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Research Article

Investigation of the Effect of Compassion-Focused Therapy on Social Anxiety and Interpersonal Relationships among Women on an Overweight Diet 2019-2020

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Abstract

Background: Anxiety disorders are psychiatric illnesses that are most common in developing countries. Obesity is thought to be a risk factor for anxiety and intimate relationship disorders. The aim of the present paper was to investigate the effect of compassion-focused therapy on social anxiety and interpersonal relationships among women on an overweight diet 2019-2020.
Methods: The study research design was quasi-experimental with a control group, pre-test, and post-test. We narrowed down 100 women according to the inclusion criteria; among them, we randomly selected 30 women on an overweight diet referring to the diet therapy clinics in Tehran province from December 2019 to April 2020. Afterwards, they were randomly assigned to experimental and control groups. The experimental group (n=15) was treated with compassion-focused therapy for ten weekly 90-minute sessions while the control group (n=15) did not receive any treatment. At the start of the study, after 10 weeks, all participants were tested using the Social Phobia Inventory (SPIN) and the Revised Communication Skills Questionnaire (RCSQ) methods. In addition to descriptive statistics, we used Chi-squared, independent, and dependent t tests to interpret the results; we employed the SPSS-25 program for all the analyses.
Results: According to Mean±SD, there was a significant difference between the experimental (1.41±0.03) and control (2.01±0.43) groups regarding social anxiety and regarding interpersonal relationships there was a significant difference between the experimental (2.50±0.21) and control (1.83±0.21) groups, respectively. The experimental group had significantly lower post-test scores in terms of social anxiety (P=0.04) and interpersonal relationships (P=0.001). Moreover, there was a significant change in the experimental group from the pre-test to the post-test concerning all components of social anxiety (P=0.001) and interpersonal relationships (P=0.001).
Conclusion: The findings showed that compassion-focused therapy could help with overweightness. Therefore, this intervention program is recommended for preventing social anxiety and interpersonal relationships among women on an overweight diet.

Keywords: Empathy, Therapeutics, Anxiety, Interpersonal relationships

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1. Introduction

Obesity is a rapidly growing and complicated public health issue with an unprecedented 1.9 billion overweight adults worldwide in 2014 (1). Obesity has adverse impacts on mental well-being and is associated with increased morbidity, mortality, and health spending (2). Extremely obese people are regarded as irresponsible and mentally weak. This can lead to negative impacts on the quality of their lives, such as low self-esteem and decreased involvement in the community and social activities (3). Accessible evidence indicates that weight stigma is strongly correlated with opioid non-adherence, mental wellbeing, anxiety, perceived tension, antisocial behavior, alcohol use, coping mechanisms, and social support (4).

Griffiths and colleagues found that higher stigma levels were positively associated with low self-esteem, serious eating disorder symptomatology, lengthy disease, and unwillingness to seek treatment (5). Studies have shown that over time, overeating and poor weight control are associated with social anxiety disorder (6), obesity (7, 8), and psychosocial problems such as body displeasure and body dysmorphia (9). Based on recent research, compassion-focused therapy supporting individuals and improving self-confidence and self-compassionate abilities can help protect against the persistent impact of guilt and self-criticism in a plethora of health and social challenges (10), including dietary and weight problems (11).

The compassion-focused therapy involves psycho-solutions to emotional and social control processes;

it facilitates mindfulness and compassionate attitude towards oneself and others through a set of compassionate mental activities. The efficacy of CFT in promoting different facets of psychological health has been proven (12); it helps to empower shame-prone, self-critical people to cultivate their inner kindness and self-compassion attitudes (13).

Therefore, this treatment is especially suitable for women on overweight diets. Several studies have employed this approach to treat the psychosocial consequences of overweightness and obesity; for example, Kelly and Carter observed that three-week self-compassion therapy decreased binge eating and weight (14). Moreover, Ferrari and Hunt investigated the efficacy of CFT in a meta-analysis of RCTs. A significant percentage of patients reported statistically significant changes in ED effects following diagnosis (15). Finally, Kelly et al. found that group-based CFT paired with evidence-based outpatient ED care resulted in greater benefits in self-compassion, fear of self-compassion, fear of compassion, guilt, and ED post-treatment depression compared with treatment alone (16).

