reach the maximum heart rate. Target heart rate was measured via smartphone applications compatible with Windows Phone, iPhone OS, and Android operating systems. Participants were asked to place their index fingers on the device's integrated camera regularly. Participants were encouraged to track their exercise time with the pedometer and to increase their walking distance daily.

Follow-up

The participants were evaluated using the bioelectrical impedance analysis method, from the initial body weight to the measurement values at the end of 12 weeks. The measurements were performed a total of six times every 15 days. During individual sessions, the dietitian evaluated participants' compliance with the nutrition and exercise program. Compliance with the exercise program was monitored on the basis of the participants' daily walking performance, and regular monitoring of the phone pedometer data was followed up.

Statistical Analysis

The quantitative and qualitative data obtained in the study were analyzed separately according to the relevant variables. Qualitative data were analyzed using the content analysis method, and the data obtained from open-ended questions were divided into meaningful themes and presented in tables. Quantitative data were analyzed using the SPSS 25.0 (Statistical Package for the Social Sciences) program. Descriptive statistics were presented as mean±standard deviation for normally distributed variables, median and lower-upper value for non-normally distributed variables, and number and percentage (%) for nominal variables. When the quantitative variables met the parametric test assumptions, the dependent t-test was used to compare the means of two dependent groups; when the parametric test assumptions were not met, the Wilcoxon test, which is the nonparametric equivalent of this test, was applied. In all statistical tests, the confidence interval was accepted as 95.0% and evaluated at a significance level of $p<0.05$.

RESULTS

The mean age of the participants was 40.7±4.9 years, and their mean body mass index (BMI) was 32.9±2.4 kg/m^2. The mean body weight was 91.8±20.4 kg, and the mean body fat percentage was 35.4±6.3. Participants were generally considered to be within the limits of obesity, and the waist/hip ratio was found to be 1.0±0.1. These values given in **Table 1** show that abdominal obesity is significant.

Table 1. Demographic characteristics and anthropometric measurements of the participants

Parameters	X	SD
Age (years)	40.7	4.9
Weight (kg)	91.8	20.4
Height (m)	1.7	0.1
BMI (kg/m2)	32.9	2.4
*BFM (kg)	35.4	6.3
*BFP (%)	35.4	6.3
*SLM (kg)	53.2	16.2
*LM (kg)	56.4	17.0
*SMM (kg)	31.7	10.3
Waist/hip ratio	1.0	0.1

* BFM: Body Fat Mass, * BFP: Body Fat Percentage, * SLM: Soft Lean Mass, * LM: Lean Mass, *SMM: Skeletal Muscle Mass

Anthropometric measurements obtained after the intervention and the effects of the nutrition and walking exercise program on the participants are given in **Table 2**. It was observed that body weight, body mass index, lean mass, skeletal muscle mass, and waist/hip ratio of the participants decreased after the intervention, and this difference was statistically significant (p<0.05). The decrease in body fat mass, body fat percentage, and soft lean mass were not statistically significant (p>0,05).

Table 2. Anthropometric measurements of the participants before and after the intervention

Parameters	Before intervention X±SD	After intervention X±SD	p
Weight (kg)	91.8±20.4	83.2±16.5	0.04
BMI (kg/m2)	32.9±2.4	29.9±1.5	0.01
*BFM (kg)	35.4±6.3	28.2±4.6	0.41
*BFP (%)	35.4±6.3	34.6±6.0	0.42
*SLM (kg)	53.2±16.2	51.9±13.8	0.48
*LM (kg)	56.4±17.0	54.9±14.6	0.03
*SMM (kg)	31.7±10.3	30.9±8.9	0.01
Waist/hip ratio	1.0±0.1	1.0±0.1	0.01

* BFM: Body Fat Mass, * BFP: Body Fat Percentage, * SLM: Soft Lean Mass, * LM: Lean Mass, *SMM: Skeletal Muscle Mass

Table 3 shows the changes in the steatosis grade and steatosis stage parameters evaluating fatty liver disease. The degree and stage of steatosis decreased after the intervention, but this difference was not statistically significant (p>0.05).

Table 3. Data on participants' fatty liver findings before and after the intervention

Parameters	Before intervention Median (Min-Max)	After intervention Median (Min-Max)	p
Steatosis degree	33.0 (24.0-41.0)	24.5 (21.0-37.0)	0.07
Steatosis stage	2.5 (1.0-3.0)	1.5 (1.0-3.0)	0.16

Table 4 shows changes in the participants' biochemical parameters. There was no statistically significant difference in the participants' biochemical findings before and after the intervention (p>0.05).

