



Original research

Experimental design and statistical evaluation on the effect of narrative therapy on body image and body mass index in Iranian overweight and obese women



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ARTICLE INFO

Keywords:

Narrative therapy
Overweight
Obesity
Diet therapy
Body image
Body mass index

ABSTRACT

Background and aims: Obesity has recently shown a trend in becoming an epidemic and a community health problem. Studies on obese individuals have shown associations between the risks of obesity and its hazardous effects both on physical and mental health as well as on the body image. Narrative therapy, which allows an obese and overweighted woman to re-author her life narratives by focusing on positive interpretations, is a useful approach in the treatment of the body image disturbances.

Method: Ten women in the diet therapy group just received a weight loss diet for 5 weeks, 10 women in the narrative therapy group plus a weight loss diet (ten sessions twice a week, each session lasting 50-min), and ten women in control group participated in this study. The 3 groups were homogeneous. The effects of the program were measured using a Multidimensional Body-Self Relation Questionnaire (MBSRQ) test.

Results: This study illustrated that the diet therapy along with narrative therapy had significant effects on body image. ($P < 0.001$). Furthermore, diet therapy along with narrative therapy significantly decreased BMI, ($P < 0.001$), although the amount of decrease was not clinically significant.

Conclusion: The results established that Narrative therapy along with diet therapy can be a useful intervention strategy for improving body image in overweight and obese women by focusing on positive experiences in outsider witnessing the process. The present study raised the possibility that a multi-dimensional approach of diet therapy and narrative therapy can successfully result in body image improvement through life narratives reconstruction.

1. Introduction

Overweight and obesity have increasingly become an epidemic and community health problem all over the globe. Overweight and obesity are defined as an abnormal or excessive accumulation of fat in the body. Nearly 35% of adults are overweighted worldwide, and 11% are obese (Doll et al., 2000; Poelman et al., 2015). Overweight and obesity are risk factors for many debilitating and life-threatening conditions such as hypertension, cardiovascular diseases, diabetes, gout, some neoplasms, back pain, sleep apnea, osteoarthritis and respiratory failure, psychological and social problems (Must et al., 1999; Puhl and Brownell, 2001). Narrative therapy is a form of psychotherapy that seeks to help people identify their values and the skills and knowledge they have to

live according to those values, so they can effectively confront whatever problems they face. White and Epston (1990) stated that narrative therapy is based on the idea that problems are initiated from social, cultural, and even political contexts (Etchison and Kleist, 2000). Some findings indicate that the difficulties associated with appearance are less to do with beauty per se, but are more likely to be associated with narratives of loss, aging and decline and death (Silver and Reavey, 2010). Self-narratives (narratives about oneself) can become problematic when they restrict cognitive and affective diversity, thereby limiting behavioral possibilities (Rodríguez Vega et al., 2014). An internally coherent, consistent and balanced life narrative is a remarkable sign of mental health (Laszlo, 2008). Obese individuals have a more negative evaluation and greater disturbance in perception of their body

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<https://doi.org/10.1016/j.obmed.2019.100097>

Received 7 September 2018; Accepted 30 April 2019

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compared with normal weight individuals (Sarwer et al., 1998). Body image dissatisfaction is the most consistent psychosocial consequence of obesity (Schwartz and Brownell, 2004).

In addition, body image concerns are associated with more unhealthy weight control and lower well-being (Verstuyf et al., 2012). So their heightened vulnerability to poor psychological outcomes due to their high Body Mass Index (BMI), may argue for the study of efficacy of psychological treatment in overweight and obese adolescents and adults. Obesity is actually, a chronic and progressive condition that is associated with failed attempts at change and repeated relapses (Christiansen et al., 2012). To the extent of our knowledge, only a few studies have explored a broad range of life narrative characteristics and their relative importance for overweight and/or obesity. Padulo and Rees in 2006, investigated about eating disorders in women using archetypal stories and metaphors. Their research have illustrated that women with eating disorders actively participate in the creation and expansion of stories as it creates a resonance between the body and the mind, while the two are often experienced separately. When the connection between mind and body is provided through writing stories, women can have communication and symbolic thinking. Given the role of maladaptive cognitions in weight disorders, the role of metaphors in these disorders are not far-fetched (Padulo and Rees, 2006). Sojcher and colleagues in a study in 2012 have concluded that mind-body therapies, especially mindfulness treatments, increase the success rate in preventing and treating obesity (Sojcher et al., 2012). As a result, narrative therapy approach, which aims to explore the lived experiences of participants, may be able to contribute more to the understanding of the processes between psyche and body in the world. Thus, the current study aimed to compare the efficacy of narrative therapy in addition to diet therapy and diet therapy alone on body image and body mass index (BMI) in Iranian overweighted and obese women.

