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Original Article

Comparing the Effectiveness of Acceptance and Commitment Therapy and Schema Therapy in Quality of Life and General Compliance in Obese Women

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Abstract

Background and Objective: Obesity is a complex multifactorial disease in which accumulated excess body fat leads to adverse effects on health. Obesity continues to accelerate, resulting in an unprecedented epidemic that shows no significant signs of slowing down any time soon. Therefore, the present study aimed to compare the effectiveness of acceptance and commitment therapy (ACT) and schema therapy in quality of life and general compliance in obese women.

Materials and Methods: In this study, we adopted a quasi-experimental pretest-posttest control group with a one-month follow-up. The research population consisted of obese women referring to Ayatollah Rouhani Hospital in Sari. Out of this population, 45 cases were selected by targeted non-random sampling and randomly assigned to two experimental groups (ACT and schema therapy) and a control group. The data collection instruments were the Quality of Life Questionnaire (SF-36) and the General Adherence Scale. The first experimental group underwent intervention in eight 60-90-minute ACT sessions, the second experimental group underwent eight 90-minute schema therapy sessions, and the control group did not receive any intervention. The data were analyzed in SPSS software (version 26) using the repeated measures ANOVA.

Results: The findings demonstrated that ACT and schema therapy were effective in quality of life and overall compliance ($P<0.05$). Moreover, it was revealed that the schema therapy was more effective than ACT in overall compliance ($P<0.05$).

Conclusions: As evidenced by the results of this study, ACT and schema therapy are effective in improving quality of life and overall compliance in women with obesity, and schema therapy is more effective in overall compliance. Therefore, these approaches can be used in medical centers alongside medical interventions for treatment and care.

Keywords: Acceptance and commitment, Obesity, Quality of life, Schema therapy

Background

We have been witnessing a significant global rise in obesity rate during the last 50 years. Obesity is defined as having a body mass index [BMI (kg/m2), dividing a person's weight by the square of their height] greater than or equal to 30, while overweight is described as a BMI of 25.0-29.9. Being overweight or obese is linked to higher mortality compared to being underweight and is a more common global occurrence than being underweight [1]. The evidence obtained from epidemiologic studies indicates a marked increase in the rate of obesity and overweight in the world; therefore, obesity is currently considered a major problem threatening mental health in developed countries [2]. Obesity is a multifaceted problem that can be caused by a large number of biological, psychological, and social factors [3]. The main focus of obesity research has been on physical consequences; nonetheless, obesity also has various adverse effects on a person's mental capacity to live an active and complete life. Therefore, it is becoming more and more apparent that the problems related to obesity are not limited to physical and medical conditions. Still, obesity has a marked impact on functional capacity and the quality of people's lives [4]. Research evidence suggests that obesity discourages the affected women from engaging in social activities, presenting them with daunting challenges and psychological disorders [5].

One of the most critical psychological problems posed to obese women is a severe decrease in quality of life. Quality of life has a dynamic nature in the sense that it is a time-dependent process

affected by internal and external changes of people [6]. This concept allows people to pursue the valuable goals of their lives and is reflected in their general feeling of well-being [7], encompassing physical and psychological dimensions, level of dependence, as well as religious, spiritual, and personal beliefs [8]. Disturbance in physical condition and the occurrence of physical symptoms and problems have a direct and dramatic impact on all aspects of quality of life. Moreover, symptoms and physical problems can affect the patient's interests. Therefore, any problem in patients' physical health has a significant impact on their family and friends, who are considered to be the people who provide care and control symptoms and problems [9].

The paramount factor in the disease is the patients themselves, whose complete and correct education can play a key role in controlling the disease and preventing its progression and complications [10]. In order to modify and change the attitude towards eating, it seems necessary that obese people or those suffering from overeating should follow the expert recommendations of their doctors or psychologists to achieve favorable results [11]. General compliance is not a substitute for specialized and organizational care, but is a complement to it and one of the factors that determine the amount and how to use it [12]. General compliance focuses on aspects that are under one's control. The foremost unmistakable results of advancing in general adherence are that members make sound choices around the right utilize of healthcare and select and implement self-care behaviors appropriately [6].