Table 4. Biochemical findings of the participants before and after the intervention

Parameters	Before intervention Median (Min-Max)	After intervention Median (Min-Max)	p
Triglycerides (mg/dL)	138.0 (71.0-210.0)	91.5 (62.0-109.0)	0.07
Cholesterol (mg/dL)	1 70.0 (163.0-208.0)	165.0 (151.0-197.0)	0.14
HDL cholesterol (mg/dL)	47.5 (43.0-62.0)	49.0 (41.0-59.0)	0.72
LDL cholesterol (mg/dL)	117.0 (106.0-149.0)	108.0 (90.0-136.0)	0.07
AST (U/L)	21.5 (16.0-60.0)	19.0 (17.0-30.0)	0.27
ALT (U/L)	35.0 (12.0-115.0)	18.0 (13.0-36.0)	0.14
ALP (U/L)	74.0 (55.0-85.0)	65.5 (51,0-81.0)	0.07
GGT (U/L)	32.5 (12.0-35.0)	19.0 (12.0-25.0)	0.10
Vitamin D (ng/mL)	11.3 (4.1-21.3)	24.7 (6.6-57.6)	0.14

Table 5 shows the weekly analysis of the participants' step counts. It was observed that the number of steps and exercise duration of all participants increased as the weeks progressed.

The opinions of the participants explaining the effects on quality of life after body weight loss are given in **Table 6**.

Table 5. Weekly analysis of participants' number of steps

Week	1st Male Participant	2nd Female Participant	3rd Female Participant	4th Male Participant
Week 1	2043 average steps, 20 min	2386 average steps, 20 min	2900 average steps, 20 min	2400 average steps, 20 min
Week 2	3338 average steps, 30 min	3082 average steps, 30 min	3300 average steps, 30 min	3700 average steps, 30 min
Week 3	6097 average steps, 60 min	4642 average steps, 40 min	4200 average steps, 40 min	4400 average steps, 40 min
Week 4	6523 average steps, 60 min	5634 average steps, 50 min	5500 average steps, 50 min	5200 average steps, 50 min
Week 5	6530 average steps, 60 min	5333 average steps, 50 min	5500 average steps, 60 min	6000 average steps, 60 min
Week 6	6489 average steps, 60 min	5409 average steps, 60 min	5600 average steps, 60 min	6400 average steps, 60 min
Week 7	6592 average steps, 60 min	5582 average steps, 60 min	5700 average steps, 60 min	6500 average steps, 60 min
Week 8	6663 average steps, 60 min	5774 average steps, 60 min	5800 average steps, 60 min	6650 average steps, 60 min
Week 9	6721 average steps, 60 min	6054 average steps, 60 min	5900 average steps, 60 min	6700 average steps, 60 min
Week 10	6705 average steps, 60 min	6142 average steps, 60 min	6000 average steps, 60 min	6800 average steps, 60 min
Week 11	6934 average steps, 60 min	6130 average steps, 60 min	6100 average steps, 60 min	6900 average steps, 60 min
Week 12	7200 average steps, 60 min	6173 average steps, 60 min	6200 average steps, 60 min	7550 average steps, 60 min

Table 6. Opinions of Participants Explaining the Effects on Quality of Life After Body Weight Loss