2. Methods

2.1. Study design and participants

Ethical approval for this study was obtained from the Department of Psychology and Educational Sciences, local Ethics Committee of Allameh Tabataba'i University. The type of research method employed in this study was pre-test, post-test with control group. Participants selected through overweight or obese women whom referred to nutrition and diet therapy clinic at Shahid Beheshti University of Medical Sciences, Tehran, Iran, and aiming weight reduction. Thirty overweight or obese (BMI \geq 25) women whom were randomly selected among the participants of 18–36 years of age. After explanation of the purpose of the study, participants were assigned randomly to diet therapy, narrative therapy and control group. One of the interventional groups (n = 10) received low calorie diet by a nutrition specialist for 5 weeks according to their age, height, and weight (group 1) and the other one (n = 10) received 10 sessions of narrative therapy in addition to low calorie diet (group 2). For narrative therapy group, 10 sessions (50 min each session) was designed twice a week. Both groups were asked to adjust their physical activities according to the opinion of the nutritionist and do not change their routines. Ten persons in control group received no intervention (group = 3) and were asked to maintain their daily routine physical activities. These individuals were selected from the waiting list of the referring clinic for starting weight reduction programs. This group was also asked not to change their physical activities. Demographic data of all participants consisted of marriage status, number of children, education, and occupation status were collected by using a questionnaire. Exclusion criteria included pregnancy, taking antipsychotic drugs, having cardiovascular, thyroid and chronic kidney diseases, any kind of eating disorders, having severe distress (such as divorce or separation from partner). In addition, Women were excluded if they were currently enrolled in another weight loss or weight manage program. The therapy started one week

after the last performed pre-test program. The final post-test was administered one week after the last session. Written consent was obtained from all participants.

2.2. Measures

Body weight was measured when subjects were minimally clothed, and height was measured in standing position without shoes using stadiometer to the nearest 0.5 cm. Body Mass Index (BMI) was calculated as weight in kilograms divided by the square of height in meters (Kg/m²). Body Image was measured by Multidimensional Body Self Relation Questionnaire (MBSRQ) at the beginning, and at the end of the study as a pre-test and post-test. MBSRQ is a self-measurement scale with 46 items designed by Cash et al., in 1986 and 1987 for evaluating the body image (Furman and Thompson, 2002). In this research, we used the final version of MBSRQ designed in 1997. The current scale has three main sub-scales including: evaluation, attention and behavior scale. This scale has been extensively used in the studies of the body image. The sub-scales of behavior and attention have also been combined together for creating an orientation for body image (Annis et al., 2004).

2.3. Narrative therapy practice

The article explores the writing tasks that participants were invited to undertake, and discusses the subsequent interviewing and outsider witnessing process as a form of narrative therapy practice, practiced with a group of obese and overweight women in a manner that provided space for the participants to story compassion for their bodies and discussed the subsequent interviewing. Within narrative practice, an outsider witness is an invited audience to a therapy communication about obesity – a third party who is invited to listen to, and acknowledge the preferred narratives and identity claims of the person consulting the therapist. When there is a team collaboration together, members of the team help each other in making their viewpoints. For instance, after an obese woman has spoken, another might ask some questions about what she just said, in order to make the whole process more relevant. While a mentioned woman is speaking amongst themselves, the person who is consulting the therapist is listening. This study was situated in post structural theory. Participants in Narrative therapy group contributed in a group based, 5-week Narrative therapy. This method included 50 min sessions held twice weekly. The introduction session and taking the pre-test and the post-test sessions are not considered in the therapy sessions. If participants missed a group session, they were encouraged to attend a make-up session. First of all, the goals and objectives of narrative therapy and participating groups and sessions were explained in a private session for each person. At the beginning of each session, the aim and the main topic of the session were explained. Outsider witnesses respond to the narratives by retelling them in terms of what they heard, emphasizing the positive effect on the listener and in this way, providing acknowledgment of the people at the center of the ceremony, and valuing of their individuality (Leahy et al., 2012). Narrative therapy suggests that strong social stigmas and negative societal message impact the way one perceives oneself, and how one's life is thus shaped in the future. The main procedural steps of narrative therapy include deconstruction of the dominant story, tracing the history of the problem, reconstructing a healthier narrative or story, and then inviting witnesses to view the changed discourse (White and Epston, 1990).