Psychological factors play a critical role in obesity, and since long ago, different approaches to psychology and psychotherapy have provided various solutions to change thoughts, behavior, and emotions and ultimately increase the quality of human life. One of the approaches that has received relatively acceptable and extensive empirical support in this field is acceptance and commitment therapy (ACT) [13]. This therapeutic approach seems effective in changing diverse psychological variables, including quality of life, emotion regulation, and eating attitude [14]. ACT is a behavioral approach that uses value clarification strategies to identify what is deeply meaningful to the individual and then links those values to behavior change goals [15]. In ACT, the therapist's goal is to increase the client's psychological flexibility, which signifies the ability to return to the present moment [16]. According to previous studies, ACT has been effective in improving the quality of life and overall compliance of obese patients [13].

Another effective treatment in this field is schema therapy or schema-based therapy, an innovative and integrative therapy proposed by Yang et al. based on traditional treatments and concepts of cognitive-behavioral therapy. This therapeutic method includes components from different approaches, including cognitive-behavioral theories, attachment, object relations, structuralism, and psychoanalysis. The schema therapy approach is based on the self-destructive pattern, which is called primary maladaptive schemas. It focuses on the feelings and behavior rooted in the person's childhood and repeated throughout their lives, providing a regular program to evaluate and adjust initial maladaptive schemas [17].

In previously conducted studies, schema therapy has been effective in the population of people suffering from obesity in terms of their quality of life. Moreover, psychological treatments, such as acceptance and commitment therapy and schema therapy, have been widely used to treat mental health disorders and improve the quality of life. Nevertheless, it is unclear which treatment is most effective in the enhancement of quality of life and overall adaptation in women with obesity.

Objectives

The present study aimed to compare the effectiveness of ACT and schema therapy in quality of life and general compliance in obese women.

Materials and Methods

In this study, we adopted a quasi-experimental pretest-posttest control group with a follow-up period (one month). The research population included 250 obese women referred to the Omid Clinic of Ayatollah Rouhani Hospital in Sari. GPower software (version 3.1) was used to calculate the sample size in this study. The required sample size was calculated at 45 cases who were selected by non-random purposeful sampling and randomly assigned to three groups (n=15 in each group). The experimental group (therapy based on acceptance and commitment and schema therapy) and a control group were replaced. The data were analyzed in SPSS software (version 26) using the repeated measures ANOVA.

Study tools

1. Quality of Life Questionnaire (SF-36)

This self-report questionnaire, which is mainly used to assess the quality of life and health, was developed by Ware & Sherbourne. This 36-item scale covers eight domains: physical functioning, social functioning, physical role-playing, emotional role-playing, mental health, vitality, physical pain,

and general health perceptions [18]. Moreover, this questionnaire also provides a general performance assessment; the overall physical score evaluates the health component, and the overall mental score assesses the psychosocial dimension of health. The subject's score in these areas varies between 0 and 100, with a higher score signifying a better quality of life. The reliability of this questionnaire was obtained between 0.77 and 0.78 in the study by Ware & Sherbourne [18]. The validity and reliability of this questionnaire in the Iranian population have been confirmed by Montazeri, Goshtasebi, Vahdaninia, and Gandek, and the internal consistency coefficients of its eight subscales are between 0.70 and 0.85 and their retest coefficients with a time interval of one week have been reported between 0. 43 to 0.79 [19]. Cronbach's alpha reported in the present study was 0.876.

2. General Adherence Scale (GAS)

General Adherence Scale (GAS): This scale was designed by Hayes [15]. Respondents can complete this questionnaire within two to three minutes, and the items are rated on a six-point Likert scale: always, most of the time, several times, sometimes, a little, and never. Items 1 and 3 are reversely scored. Hayes, in 1994, confirmed the psychometrics of the test through its construct validity and single-factor structure, demonstrating that this model can explain 74% of the variance of the total score of the scale. To check the internal consistency of Cronbach's alpha in the study by Hayes [15], the scale value of 97% was reported, and the reliability of this scale was acceptable based on retesting. This questionnaire was translated in Iran for the first time by Mohammadian Amiri et al., and its reliability was obtained using Cronbach's alpha coefficient of 92% [20]. Cronbach's alpha reported in the present study was 0.732.

3. Acceptance and commitment therapy

In this research, couple therapy based on ACT is an expanded model of common materials of the approach of ACT, which was introduced by Hayes [15]. This treatment plan was arranged in the form of eight sessions.

4. Schema therapy

In this research, the experimental group underwent a schema-based group intervention based on schema therapy guidelines and techniques adapted from Yang et al. [21] was implemented in eight 60-minute weekly sessions. A summary of the structure of the treatment sessions is presented below.

