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THE COMPARISON OF EFFEC OF THREE TREATMEN METHODS, COGNIIVE BEHAVIORAL THEARAPY, EXERSISE THEARAPY AND DIET THEARAPY' ON PATIENTS' WEIGHT LOSS OF NUTRITION CLINICS

SEYED ESMAIL MOUSAVI[1*], ALI POLADIE RYSHAHRI[2], SEYED ASGHAR MOUSAVI[3], FARAMARS KASHKOULI[4]

1: MA student, Bushehr branch, Department of Clinical Psychology, Islamic Azad University, Bushehr, Iran

2: Assistant professor, Bushehr branch, Department of General Psychology, Payam nor University, Bushehr, Iran

3: Assistant professor, jam branch, Department of Clinical Psychology, Islamic Azad University, Jam, Iran

4: Assistant professor, Bushehr Branch, Department of medical Science, Medical Science University, Bushehr, Iran

ABSTRACT

Obesity has spread rapidly in the past two decades and has been a global problem. The aim of this study was to compare the effects of three methods of therapy included cognitive behavioral therapy, exercise therapy and diet therapy on patients' weight to nutrition clinics in Bushehr city.The current study was a semi-experimental research and research design, was pre-test and post-test and follow-up method using diet group. 60 obese men employees of the National Iranian Drilling Company randomly were assigned to three groups of 20 people,Which included: 1. Diet therapy Group 2. Exercise therapy Group 3. Cognitive-behavioral therapy Group.Weight of people were studied at three different stages.To compare means and determine the effect of interference, covariance analysis and repeated measures test and Bonferroni post hoc tests were used. Both interference methods were effective in reducing weight, but Cognitive behavioral therapy was significantly more effective than exercise therapy

in reducing the body weight (P>0 /05.).Cognitive behavioral therapy method is more effective than other methods of weight loss. But if combining these different separate methods, we can be achieved to better and more reliable results for weight loss.

Keywords: Exercise therapy, cognitive behavioral therapy, weight loss

INTRODUCTION

Machine life and being away from nature and natural living conditions, nutritional status and physical and mental health has dramatically changed human.Today, diseases of civilization are the effects of this change that the people of the world are grappling with them.One of these diseases is obesity, which has spread rapidly in the past two decades and has become almost a universal problem.Staying in a stable body weight manage by a complex system of neural, hormonal and chemical mechanisms, which maintains balance between intake energy and expenditure energy..Abnormal Performance of these mechanisms, many of them are not fully understood, causes that body weight is more fluctuating, that the most common of them are overweight and obesity **(Jackson & *et al*, 2004).**

From the perspective of public health, effective interventions development to treat obesity is a major issue and there are three evidence-based clinical options for treatment: 1. lifestyle changes, 2drug therapy. 3. Surgery. Since that weight loss can be achieved in the wake of these methods but this process does not last for a long time and more studies have pointed to poor medical outcome in the long run. Recently, a new approach has emerged to cognitive-behavioral analysis of obesity.

Cognitive behavioral therapy has emerged of combining behavior therapy approach (mainly in the context of Pavlov and neo-Pavlov conditioning), and cognitive approach- whether in the form of cognitive therapy or within the framework of cognitive psychology and base cognitive knowledge-.Today this approach contain rather different theories and approaches. Which their only common feature is, attention to the mediated role of cognitive processes in information processing and the individual reaction to stimuli.This approach uses terms and concepts that embodied in such a way in terms of behavior framework and are considered to be measurable and quantifiable. There is a lot of empirical evidence that reflect the benefits of this therapy for treating a variety of problems, including mood disorders, anxiety,

personality, eating, drug abuse and mental disorders.

Recent studies show that Iran is grappling with myriad nutritional problems.While problem of malnutrition is still unresolved, overweight and obesity and related diseases is increasing **(Pishdad, 1996).** Obesity leads to serious effects such as insulin resistance, type II diabetes, hypertension, hyperlipidemia, cardiovascular disease, stroke and gallstones lead **(Mohan & Stumps, 2008)**. Due to the high mortality of this disease, high economic costs and its effects, treatment of obesity is vital. And this is one of the most important goals of the World Health Organization till 2010 **(Hardy & Harrell & Bell, 2004).** Although several therapeutic methods are recommended for treating obesity, but always the best treatment is timely prevention. That prevention through education of true way of life or behavior modification program is the most important element **(Wong, 2003).**

Strong evidences implied that behavior modification and weight control in children and adolescents reduce strongly the risk of cardiovascular disease and type II diabetes **(Calderon_& Yucha_& Schuwaffer, 2005).** Decreased physical activity and incorrect dietary patterns are the major causes of obesity **(Duad, 2006).**Given that cultural poverty and lack of knowledge can be cause of many complex and costly problems that one of the method of combat is to raise awareness through education, teaching the correct ways of life, and appropriate eating behaviors are principled and essential.According to the research, today the best way for healthy life and health, is behavior modification **(Wadden & Butryn, 2004).**