2.4. Statistical methods

Statistical analysis was performed using the Statistical Package for the Social Sciences (SPSS, Inc., Chicago, IL, USA) version 16. All quantitative parameters had normal distribution according to the Kolmogorov–Smirnov test. We used dependent t-test for comparison of

Table 1
Characteristics of participants of each group at baseline of the study.

Variables	Group 1	Group 2	Control	P-value
Age (year) ^a	29.20 ± 2.97	28.90 ± 2.60	28 ± 2.58	NS
Marital Status ^b	Married	9 (30)	8 (26.67)	
	Single	1 (3.33)	1 (3.33)	NS
	Divorced	0	1 (3.33)	
Education level ^b	Diploma	5 (16.67)	6 (20)	
	Upper diploma	5 (16.66)	4 (13.33)	NS
Occupation status ^b	Housewife	7 (23.33)	8 (26.67)	
	employee	2 (6.67)	1 (3.33)	NS
	Student	1 (3.33)	1 (3.33)	
Number of children ^b	0	2 (6.67)	3 (10)	
	1	3 (10)	3 (10)	NS
	2	5 (16.67)	2 (6.67)	
	3	0	2 (6.67)	

^a Mean ± SD.

^b Frequency (Percent).

the effect of narrative therapy and diet therapy on body image and body mass index in groups 1 and 2 and for observing the effect of narrative and diet therapy on body image of 3 groups. We used covariance analysis followed by Tukey post hoc test (Tukey's HSD) for analyzing the differences between the groups. Results are expressed as mean ± SD and $p \leq 0.05$ are considered statistically significant.

3. Results

Of the 30 women recruited in this study, all completed the study. There was no significant differences with regard to age, marital status, educational level, and occupation status, number of children, BMI and body image score at the baseline of the study among the three groups (Table 1). Table 2 shows the mean and SD of BMI in three groups at the baseline and at the end of the study. There is a significant decrease in BMI at the end of the study compared to the baseline, only in group 2 ($p < 0.05$), whereas, in group 1, and in control group, there is no significant changes in BMI at the end of the study compared to the baseline ($P > 0.05$).

Table 3 shows the body image scores of participants at the baseline and at the end of the study. As shown in this table, there is a significant improvement in the body image scores at the end of the study compared to the beginning of it, in narrative therapy group ($p < 0.05$). Paired *t*-test also shows that there is no significant change in the quality of the body image between beginning and the end of the study, neither in diet therapy group nor in control group ($p > 0.05$). Covariance analysis shows that there is a significant difference in body image scores among three groups at the end of the study ($P < 0.001$). Tukey Post hoc test also shows that there is a significant difference in narrative therapy group, compared to the diet therapy and control groups ($P = 0.001$).

4. Discussion

A critical point in the battle against obesity is the need for new methods of communication between dieticians and underserved communities. Traditional strategies for communicating messages about obesity and overweight have failed to decrease the obese population, as evidenced by worsening rates. Although obesity and overweight rates

Table 2
Mean and SD of BMI of three groups at baseline and the end of the study.

BMI (kg/m ²)	In the beginning of the study	At the end of the study	P-value
Group 1	29.22 ± 1.72	28.62 ± 0.96	NS
Group 2	28.87 ± 1.17	*28.35 ± 1.30	< 0.05
control	28.28 ± 0.92	28.58 ± 1.14	NS

*Significant difference from the beginning of the study.

Table 3

Mean and SD of body image scores of three groups at baseline and the end of the study.

	Body image scores		
	In the beginning of the study	At the end of the study	P-value
Group 1	148.1 ± 9.39	147.50 ± 9.92	NS
Group 2	150.80 ± 7.80	*£163.90 ± 9.28	< 0.05
control	135.20 ± 8.13	134.60 ± 7/57	NS

*Significant difference from the beginning of the study.

