



**ORIGINAL ARTICLE**

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## **Motivational Interviewing effects to improve commitment to a Weight control program in Overweight and obese women**

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### **ABSTRACT**

*This study was aimed at exploring effect of motivational interviewing as an additional alternative on the weight loss program among women with overweight and obesity. A randomized clinical trial study (pretest- posttest with control group) was implemented in 50 overweight and obese women who attended to nutrition clinics. Samples were randomly selected using clinic records and then attributed to the two groups including 1) a standard program of weight control that was about diet and exercise education and 2) motivation interviewing group that received the same education as well as standard group. Additionally they participated in 5 motivation interview session. The motivational interviewing group participated more in sessions (14.2 vs. 9.6) and completed more dietary and exercise diaries (16.1 vs. 9.8) compared to standard group. There was a significant difference between the two groups in terms of weight loss. These findings recommended that motivational interviewing can be more beneficial when integrated into a standard program of weight loss.*

**Keywords:** *motivation interview, weight control program, obesity.*

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### **INTRODUCTION**

Obesity has significantly augmented all around the world, recently and formed a new pandemic due to industrialization [1] and is accounted for the most common health problems in the vast majority of countries [2]. According to WHO reports, over 300 million people in all around the world are obese [3], the most countries in Eastern Mediterranean Region (EMRO) are joining to this pandemic [4], our country is not also isolated of this global crisis. According to the latest statistics, obesity prevalence is 22.3 % [5]. Overweight and obesity is a critical health problem in women [6]. Obesity complications are including blood hypertension in pregnancy, diabetes, thromboembolism [7-11], breast cancer, colon cancer and cervical cancer [12].

Motivational counseling is a client-based approach that leads to enhanced intrinsic motivation, and to change, it use detect, identify, and resolve doubts and ambivalence. Motivational interviewing content model has formed based on the concepts of the stage of change process of Prochaska and Diclemente, ambivalence and uncertainty, health beliefs of Rogers conservation theory, decisional balance of Janis and Mann, reactive theory of Brehm, self-perception theory of Bem, self-regulatory theory of Kanfer, values theory of Rokeach [13]. Motivation interview is dramatically increasing across the world, so over the three years, number of publications in this field has doubled. This approach has spread to the field of health systems, health promotion and mental disorders and recently areas of training and rehabilitation, from addiction problem [14]. In recent years, motivation interview has included in chronic diseases. The

vast majority of chronic patients need behavioral and lifestyle modifications, vastly until maintain their health. Unfortunately, there are few practical approaches to help professionals and clients for making appropriate field for change [15].

To increase the response rate to the current effective treatments is considered as an important priority in clinical research. It is clear that for clinic response rate, when exact criterion used, a significant number of patients have not response properly to conventional therapy including cognitive - behavioral therapy or lifestyle changes [16]. For example, in Vesten and Morison study that done through meta-analysis about depression and anxiety disorders, it was found that 37 to 48% of individuals with completed treatment and 46 and 56% of people who were intended to treat, after intervention, were not showed recovery [17], or only 30% of hypertension patients are controlled [18]. In another survey, 50% of individuals who were participated in physical activity program, newly, they released it within three to six months, or after 6 months, adherence rate of weight loss strategies was reported less than 50% (19) and only 25% of clients, 18 month after intervention had achieved to lost weight [20]. Success expectations of treatment programs are significantly low due to early cessation of treatment, non-adherence to treatment regimens and drugs, lack of client participation, lack of readiness to change, problems or disorders recurrence, lack of regular attendance at treatment sessions, low motivation and commitment to sustain change, high level of ambivalence, resistance, fear and anxiety of treatment technique and in brief, lack of perform treatment [21-26]. On the other hand, success rate of traditional teaching methods in aforementioned matters are not high [27]. According to several studies done in the world using motivation interview, it can be mentioned as a proper choice. Miller and Rollnick believed that changes formed by numerous parts such exactly puzzle. One of techniques to set puzzle parts regularly is that hypothesize motivation as a basis for change [23], then Miller motivation interview is an effective consulting technique to change [28]. The best method to make behavioral change in unmotivated clients is motivational interview [29]. Some reasons of attractiveness of motivational interviewing and its affinity than traditional methods is that firstly; it proposed and fix important and common problem in all treatments (resistance to change), secondly; it is a flexible method and can be used as an independent approach accompanied by other treatments, thirdly; there are numerous surveys that support efficacy and effectiveness of motivation interview in terms of drug abuse, mental and physical health, fourthly; it is confirmed that motivation interview is teachable and significant effects can be achieved by a few sessions [21]. Despite the attractiveness and very rapid growth in the use of motivational interview and also its spread to different areas of health, there are a few studies in Iran. Given the novelty of the application of motivational interview and the prevalence of overweight and obesity as a chronic problem, debilitating and life-style related [30], the purpose of this study is to investigate the effect of motivational interviews on weight loss program in order to improve commitment to lose weight program.