Taken together, these findings indicate the importance of CFT for overweightness and obesity. Furthermore, these studies are either short, self-help in nature, focused on individuals with overweightness and obesity alone, or have limited samples or analyze the CFT given in combination with other therapies. As such, only minor conclusions can be drawn on the effects of CFT on overweight individuals across diagnostic subsets. There is obviously a need for a controlled study to assess the effectiveness of CFT in this population. Considering the poor outcome and high dropout and relapse rates in these patients and the increased social anxiety and interpersonal relationship problems, it is necessary to develop treatments tailored for overweight and obese patients. In Iran, no treatment approaches have been empirically tested for this population. Accordingly, this study aimed to investigate the effect of compassion-focused therapy on social anxiety and interpersonal relationships among women on an overweight diet.

2. Methods

2.1 Selection and Description of Participants

The study research design was quasi-experimental including a control group, pre-test, post-test, and 30 women on an overweight diet referring to the diet therapy clinics in Tehran from December 2019 to April 2020. At least 15 individuals were suggested for each group in the experimental studies (17). Therefore, through a convenience sampling method, we selected 15 overweight females (from 100 women narrowed down according to the inclusion criteria) and randomly assigned them to control and experimental groups. The experimental group (n=15) was treated with compassion-focused therapy for ten weekly 90-minute sessions while the control group (n=15) did not receive any treatment. Initially, 100 people declared their willingness to participate in the study; over a course of three weeks, they were interviewed by telephone and given explanations about the research. At this stage, 56 individuals were removed. Furthermore, the estimated sample size for each group was 15 individuals whereas according to similar studies conducted in Iran, the sample size was estimated between 15 to 20 individuals per group (17). The analysis was performed with a sampling call. For this purpose, announcements were posted at nutrition rehabilitation centers. Of note, the recall stated that individuals were able to participate in the scheme with a BMI range of 25-29.5. Sixty people met the research criteria and were included in the study. Inclusion criteria were 1 BMI 25-29.5 complete voluntary consent to engage in a project Exclusion criteria were serious illness, psychotic symptoms, pregnancy, and addiction. The Research Ethics Committee of the Ahvaz Islamic Azad University approved all research processes and methods (coded IR.AUA. REC.1397. 1553214.). Also, written informed consent forms were obtained from all participants.

2.2 Technical Information

Prior to the intervention, both groups were exposed to the pretest. Questionnaires and tests of social anxiety and interpersonal interactions were administered to experimental and control groups. All participants were overweight and undergoing psychological therapies during the experimental group design; the control group received diabetic diets as before. Prior to joining the sample, the BMI of the participants was first assessed to meet the inclusion criteria. Participants in the study group then obtained the CFT Compassionate Intervention Training Program. The study group was provided with three one-minute sessions. Furthermore, the control group did not undergo any training plans or intervention techniques. The subjects were advised that participation in the research was voluntary and that upon request, they could leave the study at any time. The research participants, therefore, joined the research with complete consent and awareness. The

participants specified the meeting hours and days. They were told that their identities and profiles would be kept secret and that no one, but the researcher, would have access to them. After the completion of the treatment, the control group was offered a group-counseling course. Fifteen participants were included in each group by use of G*Power statistical software and based on Mohammadi et al. (17) with an effect size of 1.1, a test power of 0.80, and α=0.05. There are many randomization approaches known to effectively conceal the randomization sequence; however, sequentially-numbered, sealed opaque envelopes are both cheap and effective. The researcher carried out the randomization, and participants were allocated through selecting sealed opaque envelopes. Randomization was performed once the subjects completed all the baseline measures and eligibility interviews.

The Body Mass Index (BMI) was calculated using weight (kg)/height2 (m2). A BMI of 25.0 kg/m2 or more is considered as overweightness, and a healthy BMI ranges from 18.5 to 24.9 kg/m2. BMI applies to most adults aged 18 to 65 years (18).