Table 1. Subjects of acceptance and commitment training sessions [15]

Meetings	Content of the meetings
First session	Establishing a therapeutic relationship, concluding a therapeutic contract, and psychological training
Second session	Discussing experiences and evaluating them, efficiency as a measure, and generating creative frustration
Third session	Articulating control as a problem, introducing desire as another response, and engaging in purposeful actions
Fourth Session	Using cognitive faulting techniques, interfering with the functioning of problematic language chains, and weakening one's alliance with thoughts and emotions
Fifth meeting	Viewing self as context, undermining self-concept and self-expression as the observer, showing separation between self, inner experiences, and behavior
Sixth session	Application of mental techniques, patterning of leaving the mind, training to see inner experiences as a process
Seventh session	Introducing value, showing the dangers of focusing on results, discovering the practical values of life
Eighth session	Understanding the nature of desire and commitment, determining action patterns in accordance with values

Table 2. Subjects of Yang schema therapy training sessions [21]

meetings	The content of the meetings
First session	Getting to know each other and creating a good relationship, expressing the importance and purpose of treatment, and formulating the client's problems in the form of a treatment plan
Second session	Examining objective evidence confirming or rejecting schemas based on current and past life evidence and discussing healthy and unhealthy schemas
Third session	Training of cognitive techniques such as schema validity test, new definition of evidence confirming existing schemas, and evaluation of advantages and disadvantages of coping style
Fourth Session	Strengthening the concept of a healthy human being, identifying unsatisfied emotional needs, providing solutions for shedding emotions, and teaching healthy communication and imaginary conversation
Fifth meeting	Teaching experimental techniques, such as mental imaging of problematic situations and confronting the most problematic ones
Sixth session	Teaching relationship therapy and how to establish a relationship with important people in life and play a role
Seventh session	Practicing healthy behaviors and teaching new behavioral patterns, examining the advantages and disadvantages of healthy and unhealthy behavior, and providing solutions to overcome obstacles to changing behavior
Eighth session	Reviewing the previous sessions and practicing the strategies learned

Results

The mean age scores of subjects in ACT, schema therapy, and control groups were reported as 36.9±3.03, 37.8± 3.51, and 38.3±9 years, respectively. The minimum and maximum age scores of participants in this research were 28 and 40, respectively.

Therefore, Greenhouse-Geisser modified values were used to determine the degrees of freedom in the analysis of variance. Greenhouse-Geisser

epsilon was 0.587 for quality of life and 0.726 for overall compliance. All tests of Pillai's effect, Wilks's lambda, Hotelling's effect, and the largest root of zinc were significant at the level of 0.001 (P< 0.01), illustrating a significant difference in quality of life and overall compliance according to the group, evaluation time, and the interaction of group and time.

Table 3. Comparison of mean and deviation of quality of life among three groups and at three times before, after intervention, and follow-up

Variable	group	Pre-test		Post-test		Follow	
		M	Sd	M	Sd	M	Sd
Quality of Life	Acceptance and Commitment Therapy	63.6	6.77	69.7	4.99	69.2	5.03
	Schema therapy	63.4	6.74	70.5	5.61	69.5	5.95
	Control group	63	4.56	62.9	4.46	62.6	4.71
General Compliance	Acceptance and Commitment Therapy	13.4	1.64	16.1	2.03	15.5	1.76
	Schema therapy	13.3	0.899	17.4	1.24	16.3	1.34
	Evidence group	13.2	1.89	14.1	1.80	13.06	1.70

Table 4. Results of mixed analysis of variance to investigate the effect of group and assessment time on dependent variables

Source		Dependent variable	sum of squares	df	mean square	F	Sig	effect size
within-subject	Evaluation time	Quality of Life	1068.7	1.10	965.7	11.8	0.001	0.666
		General compliance	742.3	1.35	547.6	769.7	0.001	0.932
	Evaluation time* of the group	Quality of Life	420.7	3.32	126.7	14.6	0.001	0.440
		General compliance	299.7	4.06	73.7	103.6	0.001	0.847
	Error	Quality of Life	535.1	61.9	8.63			
		General compliance	54	75.8	0.711			
Between subjects	Group	Quality of Life	1153.8	3	384.6	4.74	0.005	0.203
		General compliance	918.5	3	306.2	53.7	0.001	0.742
	Error	Quality of Life	4535.5	56	80.9			
		Quality of Life	318.9	56	5.69			

Table 5. Pairwise comparison of the mean of treatment groups based on acceptance and commitment and schema therapy in three stages of research in the variables of quality of life and overall compliance