Recent research shows that behavior modification program not only in the treatment of obesity, but also in reducing stress caused by it and improving self-sufficiency and body image is also effective. One of the effective methods in the field of behavior modification, is cognitive behavioral therapy **(Seo & Kim, 2005).**

Obesity is a phenomenon that occur from the interaction of complex factors such as genetic and behavioral components. Behavioral components, in turn, involves physical activity and diet which are influenced by social, cultural and environmental background. Most previous studies have tested the effect of obesity Treatment methods, such as low-calorie diet and physical exercise or a combination of these two that can achieve to some extent to this important but also the reliability and durability of the results of these methods are

controversial. Due to the fact that this issue is psychologically noticeable, Psychological aspects and effects of its reform must also be examined. And be attended to its repercussions, including affected of the biological individual With this characterization, the main issue of this study is which method of treatment referred to, is more effective and has lasting effect on weight control.

METODOLOGY

The current research method was a quasi-experimental method. This study was done by using a pretest, posttest, and follow-up with the control group at the Nutrition Center of Bushehr city.

The sample consists of 60 obese and overweight patients of Nutrition Center that are targeted and according to the conditions of inclusion of study between 235 individual who referred after the recall between the total fat (in the case) and overweight clients, were selected.

These 60 patients were randomly placed into three groups of 20 persons as follows: 1. control group 2 exercise therapy group. 3. cognitive-behavioral therapy group, which was divided into two sub-groups of 10 persons.

How to select participants for the research was targeted. All overweight and obese males were admitted to the Nutrition Center for 35 to 45 years. Volunteered to participate in the experiment should be overweight or obese based on their specified index. All overweight and obese males of 35 to 45 years admitted to the nutrition center.

RESULTS AND DISCUSSIONS

In order to investigate "The Comparison of effect of three treatment methods, cognitive behavioral therapy, exercise therapy and diet therapy' on patients' weight loss of Nutrition clinics" the researcher hypothesized the following hypothesis:1) Cognitive behavioral therapy is effective in reducing weight in obese employees; 2) effects of exercise therapy is effective in reducing weight in obese employees; 3) the effectiveness of cognitive behavioral therapy and exercise therapy on weight loss in obese employees are different.

In **Table 1**: Descriptive findings including mean and standard deviation of the three pre-test, post-test and follow-up employees of experimental group and control group due to the variables of interest to researchers, was given.

In **Table 2** there are First hypothesis that measured: CBT is effective in reducing weight in obese employees.to investigate this hypothesis, repeated measures variance analysis test was used.Where the effect of

CBT in the first group in the pre-test, post-test and follow-up are compared, Results of **Table 2** indicates that all tests with significance level of less than 0/01 is statistically significant. In **Table 3**: Results of Bonferroni post-hoc repeated measures variance analysis of CBT group for variable weight**.**

In **Table 4** there are second hypothesis that measured: effects of exercise therapy is effective in reducing weight in obese employees.to investigate this hypothesis, repeated measures variance analysis was used. Where the effects of exercise in exercise therapy group in three stages of pre-test, post-test and follow up is compared, The results of Table 4 indicates that all tests with significance level of less than 0/05 is statistically significant. in **table 5**: Results of Bonferroni post-hoc repeated measures variance analysis of exercise therapy group for weight variable.

In **Table 6** there are third hypothesis that measured: the effectiveness of CBT and exercise therapy on weight loss in obese employees are different. Results of covariance analysis of behavioral CBT and exercise therapy methods effect on weight reduction of staff in both post-test and follow-up stages Considering the pre-test as covariate variable., Results of **Table 6** shows that the covariate variable effect (pre-test) is significant at post-test with F (824/1264) and follow up with F (628/2098) and significance level lower than 0/01.In **Table 7**: Results of Bonferroni post hoc test for differences in the efficacy of cognitive behavioral therapy with exercise therapy in weight reduction.