Social Phobia Questionnaire: Connor, Davidson et al. (19) developed the Social Phobia Inventory (SPIN) to assess social anxiety. For evaluation of social anxiety disorder (social phobia), it is a self-rated scale of 17 items. This scale comprised of three aspects (fear, avoidance, and physiological excitement) and involves questions that are intended to measure each of these domains. Each item is scored 0-4, with a total likely score ranges from 0-68 over a period of 1 week. A 21-30 SPIN result shows moderate social phobia, 31-40 (moderate), 41-50 (severe), and more than 50 (very severe). This test estimates 78 percent accuracy of social phobia based on a cut-off score of 19. Excellent reliability for test-retest (π=0.78-0.89) and good internal consistency (π=0.87-0.94) were recorded. Strong convergent and divergent qualifying assets have been further reported with SPIN (19). In Iran, the validity and reliability of this questionnaire were evaluated and confirmed by Dogaheh reported (20). Reliability coefficient (Cronbach's α=0.87) and reliability of two weeks of test-retest in non - psychiatric samples (r=0.89) were both reasonable. At a cut-off score of 29, balanced sensitivity (0.96) and specificity (0.087) resulted.

Revised Communication Skills Questionnaire: This 34-item questionnaire was created by Queendom (2004) to evaluate interpersonal skills in adults (21). This scale includes five dimensions, namely listening abilities (questions 5, 6, 7, 8, 22, 23, and 27), verbal and nonverbal interpretation of communications (questions 2, 11, 12, 13, 14, 18, 19, 21, and 28), insight into interaction (questions 16, 24, 25, 29, and 34), regulation on emotions (questions 4, 9, 15, 17, 20, 26, 30, 31) and on assertiveness (questions 1, 3, 10, 32 and 33). In addition, the questions are graded on the basis of a Likert scale of five points (1=never, 2=uncommon, 3=often, 4=usually, 5=always). This results in respondents earning a score between 34 and 170 based on their responses. Remarkably, questions 2, 4, 6, 9, 10, 12, 13, 17, 19, 24, 25, 28, 32 and 33 were reversed due to their existence. In other words, the "Always" selection got a score of 1 while the "Never" selection got a score of 5. Thus, the total score of each subscale was the sum of the scores of their respective questions, and the overall score for each person's communication skills was determined by summing up all the sub-scale scores. Hosseinchari et al. tested the validity and reliability of this test's Persian translation into Iranian society (22).

2.3 Statistics

Immediately following the intervention, the post-test was conducted for all three variables. The SPIN (Updated Social Phobia Questionnaire) and the Updated Version Communication Skills Questionnaire were once again administered to each group member and their scores were compared to the previous scores. In addition to descriptive statistics, Chi-squared, independent, and dependent t tests were employed to interpret the results and the SPSS-25 program was used for all the analyses.

2.4 Description of the Content and Structure

The core structure of the sessions: Team training, participants' Input from the previous week, learning heading for each week, assigning homework), and regular outcome measures (such as the Quick Progress Sheet). The compassionate intervention training sessions emphasized the following three items: 1) Maximum effort at each step; 2) performing home workouts (setting a fixed time for exercise rather than making time for it) specifying a specific period that would make the routine exercise more effective than the schedule; 3) dedication to privacy and respect for other group members.

3. Results

The maximum age range in the compassion-focused therapy category was 29-36. In the control group, one individual fell in the aged range of 20-28 years, 10

individuals in 29-36, and the remaining four 37-45.

Table 1 presents the demographic details about the age and education of the subjects in both groups and the chi-square test. There was no significant difference between the age and education of the two groups at 0.05 significance level.

According to the results of Table 2, a significant difference existed between the experimental and control groups regarding social anxiety and interpersonal relationships. The experimental group had significantly lower post-test scores regarding social anxiety (P=0.04) and interpersonal relationships (P=0.001). In addition, the experimental subjects had less social anxiety and more interpersonal relationships compared to the controls. Based on the findings in Table 3, there was a significant change in the experimental group from the pre-test to the post-test concerning all social anxiety components (P=0.001) and interpersonal relationships (P=0.001), indicating the effectiveness of compassion-focused intervention (CFT).

