The Caspian Sea Journal
ISSN: 1578-7899

Volume 10, Issue 1, Supplement 4 (2016) 407-409

Determining Effectiveness of Dialectic Behavior Therapy on Self-Efficacy and Self-Esteem in Obese Individuals

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ABSTRACT— A semi-experimental pretest/posttest study with a control group was carried out. The study design included an experiment and a control group and it was carried out through pretest and posttest. Study population was comprised of obese women who referred to nutrition and health clinics in 2013 and expressed self-efficacy and self-esteem disorders. The sample size for a semi-experimental study was 30, and the participants were selected randomly and grouped in control and experiment groups. The participants were selected through convenient random sampling. So that, 238 women were selected randomly and then 83 were screened to carry out the tests (Cooper Smith's self-esteem score <25, and Shere's self-efficacy score <51). Afterward, 30 participants were selected randomly from this group and then grouped in control and experiment groups. Pretest and posttest were carried out for all participants. Therefore, the control and experiment groups filled out Cooper Smith's self-efficacy and Shere's self-esteem test. Afterward, the intervention was performed on the experiment group (eight dialectic therapy sessions) and the control group received no intervention. After the intervention, the both groups filled out the same questionnaires. The collected data was analyzed using AVCOVA and the results showed positive effects of the intervention on self-esteem and self-efficacy of the participants in the experiment group. Therefore, one's self-esteem and self-efficacy could be improved by providing proper educations relative to age range of the patient.

Introduction

Obesity and overweight is an ever-growing epidemic problem and a serious issue of the modern society. Studies in Asian countries have shown different growth rate of the problem. (Alizadeh et al., 2013).

Along with increase of the risk of cardiovascular diseases, high blood pressure, blood fat disorder, diabetes type II, vein thrombosis, vein embolism, apnea in sleep, and some of caners, gaining weight creates many psychological problems such as nutritional disorders, loss of self-confidence, and problems about physical self-image. (Babaie, 2012)

Obesity has profound effects on psychological problems and self-esteem and self-efficacy in particular. Surveys have shown that self-efficacy is one of the main behavior regulating factors that enables one of performing self-control and improving one's quality of life. It also prepares individuals to deal with ambiguous and challenging situations; prepares the ground for realizing one's potentials; and improves self-acceptance. Furthermore, surveys have shown that there are sundry factors effective on self-efficacy. One of the most important of them is education of strategies and mind-awareness skills. Teaching these skills leads to improvement of other skills such as decision-making, constructive interactions with others, programming, deeper understanding, constructive judgment, different attitudes tolerance, peaceful coexistence, self-control, and self-evaluation (Abolghasemi, 2012). Ability to coordinate and harmonize with oneself and the environment is a vital necessity for any living creature. People adopt different strategies to reach harmony and increasing self-esteem is one of them. Mazlo believed that people with self-esteem tend to respect and value themselves. High self-esteem enables individuals to cope hardships and crises (Mazlo, 2000). Self-esteem is a set of feedbacks and beliefs that people have with regard to their relationships with the outside world. In other words, self-esteem is the value one puts on themselves (Smith, 1991). Self-esteem and self-efficacy can be acquired and as suggest by studies, behavior therapy trainings are effective in this regard. One of these trainings is dialectic behavior therapy, which was introduced by Linhan in the early 1990s to cure threshold marginal disorders, and emotional impulsive mal-regulations. The treatment has achieved promising results since introduction; it was originally designed to help people with variety of hard psychological disorders with chronic suicidal thoughts (Nekos, 2006). This method puts emphasis on learning skills and accepting and valuating emotions. Different aspects of skills training process in this method consist of efficient inter-personal skills, mind-awareness, emotional control, failure accepting abilities, and evaluating skills (Jimenz, 2008). Given the breadth of the problems, they are worthy of being subject of studies. Therefore, the present study focuses on dialectic behavior therapy, with considerable academic and research background despite its short history, and its application for emotional problems and issues about self-image and manipulated perception of oneself.

Methodology

A semi-experimental pretest/posttest study with a control group was carried out. The study design included one control and one experiment groups. Study population was comprised of obese women referred to nutrition and health clinics in 2013 who complained about low self-esteem and self-efficacy. Thirty individuals were selected randomly for the semi-experimental study and grouped in control and experiment groups. Available resource and time usually limit the size of sample group in many studies and in our case, 15 participants were selected for each group (Delavar, 1995, p.131). The participants were selected through random convenient sampling so that 238 women were selected at first and were asked to fill out Cooper and Smith's self-esteem questionnaire and Sherer's self-efficacy questionnaire. Based on the early results, 83 women were screened (self-esteem < 25; self-efficacy < 51) and out them 30 individuals were selected. The both groups participated in pretest and posttest before and after the intervention respectively. The experiment groups received eight dialectic treatment sessions and the control group received no intervention.