Table 1: Mean and standard deviation of body weight based on the groupsin various stages of assessment (n=45)

Groups	Stages	Mean	standard deviation
Cognitive behavioral therapy	pre-test	96/713	17/9214
	post-test	92/3267	18/60044
	Follow-up	92/2800	19/14330
Exercise	pre-test	96/083	13/4970
	post-test	93/5933	12/73103
	Follow-up	93/7267	12/60144
diet (control)	pre-test	98/444	14/3605
	post-test	98/0640	15/17849
	Follow-up	97/5573	15/06303

Table 2: results of repeated measures variance Analysis of CBTgroup for variable weight

Test expo nent	Chi Eta Breakdown	Significant level	Error degree of freedom	Hypothesis degree of freedom	F	amount	Test name
1	0/849	0/001	13	2	α36/509	0/849	Pillai trace test
1	0/849	0/001	13	2	α36/509	0/151	Wilkes Lambda test
1	0/849	0/001	13	2	α36/509	5/617	Hatlling trace test
1	0/849	0/001	13	2	α36/509	5/617	The largest root effect Test

a Adjusted for multiple comparisons: Bonferroni.

Table 3: Results of Bonferroni post-hoc repeated measures variance analysis of CBT group for variable weight

Confidence interval		Significant level	Standard error	Means difference	Stages	
upper line	Lower line					
6/856	1/917	0/001	0/909	*4/387	post -test	Pre-test
5/908	2/959	0/001	0/543	*4/433	follow-up	
–1/917	–6/856	0/001	0/909	*–4/387	Pre-test	post –test
1/454	–1/451	1	0/551	0/047	follow-up	
–2/959	–5/908	0/001	0/543	*–4/433	Pre-test	follow-up
–1/451	1/451	1	0/551	0/047	post –test	

Table 4: results of repeated measures variance Analysis of exercise therapy group for weight variable

Test name	amount	F	Hypothesis degree of freedom	Error degree of freedom	Significant level	Test exponent	Chi Eta Breakdown
Pillai trace test	0/494	a6/355	2	13	0/012	0/815	0/494
Wilkes Lambda test	0/506	a6/355	2	13	0/012	0/815	0/494
Hatlling trace test	0/978	a6/355	2	13	0/012	0/815	0/494
The largest roo effect Test	0/978	a6/355	2	13	0/012	0/815	0/494

a Adjusted for multiple comparisons: Bonferroni.

Table 5: Results of Bonferroni post-hoc repeated measures variance analysis of exercise therapy group for weight variable.

Confidence interval		Significant level	Standard error	Means difference	Stages	
upper line	Lower line					
4/331	0/649	0/007	0/677	490/2*	post –test	Pre-test
4/150	0/563	0/009	0/660	2/357*	follow-up	
0/649	-331/4	0/007	0/677	–2/490*	Pre-test	post –test
0/550	0/817	1	0/252	–0/133	follow-up	
0/563	-4/150	0/009	0/660	–2/357*	Pre-test	follow-up
0/817	0/550	1	0/252	0/133	post –test	

*it is significant in level lower than0/05

Table 6: Results of covariance analysis of behavioral CBT and exercise therapy methods effect on weight reduction of staff in both post-test and follow-up stages Considering the pre-test as covariate variable.

Test exponent	Chi Eta Breakdown	Significant level	F	Degree of freedom	Mean Square	Stages	Source of changed
1	0/969	0/001	824/1264	1	594/10013	Post-test	(covariate) Pre-test
1	0/981	0/001	628/2098	1	418/10328	Follow-up	
0/929	0/27	0/002	7/566	2	59/900	Post-test	Groups
0/972	0/317	0/001	9/497	2	46/741	Follow-up	

Table 7: Results of Bonferroni post hoc test for differences in the efficacy of cognitive behavioral therapy with exercise therapy in weight reduction

Confidence interval		Significant level	Standard error	Mean difference	Groups(J)	Group(I)	Stages
Upper line	Lower line						
0/666	4/464	0/215	1/028	–1/899	exercise	cognitive behavioral therapy	post-test
–1/432	–6/567	0/001	1/029	–4*	diet		
4/464	–0/666	0/215	1/028	1/899	Cognitive behavioral therapy	exercise	
0/496	–4/567	0/143	1/030	–2/101	diet		
4/567	1/432	0/001	1/029	4*	Cognitive behavioral therapy	diet	
4/671	–0/496	0/143	1/030	2/101	exercise		
–0/067	–4/111	0/041	0/810	–2/089*	exercise	Cognitive behavioral therapy	follow-up
–1/488	–5/537	0/001	0/810	–3/513*	diet		
4/111	0/067	0/041	0/810	2/089*	Cognitive behavioral therapy	Exercise	
0/603	–3/450	0/261	0/812	- 1/424	Diet		
5/537	1/488	0/001	0/811	3/513*	Cognitive behavioral therapy	Diet	
3/450	–0/603	0/261	0/812	1/424	Exercise		

CONCLUSION

Based on the observed results, it can be concluded that each of the aspects of obesity treatment can bring about part of the success and in the meantime, cognitive behavioral therapy method was more effective than the other two groups on weight loss and improve people's mental healthy life. As a suggestion for future research on weight loss in obese patients can be studied based on different variables such as: life style.

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