

Effect of small group training in addition to counselling on weight loss among obese women.

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Abstract

Aim: We aimed to evaluate the effect of the small group training in addition to continuous professional consulting services on the weight loss in obese women.

Methods: The volunteer women admitted to family medicine outpatient clinic due to obesity were included in the study. A total of 94 obese patients were randomly divided into two groups. Both groups had received counselling at once every 15 days. In addition, the study group has received three times small group training. At the end of 6-month follow-up, the data were analysed.

Results: At the end of the study; weight, BMI, waist circumference and body fat percentage decreased statistically significant in both groups ($p < 0.001$). Percentage of reduction in BMI, WC and body fat percentage were significantly higher in the study group than control group.

Conclusion: Small group training as an additional method to giving counselling will be useful for the weight loss of overweight or obese individuals.

Keywords: Obesity, Training, Weight loss, Women.

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Introduction

Obesity is a complex and multifactorial disease that resulting from the interaction of genetic and environmental factors [1]. It is a dangerous condition that can reduce the quality of life and increase the numerous serious chronic diseases and risk of premature death [2,3]. Obesity and obesity-related diseases are directly or indirectly affect the economy of the countries [4]. Rates of obesity have increased throughout much of the world [5]. The proportion of adult women with a body mass index (BMI) of 25 kg/m² or greater increased between 1980 and 2013 from 29.8% to 38.0% worldwide [6]. In Turkey, the prevalence of obesity is 36%, and of overweight is 37% [7]. Guidelines recommend physicians to offer an intensive counselling for diet, exercise and behavioural interventions for weight loss of obese adults [8]. By the way, obese patients have reported they could not get enough of the medical advice regarding weight control from the physicians [9]. Interventions stay on the suggestion level generally. Because of this; more effective, alternative and protective methods should be developed [10]. We aimed to evaluate the effect of the small group training in addition to continuous professional consulting services on the weight loss in obese women.

Methods

This research was conducted as a prospective, randomized controlled intervention study by March 2014 to November 2015 in Trabzon, in Turkey. The volunteer women admitted to family medicine outpatient clinic due to obesity were included

in the study. Inclusion criteria are as follows; age ≥ 18 years, body mass index ≥ 30 kg/m² and female gender. Pregnant women and patients who have endogenous obesity were excluded. A total of 94 obese patients enrolled in the study. Patients were randomly divided into two groups, study group (n=47) and control group (n=47). At the end of 6-month follow-up, the data of totally 81 participants including 40 patients in the study group and the 41 patients in the control group were analysed. Four patients in the study group were excluded from the analysis because they did not attend all of the small group training sections. Three patients in the study group and six patients in the control group departed from the study due to some reasons such as social, economic, low motivation because of inability to lose weight.

Participants were seen once every 15 days for six months at a family medicine clinic. Both groups had received counselling at each meeting. In this regard, diet and exercise are proposed. A calorie diet which was 500 calories less than daily calorie needs was prepared by dietician working in our hospital. Our additional recommendations were chewing solid foods too much and fluid intake approximately 2.5 litres per day. For exercise advice, to increase their daily activities and brisk walking three days per week for 45 minutes were suggested.

In addition, the study group has received three times small group training, at the beginning, second month and fourth month of follow-up respectively. These trainings were given in groups of 10 people. Content of the training consisted of obesity and its risks, healthy eating, glycaemic index, physical

activity and motivation. The demographic features and anthropometric measurements were noted at the beginning of the study. Weight, BMI, body fat percentage and ideal fat were measured during each meeting using a bio-impedance body composition analyser (Tanita BC-418MA; Tanita Corp., Tokyo, Japan).

The data were analysed using a statistical software package. Numerical variables are expressed as mean \pm SD. Independent samples t-test, Chi square test and paired samples t-test were used in comparisons. Statistical significance was set at $p < 0.05$. This study was approved by the Ethics Council of Karadeniz Technical University Medical Faculty (14.03.2014-1752305/194).

Table 1. Changes in outcomes according to the research groups.

Anthropometrics	Study group (n=40)			Control group (n=41)		
	Before	After	P	Before	After	P
Weight (kg)	85.1 \pm 11.3	79.8 \pm 10.7	<0.001	88.9 \pm 11.7	85.6 \pm 10.6	<0.001
BMI (kg/m ²)	32.9 \pm 4.0	30.8 \pm 3.7	<0.001	34.2 \pm 4.6	33.0 \pm 4.3	<0.001
WC (cm)	105.3 \pm 9.1	100.1 \pm 8.3	<0.001	106.5 \pm 11.2	103.1 \pm 11.6	<0.001
Body fat (%)	39.6 \pm 4.1	35.6 \pm 4.8	<0.001	40.4 \pm 4.9	38.0 \pm 5.6	<0.001

BMI: Body Mass Index; WC: Waist Circumference.

Table 2. Mean reduce in anthropometric values between the groups after six months.

Anthropometrics	Study group (n=40)		Control group (n=41)		P
	Reduce	%	Reduce	%	
BMI (kg/m ²)	2.0 \pm 1.8	6.1	1.2 \pm 1.4	3.5	0.017
WC (cm)	4.9 \pm 3.1	4.8	3.1 \pm 1.9	3.2	0.004
Body Fat (%)	4.0 \pm 3.3	10.2	2.3 \pm 2.3	5.8	0.013

BMI: Body Mass Index; WC: Waist Circumference.

Discussion

In our study, we showed the positive effect of small group training on weight reduction. By the way, we experienced beneficial effects of counselling in obese patients. In a study searching the effect of obesity related counselling among obese primary care patients, they obtained declines in BMI for five years follow-up. Compared with patients receiving "intense-and-sustained" counselling, the BMI trend of those receiving "no counselling" or "limited counselling" had significantly higher rates of decreasing BMI [11]. In our study, we provided reduction in BMI, waist circumference and body fat percentage on both the study group which received small group training in addition to counselling and the control group which received only counselling. The mean reduction percentage for each anthropometric measurement was significantly higher in study group than control group. These results showed the effectiveness of small group training in weight loss. This effect

Results

Mean age of the participants was 37.3 ± 8.9 years. At the beginning of the study, results in terms of the age and anthropometric measurements were not significantly different between the groups ($p > 0.05$). At the end of 6-month follow-up; weight, BMI, waist circumference and body fat percentage decreased statistically significant in both groups ($p < 0.001$) as shown in Table 1. Reduction in BMI, WC and body fat percentage were significantly higher in the study group than control group ($p < 0.05$), as shown in Table 2.

can be explained the interaction of patients in small groups during training or the increase of patients compliance to weight reduction programme or increase of patient motivation. In addition, this can be as a result of patients identified the importance of weight-induced health problems.

Despite increased rates of overweight and obesity, rates of weight counselling in primary care have significantly declined and weight-related counselling takes part of 7.8% of visits [8]. This condition may become as a result of various factors such as huge workload of primary care physicians or low motivation of them. Furthermore, it makes think that obese individuals do not request counselling and health services about obesity from their consultants. We have observed increased adherence to treatment of patients with intense follow-up. Especially, awareness about obesity of individuals has increased by small group training. This increase of awareness affects the society of the individual; if that individual shares her knowledge with her friends, neighbours, etc. This effect is remarkable in terms of creating an impact at community level.

Conclusion

The small group training as an additional method will be useful for the weight loss of overweight or obese individuals. In this regard, family physicians working in primary care have an important role. Opportunities should be supplied to physicians, to provide counselling and small groups training for individuals in their population. In this regard new regulations should be made in the health services.

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