4. Discussion

The objectives of the study were to evaluate

Table 1: Description of compassionate intervention training sessions

First Session Overview of the session: Introduction of the therapist. Introducing members of the party and getting to know each other. Presentation of group guidelines, such as timeliness and frequent attendance at meetings in accordance with the concept of confidentiality, group engagement, involvement in group discussions, the need for empathy, and homework. Building a sense of protection and encouragement for participants to continue attending. Introducing the task ahead and its significance, followed by a brief overview of the CFT treatment model and the core compassion-focused intervention structures. Relaxation breathing-rhythm section at the end of the training session.
Second Session Overview of the session: Assignment and review of the prevention session; examining the way people treat themselves (critical or compassionate style), defining self-criticism and its causes and consequences, introducing three emotion regulation systems and how they interact, and defining compassion. The meeting focused on self-education and introduced its features. Homework: practicing rhythmic breathing and identifying self-critical thoughts and behaviors
Third session Overview of the session: The meaning of compassion and a review of the previous session? CFT treatment features and skills and how it affects one's moods. Explaining the presence of the mind and its training; talking about difficult situations and people's reactions; performing mindfulness-breathing exercises at the end of the session. Homework: How compassionate you are to practicing the session and answering the question
Fourth Session Overview of the session: Reviewing the assignment and the previous session, doing soothing breathing exercises (to relieve anxiety), and identifying and creating a safe place, introducing a mental imagery and its training, and performing a compelling illustration exercise. Homework: Performing a session, completing a compassionate skills table.
Fifth Session Overview of the session: Reviewing the assignment and the previous session, developing self-compassion, and introducing and applying concepts: wisdom, ability, warmth, and responsibility in creating compassion; completing letter-writing assignments. Homework: Do a session exercise and write a thoughtful letter.
Sixth Session Overview of the session: Reviewing the assignment and the previous session, writing Part II of the Letter of Intent. Teaching the concept of behaviorism and its logic; teaching the development of valuable and transcendent emotions and the responsibility to create compassion; using metaphorical gardens full of weeds; colored illustration tutorial; performing a sympathetic scan exercise at the end of the session.
Seventh Session Overview of the session: Reviewing the assignment and the previous session, focusing on self-compassion, and identifying its different dimensions (attention, thinking, feeling, and behavior); discussing the compassionate thinking and teaching the influence of thoughts on anger, anxiety, and emotions; practicing raisin eating with the presence of mind. Homework: Self-compassionate mental imagery
Eighth Session Overview of the session: Reviewing the assignment and the previous session, recalling compassion skills, and explaining the role of compassion in controlling emotions; teaching how to think; reviewing the training of compassionate and critical thinking; discussing interpersonal sensitivities and responses to rejection and using compassionate skills to control and reduce these reactions; performing compassion practices with others (using memory). Homework: perfecting your compassionate skills.
Ninth Session Overview of the session: Reviewing the assignment and the previous session, recalling compassionate skills, and performing breathing-relief and the session techniques.
Tenth Session Reviewing the assignment and the previous session, summarizing of the previous sessions, and discussing the quality of the sessions; asking the members to select and perform one of the exercises that they found most useful from the previous sessions.

Table 2: Demographic information of the research subjects

Variable		CFT	Control	Chi-squared	P value
Age	20-28	4	1	3.50	0.47
	29-36	8	10		
	37-45	3	4		
Academic level	Diploma	2	2	0.25	0.99
	Bachelor	9	10		
	Masters	4	3		

* CFT: Compassion-Focused Therapy

Table 3: Descriptive indicators of the experimental and control groups

Group		Experimental	Control	Between group P value
Variable	Time	Mean±SD*	Mean±SD*	
Social Anxiety	Pre-test	2.04±0.04	2.01±0.43	0.04
	Post-test	1.41±0.03	2.01±0.43	0.001
Within group P-value		0.001	0.99	
Interpersonal Relationships	Pre-test	1.40±0.36	1.83±0.21	0.001
	Post-test	2.50±0.21	1.83±0.21	0.001
		0.001	0.99	

*SD: Standard deviation

the effect of Compassion-Focused Therapy on overweightness and obesity and study the important therapeutic processes for treatment outcomes in these individuals. The findings of this study showed that CFT was substantially more effective in decreasing the frequency of post-test symptoms associated with social anxiety. In addition, CFT was able to improve inter-relationship rates although non-treatment conditions did not substantially change in these situations. There are several controlled studies in the field of CFT, with most of which, the findings of the present study are consistent (8, 12, 23). Duarte et al. (2019) demonstrated that compassion therapy effectively reduced binge eating symptomatology and dropout, and self-assessment; however, it did not affect the weight outcomes. Compassion, self-confidence, and self-criticism mediated the effect of therapy on binge eating symptomatology. Moreover, negative self-assessment, binge-eating symptomatology, susceptibility to hunger, and eating shame were important predictors of dropout (24). Ratcliffe highlighted the negative impact of social and behavioral experiences related to weight stigma on people's view of themselves as obese individuals. Maintenance factors comprise low self-esteem, shifts in concentration and mood, and prevention and security behaviors. In addition, eating and weight management patterns were unregulated and both obesity and weight stigma were retained (8, 23, 24). In addition, Goss used CFT as a holistic therapy for adult outpatients, providing minimal and binge/purge food abuse programs, including severe eating disorders. With the new developments, CFT includes recovery programs for people with low weight, eating disorders, and obesity (25).