Subcategories	1st Participant	2nd Participant	3rd Participant	4th Participant
Physical Functions of Exercise	'...I can move my body more easily, I get less tired, I feel easier in my daily work...'	'...After exercising, my daily work became easier. My breathing is easier after exercise. I feel more energized...'	'...I can walk longer distances and I feel less pain. I don't have as much difficulty as before...'	'...My mobility has increased, I lead a more active life and spend more time outdoors...'
Professional and Functional Competence	'...I am less tired at work, my productivity has increased. I don't work out of breath and drenched in sweat. I have a more organized working life...'	'...I have more energy to do my housework, I feel less stressed and I'm not afraid that I won't be able to finish it. I get along better with my children...'	'...My concentration at work has increased. I had constant headaches at work, I couldn't devote myself to my work, but these are gone...'	'...My motivation to work has increased, I am less tired and I am not lazy in my work...'
Emotional Functions	'...The increase in my self-confidence after losing weight had a positive impact on my relationships with my friends...'	'...I feel happier and more energized, I don't feel unhappy when I look in the mirror...'	'...With the weight loss, my confidence has increased and I am happy to carry what I wear...'	'...I have become a more sociable person because my self-confidence has increased. I think my communication with people has strengthened. I speak more confidently...'
Psycho-Social Health	'I used to be angry with myself and didn't like myself. I made peace with myself and relaxed spiritually...'	'...I feel more sociable, I get along better with my environment and my mood is higher...'	'...I have become a more positive person, I get positive feedback from my environment and this makes me happy...'	'...I am more at peace with myself, I am more positive towards my environment and I think that a new era has begun...'
Nutrition and Weight Management Process	'...I liked the change in myself after I changed my eating habits. Once I embraced it, I was able to maintain my program...'	'...Adopting a healthy lifestyle has made my life easier and after giving up my old snacking habits, I sleep better and don't have stomach aches...'	'...Regular eating and exercise habits have changed my life. I don't think about eating all the time. I enjoy this process because I eat on a schedule...'	'...The weight management process was challenging but I learned a lot. I'm happy that I was able to control my appetite. I dieted without starving. I'm happy to gain new habits...'
Harmony in Family Relations	'... After the weight loss process, my family's criticism decreased. The atmosphere at home became more peaceful...'	'...I spend better time with my family, we have more pleasant conversations at the dinner table...'	'...We have fewer arguments in the family, our eating habits have changed and we have a healthier environment...'	'...My communication with my family has improved, our relationships have become healthier and more supportive. We are more peaceful at home...'

DISCUSSION

Anthropometric measurements obtained after the intervention show that the nutrition and walking exercise program created significant changes in the participants: weight, BMI, and waist/hip ratio decreased ($p<0.01$).

In our study, a decrease was observed in steatosis grade and steatosis stage parameters assessing fatty liver disease after the intervention. The steatosis grade was and stage both decreased after the intervention. However, these changes were not statistically significant ($p>0.05$). The impact of diet and exercise on fatty liver disease has been extensively investigated in the literature. According to the Non-Alcoholic Fatty Liver Disease (NAFLD) Clinical Guidelines, body weight loss is a key strategy to reduce fatty liver disease, but it was emphasized that this effect may vary depending on individual metabolic factors (20). It has been stated that regulation of energy and protein intake of patients may positively affect the course of the disease (21). However, some studies suggest that body weight loss alone is not sufficient. It has been reported that NAFLD is a multifactorial disease and factors such as genetics, insulin resistance and oxidative stress may affect the course of the disease (22).

Some favorable changes were observed in the biochemical parameters of the participants: A significant decrease in triglyceride, Low-density lipoprotein (LDL), AST, and GGT levels. Vitamin D levels were increased but these changes were not statistically significant ($p>0.05$). Decreases in triglyceride and LDL cholesterol levels have been reported to have positive effects on cardiovascular health during obesity management (23). However, some studies suggest that the decrease in LDL cholesterol levels cannot be directly associated with weight loss and that individual differences may be determinant in this process (4). On the other hand, decreases in ALT and GGT levels have been shown to positively affect liver health during weight loss (24). In addition, it is supported in the literature that regular exercise and dietary interventions have positive effects on lipid profile and these changes offer important gains in terms of metabolic health (13). In our study, it was observed that diet and exercise intervention had positive effects on lipid profile, but this result was not statistically significant. This is thought to be due to the small study population.

In our study, body weight loss and improvement in physical functions after exercise were supported by the views of the participants. Under the heading of physical functions of exercise, participants reported less

difficulty in activities of daily living and increased ease of movement after exercise. For example, one participant stated that her physical capacity increased after body weight loss, saying "I can move my body more easily, I feel less tired, I feel easier in my daily work". On the other hand, "I get less tired in my work, my productivity has increased. I don't work out of breath and drenched in sweat. I have a more organized working life." also shows that the participants experienced changes in their work life along with physical improvement. Research also supports this situation and reveals that body weight loss reduces fatigue levels and increases physical activity levels, providing individuals with a more comfortable mobility in their daily lives. In particular, the positive effects of body weight management programs on physical fitness, activities of daily living, and overall quality of life overlap with the findings obtained in this study (25, 26). The statement of "After exercising, my daily work became easier. My breathing relaxed after exercise. I feel more energized" reveals the effects of exercise and body weight loss in daily life. Research clearly shows the positive impact of exercise on cardiorespiratory capacity and the relief that individuals experience in their daily activities. It has been reported that exercise increases energy levels, reduces shortness of breath, allows individuals to perform their daily tasks more easily and improves their overall quality of life (23, 27, 28).