£Significant difference from group 1 and control group.

have reached epidemic proportions, there is a lack of psychological competent interventions to combat this condition. Obesity and eating disorders are significant public health concerns that are associated with a range of adverse physical and psychological outcomes. Despite this, weight loss interventions usually focus on physical factors and do not consider psychological aspects (Peckmezian and Hay, 2017). Diet therapy interventions typically focus on eating behavior modification through traditional health policy and communications. These approaches have done little to reduce the rate of the obesity.

We developed an innovative, culturally proficient approach with narrative therapy to address this inadequacy. The present study provides evidences that body image quality in obese women undergoing narrative therapy is higher than the other women. Furthermore, to the best of our knowledge, this was the first time that narrative therapy for obese women was attempted that allowed us to evaluate the efficacy of adding narrative therapy to a weight loss diet. The treatment proved feasible to develop and deliver. Women appeared to be satisfied with the treatment and found this approach to be effective in helping them to lose weight. In particular, they found the narrative-based strategies to be helpful for improving their ability to adhere to the life narratives necessary for successful weight loss.

Our findings suggest that concomitance of narrative therapy with diet therapy makes better results than a weight loss diet alone in regard to body image. The narrative therapy presented in this paper draws on existing narrative, writing tasks and outsider witnessing approach, and on critical analyses of the cultural and social construction of body image, in order to develop an intervention which is both effective, and does not medicalize her symptoms as an obese woman. It was found to be effective in reducing body image disturbances, richness of women's self –metaphors, and in re-constructing the problem saturated narratives a woman has about her body image and weight, through re-framing women's narratives of obesity and overweight. By the end of the study, women subjected to narrative therapy, achieved a positive attitude towards their body image, which can subsequently aid in the weight loss process more effectively and guarantee long lasting results.

As relationship issues were found to be one of the major presenting factors in these women's accounts of obesity, which is in accordance with previous research. [Kotzé and Scott, 2014](#) worked with women who distanced themselves from problematic relationships with their bodies that were induced by eating disorders. Their findings explored the writing tasks that the participants were invited to undertake, and discusses the subsequent interviewing and outsider witnessing process as forms of narrative therapy practice ([Kotzé and Scott, 2014](#)). Part and colleagues in 2015 also suggested that strong social stigmas and negative societal messages impact the way one perceives oneself.

Narrative therapy with youth that incorporate sport, particularly in therapy where serious discussion and problem-solving may stifle a youth's voice, is one way to consider the effects body size may have on youth's life ([Pratt et al., 2015](#)). [Weber et al., 2006](#) also found that the group work conducted within a narrative therapy framework may result in positive changes in women entangled with depression and an eating disorder ([Weber et al., 2006](#)). It is also suggested that future work should evaluate couples or family therapy as an intervention to reduce body image concerns and to develop positive means of coping with obesity-related problematic narratives for women and their families.

Narrative therapy seeks to investigate how eating behaviours are discursively produced and regulated in people. [White \(2007\)](#) described outsider-witnessing conversations as performances of identity, a series of telling and retellings that thicken the storyline of participants' preferred styles of being and living ([White, 2007](#)). Hearing others respond to and acknowledge what is important to obese person, when this has not been previously acknowledged, can be an almost overwhelming life experience.

The psychological intervention described in this paper could be adapted for practicing on families, Perception of women's body image and the desire to modify their bodies is associated with moments when their relationship with others is altered. Body dissatisfaction can arise as a result of the influence of one's culture, family or peer group, and may constitute a risk factor in the adoption of strategies to alter one's shape and weight ([Valdez-Hernández et al., 2017](#)).

In the conclusion, obesity arises from a complex interaction of narrative, discursive and intrapsychic factors. Finally, given the mutual relationship between obesity and mental health, it can be suggested that interventions for weight loss which incorporate psychological components may be more effective approaches than the traditional focus on weight loss alone. The strategies for the treatment of overweight and obesity should be comprehensive and should include a broader range of health outcomes than BMI alone ([Bombak, 2014](#)). Therefore, the combination of therapeutic strategies that improve a patient's knowledge in self-narratives to manage body image is a promising approach for the treatment of obesity. This approach can be feasible in routine primary care. A number of limitations temper the conclusions that can be drawn from study results. Since we only studied women, the present results cannot be generalized to men. The short period of intervention prevented the evaluation of the long-term efficacy of combining narrative therapy and a weight loss diet on body weight and image outcomes; So, the long-term effects of narrative therapy on BMI and body Image, remains to be established in the future.

Conflicts of interest

Authors have nothing to disclose. We declare that there are no conflicts of interest.

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