	Research stage	Group	Group	Mean difference	Significant level
Quality of Life	Pre-test	Acceptance and Commitment Therapy	Control	0.666	1
		Acceptance and Commitment Therapy	Schema therapy	0.2	1
		Schema therapy	Control	0.466	1
	Post-test	Acceptance and Commitment Therapy	Control	6.8*	0.001
		Acceptance and Commitment Therapy	Schema therapy	0.466	1
		schema therapy	Control	6.33*	0.002
	follow	Acceptance and Commitment Therapy	Control	6.66*	0.002
		Acceptance and Commitment Therapy	schema therapy	0.866	1
		schema therapy	Control	5.8*	0.01
General compliance	Pre-test	Acceptance and Commitment Therapy	Control	0.2	1
		Acceptance and Commitment Therapy	schema therapy	0.133	1
		schema therapy	Control	0.066	1
	Post-test	Acceptance and Commitment Therapy	Control	6.89*	0.001
		Acceptance and Commitment Therapy	schema therapy	-1.40	0.299
		Schema therapy	Control	2.26*	0.012
	follow	Acceptance and Commitment Therapy	Control	7.65*	0.001
		Acceptance and Commitment Therapy	schema therapy	-0.1	0.728
		Schema therapy	Control	2.46*	0.002

Discussion

The present study aimed to compare the effectiveness of ACT and schema therapy in quality of life and overall compliance in women with obesity. In explaining the effectiveness of ACT, in line with the studies by Friedmann et al. [22], Tabesh et al. [23], and Delcea et al. [24], it can be stated that in ACT patients, people are taught to accept their emotions in the first step and to more flexible here and now. In this sense, during the

process of treatment sessions, patients are encouraged to recognize their psychological and biological feelings and emotions to identify the situations and factors that cause disappointment in the treatment, recognize the behaviors and actions that occur when facing stressful situations (such as relapse or worsening of disease symptoms), reduce unhelpful struggle with psychological content, and create a more accepting position so that they can move in a worthwhile direction [25]. ACT helps people to directly experience the environment instead of being guided by the verbal content of their thoughts by discussing the distinction between issues and describing them. In fact, ACT can affect the dimension of controlling thoughts by affecting the vicious cycle of patients' beliefs and thoughts, and patients do not seek to escape from their beliefs; therefore, this treatment improves the investigated variables [26].

Consistent with the study by Hemmati et al. [27], the results of the current research pointed out that schema therapy is effective in quality of life and overall compliance. To explain this finding, it should be argued that obese people evaluate themselves negatively or have a distorted perception during which they believe that others evaluate them negatively. Based on existing cognitive-behavioral theories, schema-based treatment focuses on people's cognition, which is one of the crucial components in obesity-related problems, helping them identify and change negative thinking patterns to improve their mood and quality of life [28].

Changing the initial maladaptive schemas following schema therapy causes a change in the lifestyle and attitudes and behaviors related to a healthy lifestyle. In this sense, psychological schemas are of great help in coping with upcoming situations. Therefore, if we can use schema therapy to understand how people think, schema therapy is more effective than ACT in improving overall compliance. In the current explanation, it can be stated that the main goal is to weaken the initial incompatible schema and, if possible, create a healthy schema. Another explanation for this finding is the ability of schema therapy to break behavioural patterns [29]. This strategy helps clients plan and implement behavioural assignments to replace adaptive behavioural patterns with maladaptive and ineffective coping responses [30].

According to the aforementioned findings, it can be concluded that ACT and schema therapy are effective in improving the quality of life and overall compliance in women with obesity, and schema therapy is more effective than acceptance and commitment. Among the limitations of the present research, we can refer to the limitation of the questionnaire in collecting information and the lack of overall control of the sample in the interval between the pre-test, post-test, and follow-up. It is suggested that future studies consider intervening variables, such as the influence of social and economic conditions. Furthermore, other data collection methods, such as interviews and observation, should also be employed. Moreover, it is recommended that the sample be selected from both genders in different age groups and social environments.

Conclusions

As evidenced by the results of this study, ACT and schema therapy are effective in improving quality of life and overall compliance in women with obesity, and schema therapy is more effective in overall compliance. Therefore, these approaches can be used in medical centers alongside medical interventions for treatment and care.

Compliance with ethical guidelines

The study participants first read the written informed consent form and completed it if they were willing to participate in the study. In addition, the study protocol was approved and registered by the Research Ethics Committee.

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Authors' contributions

All the authors participated in the initial writing of the article and its revision, and all accepted the responsibility for accuracy.

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Conflicts of Interest

The authors declare that they have no conflict of interest.

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