The effects of body weight loss on the psychosocial status of individuals have been widely discussed in the literature and the findings of our study are consistent with these effects. In the study conducted by Puhl and Brownell (2006), it was emphasized that body weight loss caused positive changes in social interactions and increased self-confidence played a significant role in this process (29). The statement of one of the participants that "the increase in my self-confidence after losing weight reflected positively on my relationships with my friends" supports these findings and it was stated that improvements in social relationships were observed with the increase in self-confidence after body weight loss" supports these findings. Sarwer et al. (1998) examined the effects of body weight loss on body perception and psychosocial functions and found that increased self-confidence was one of the critical outcomes of body weight loss (30). In this study, it was stated that positive changes in body perception of individuals after body weight loss contributed significantly to social and emotional well-being. In this context, the participants indicated that they felt happier and more energetic, which seems to be consistent with the effects of body weight loss on mental health. In a controlled study by Foster et al. (1997), it was observed that depression symptoms decreased and quality of life improved in individuals after body weight loss (31). These findings directly overlap with statements from participants such as "I feel happier and more energetic, I do not feel unhappy when looking in the mirror". Similarly, Blaine et al. (2007) meta-analysis of the effects of body weight loss treatments on psychological well-being showed that the long-term effects of body weight loss improved overall quality of life and had positive effects on mood (32). Individuals who participated in the body weight management process stated that they observed positive changes in themselves after changing their eating habits. For example, one participant stated, "I liked the change in myself after changing my eating habits. I was able to maintain my program." This statement shows that the process becomes more sustainable when the individual internalizes the new diet. Similarly, studies support that individuals' changing their habits in the long term in the body weight management process plays a critical role in successfully completing the process (33).

One of the important findings of this study is the effects of the body weight management process on family relationships. Participants reported that as they experienced body weight loss, criticism within the family decreased and the atmosphere at home became more peaceful. One participant said, "After the weight loss process, my family's criticism decreased. The atmosphere at home became more peaceful." This finding coincides with studies showing that family members develop critical attitudes towards each other in terms of nutrition and body weight perception (36). Another participant emphasized the positive effects of body weight loss on social relationships by saying, "I spend better time with my family, we have more pleasant conversations at the dinner table." In the literature, it is stated that food culture strengthens social ties and healthy eating habits improve communication between family members (37). Strengthened communication within the family also increases compliance with the body weight management process. One participant expressed how body weight management changed family dynamics by saying, "We have fewer arguments within the family, our eating habits have changed and a healthier environment has emerged." Studies have shown that individuals who receive social support in the process of body weight loss comply with their programs better (35). However, some studies have also indicated that body weight loss may cause tensions within the family. Especially in some individuals, lack of social support may be felt after weight loss or conflicts may occur with family members who maintain their old eating habits (34). Another participant said, "My communication with my family has improved, our relationships have become healthier and more supportive. We are more peaceful at home.", expressing the psychosocial benefits of body weight management within the family. In the literature, it has been shown that healthy lifestyle changes increase the psychological well-being of individuals and positively affect family relationships (33).

CONCLUSION

This study revealed that the body weight management process is not only limited to individual health but also has an impact on social relationships and family harmony. Participants stated that when they regularly practiced walking exercises in addition to their nutrition programs, their psychological well-being improved alongside their physical health. Healthy eating habits supported by walking exercises enhanced individuals' adherence to the body weight management process, contributed to appetite control, and improved their overall quality of life. However, the impact of body weight management may vary depending on personal, social, and psychological factors.

Therefore, it is essential to adopt a holistic approach that integrates exercise and nutrition programs with structured psychological support tailored to individual needs. In addition, interventions such as behavioral counseling, peer support programs, and family involvement strategies should be incorporated to enhance long-term adherence and facilitate sustainable lifestyle changes.

Future research should focus on evaluating the long-term psychological and behavioral effects of weight management strategies. Specifically, randomized controlled trials with larger sample sizes and extended follow-up periods (e.g, 6–12 months) should be conducted to better understand the sustainability of the outcomes and their broader implications.

ETHICAL DECLARATIONS

Ethics Committee Approval: This study was approved by Amasya University Non-Interventional Clinical Research Ethics Committee (Date: 24.04.2024, Decision No: 190521).

Informed Consent: Because the study was designed retrospectively, no written informed consent form was obtained from patients.

Referee Evaluation Process: Externally peer-reviewed.

Conflict of Interest Statement: The authors have no conflicts of interest to declare.

Financial Disclosure: The authors declared that this study has received no financial support.

Author Contributions: All of the authors declare that they have all participated in the design, execution, and analysis of the paper, and that they have approved the final version.

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