CFT therapy revealed the role of guilt, self-criticism, self-directed aggression, and difficulty in producing and experiencing in patients with eating disorders (25, 26). In supporting these findings, it can be said that the participants considered compassion as related to care and listening. However, their understanding of previous experiences of compassion was primarily practical support rather than emotional commitment. Their response to their own relapse and failures was mainly self-criticism, self-disgust, and self-hatred rather than self-care or self-understanding. Self-criticism and self-hatred tend to be associated with inadequate weight control. If people with weight issues regress or fail to regulate their eating habits, they may become self-critical or even develop self-hatred; this can intensify the challenge of and maintaining healthy behaviors and eating habits. On the other hand, turning to others for support, compassion, and becoming self-supportive are antidotes to self-criticism and associated with better coping and mental wellbeing (26-28).

Matos (27) found that the experimental group was significantly more relaxed and healthy. Significant reductions also occurred in shame, self-esteem, and feelings of compassion and frustration (28, 29). It can be stated that during and after the intervention, participants reported a more positive attitude in their relationships

with themselves and others, self-confidence, sense of responsibility, healthy relationships, control over eating habits, and feeling depressed (28, 29). In contrast to many studies, in a review, at least eight different compassionate interventions were listed, six of which were tested in randomized controlled trials; moreover, a recent meta-analysis found that compassionate interventions had moderate effects on suffering and increased life satisfaction (10). Seven studies found that self-compassion approaches were just as effective as other behavioral modification strategies in enhancing self-regulation regarding health behavior (30).

Compassion-focused therapy (CFT) is based on an evolutionary and relational study of common social motivational mechanisms (such as living in groups, creating hierarchies and ranks, and sharing with partners, and caring for relatives) and a variety of adaptive emotional frameworks (such as responding to threats, seeking support, and state of satisfaction/ security). In addition, around two million years ago, (pre-) humans started to develop a range of critical mental abilities, trying to interpret, anticipate, explain, metalize, and construct a socially-contextualized sense of self. These new competencies give rise to serious problems in setting up (older) motivational and emotional structures. Thus, CFT indicates that our evolved brain is inherently unstable due to its simple nature, which is easily caused by harmful actions and mental health issues (called tricky brain). However, primates and humans in particular, have developed motives and feelings for interaction, compassion, and altruistic behavior that; these motives and feelings form our minds so as to greatly mitigate our destructive potentials. Therefore, CFT stresses the importance of enhancing the capacity of people to (mindfully) bind, embrace, and channel affiliation desires and emotions towards themselves and others and promote inner compassion as a means of organizing the human tricky brain in a pro-social and mentally healthy manner (31).

The present research, similar to other studies, had certain limitations. One of the most important limitations of the study was the lack of follow-up treatment for several reasons such as sample loss and participants' lack of cooperation in the follow-up period. Furthermore, the sample size was small, thereby limiting the generalization of the findings. In future studies, it is proposed that researchers apply this new therapy to different conditions and use additional variables in projects with larger sample sizes as intermediate variables. Additionally, we did discuss gender gaps, which could and must be discussed in subsequent studies. This could be conducive to providing a clearer understanding of the role of Compassion-Focused Therapy in overweight people.

5. Conclusions

Based on the results, the compassion-focused intervention positively affected social anxiety and interpersonal relationships among women on an overweight diet. The findings of this study showed that CFT was substantially more effective in decreasing the frequency of post-test symptoms related to social anxiety. In addition, CFT was able to improve the inter-relationship rates. These changes might reduce the likelihood of further mental health issues. Therefore, this intervention program is recommended for preventing social anxiety and interpersonal relationships among women on an overweight diet.

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Ethical Approval

The Research Ethics Committee of the Ahvaz Islamic Azad University approved all research processes and methods in terms of ethical considerations (coded IR.AUA. REC.1398. 1553214.). Written informed consent forms were obtained from all participants.

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