The study tool were Shere's self-efficacy and Smith's self-esteem questionnaires. The former includes 17 statements each scored from 1 to 5 (1 = completely disagree,…, 5 = completely agree) with validity of 0.83 (Asgharnejad, 2006). The latter has 58 statements and eight of them are false statements. The remaining 50 statements represent 4 subscales along with one main scale. Reliability of the questionnaire is 0.70. The collected data was analyzed using ANCOVA technique.

Findings

Table 1- F-test to test contingency of regression coefficient slope

Variables	Square sum	DF	Mean square	F	Sig.
Groups	140/951	1	140/951	4/232	0/050
Pretests	57/893	1	57/893	1/738	0/199
Group in pretest	69/866	1	69/866	2/098	0/159

As listed in the table above, with F = 2.098 and sig. = 0.146, the interaction between experiment condition and covariant variable is not significant. That is, regression line slope is the same for all three experiment conditions and ANCOVA can be used.

Table 2- Summary of ANCOVA test to examine effect of dialectic behavior therapy on self-efficacy of obese **individuals**

	Square sum	DF	Mean square	F	Sig.
Covariance (self-efficacy score before the intervention)	85/611	1	85/611	2/47	0/128
Main effective factor (intervention-education)	767/087	1	767/087	22/134	0/001
Residual error	935/723	27	34/656		

Partial eta square = 0.450

As listed in Table 2, with F= 22.134, p-value = 0.001, and partial eta square = 0.450, value of F is significant (p-value <0.01). Therefore, H0 is rejected and there is no significant difference between the groups. That is, dialectic behavior therapy was effective on self-efficacy of the experiment group and the hypothesis "dialectic behavior therapy is effective on self-efficacy of obese individuals" is supported.

Table 3- F-test to test contingency of regression coefficient slope

Variables	Square sum	DF	Mean square	F	Sig.
Groups	1/471	1	1/471	0/069	0/794
Pretests	78/542	1	78/542	3/701	0/065
Group in pretest	14/784	1	14/784	0/697	0/412

As listed in the table above, with F = 0.697 and sig. = 0.412, the interaction between experiment condition and covariant variable is not significant. That is, regression line slope is the same for all three experiment condition and ANCOVA can be used.

Table 4- Summary of ANCOVA test to examine effect of dialectic behavior therapy on self-esteem of obese individuals

	Square sum	DF	Mean square	F	Sig.
Covariance (self-efficacy score before the intervention)	64/785	1	64/785	3/088	0/090
Main effective factor (intervention-education)	1526/384	1	1526/384	72/743	0/001
Residual error	566/548	27	20/983		

Partial eta square = 0.729

As listed in Table 4, with F= 72.743, p-value = 0.001, and partial eta square = 0.729, value of F is significant (p-value <0.01). Therefore H0 is rejected and there is no significant difference between the groups. That is, dialectic behavior therapy was effective on self-esteem of the experiment group and the hypothesis "dialectic behavior therapy is effective on self-esteem of obese individuals" is supported.

Discussion and conclusion

The results supported the positive effect of the interventions on self-esteem and self-efficacy of the subject. Therefore, education plans designed based on age and personality of the subject could improve self-esteem of the individuals. This is consistent with Miller (2007), Nekos (2006) Cho (2006), Anthony (2007), Dimph et al. (2008), Miller (1997), Fisher (2007), Dimovf, Corner, and Linhan (2001), Vinsnoski et al. (2009), Telch et al. (2001), Wilson (2004), Delinski and Wilson (2010), and Wox et al. (2008). Studies have shown that dialectic therapy is effective on self-esteem. Our results regarding effectiveness of dialectic therapy on self-efficacy is consistent with Webster (2003) Mirza (2005), Markham (2005), Jiska (2009), Bardon et a. (2006), Prize and Thomas (2003), Karzhil et al. (1999), Miller et al. (1999), Matta (2009), Liorant (2002), and Garnfski (2006). To explain the result, human being enjoys sort of "self-discipline" system that enables them to control their thoughts, emotions, motivation, and behaviors (Bandro, 1998). The system is featured with a set of reference frameworks and a subset of duties to acquire, examine, and regulate behaviors. Using this system and self-regulating power, human being is able to control themselves and actively take part in manipulating their environment. Therefore, rather than being a function of the environment, it is the environment that is a function of behavior. Thus, behavior therapy is one of the methods to influence one's behavior.

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