## **METHODS AND PROCEDURES**

### **Study design:**

A randomized clinical trial study (pretest- posttest with control group) was done, 2 and 6 month follow up was studied, as well. At first, eligible samples were selected using clinic records based on convenient sampling and secondly, to control selecting bias, samples received a code and then attributed to the two groups including motivation interview group (50 samples) and control group (50 samples), randomly. Both groups were selected from a nutrition clinic. Motivation intervention sessions were designed based on 5 session's group motivation intervention (13). Participants were 7 to 10 women for each session.

### **Standard program of weight loss**

The 1month (4 sessions per week, 16 sessions in total) educational program in terms of diet and exercise was done by one nutritionist, psychologist and a health education specialist. Diaries were gathered at each group meeting, explored by program specialist and returned with feedback regarding diet and exercise.

### **Motivation interview group**

The 5 sessions of motivation intervention was implemented by a psychologist for 7 to 10 for each meeting. Moreover; standards education program was done as same as control group (16 sessions).

### **Participants:**

Inclusion criteria were including women with BMI ranged 25 to 29.9 (overweight) and 30 to 35 (obese), lack of diseases such as diabetes, cardiovascular, thyroid and consuming drugs that may interfere with appetite and weight. Being pregnant and diet disruptive diseases during intervention, inability to exercise and absence more than two sessions (standard and motivation intervention) were considered as exclusion criteria.

### **Measures:**

**Treatment behavioral commitment:** behavioral commitment was measured through process such as participating in group meeting, number of diaries delivered to specialist, intake calories per day and exercise situation.

**Treatment outcomes:** baseline and posttest (2 and 6 month) evaluation were implemented by mentioned specialists. Body Mass Index (BMI) was measured using weight (kilograms)/ height (meters)<sup>2</sup>. Weight was also assessed by a balance beam scale with a precision of 0.1 kilograms. Height was measured by height gauges with a precision of 0.1 centimeters.

**Data analysis:**

To analyze group's demographic traits and its difference in attrition, analysis of variance (ANOVA) and Fisher's exact test were used. Analysis of variance (ANCOVA) was implemented to compare groups in baseline. Kruskal-Wallis analyses were used to measured treatment commitment. P- value was taken 0.05> as significant.

**RESULTS**

The mean age of standard group was 36.21± 4.23 ranged 21 to 62 years. In motivation intervention group, the mean age was 38.45± 9.24 years between 19 to 67 years. 44% and 52% of participants had college degree in standard and motivation interview groups, respectively. 58 % in standard and 62% in motivation group were housewife and, in brief, 76% and 78% were married in standard and motivation interview group. Mean baseline BMI was 33.7± 4.2. Results showed that motivational interview group was more committed to the program compared to standard (control group) (table 2). This group had participated more frequently in group meeting ( $\chi^2= 5.87, p= 0.02$ ), more involved in exercise ( $\chi^2= 3.46, p= 0.03$ ) and turned in more diaries ( $\chi^2= 8.78, p= 0.04$ ), furthermore; motivational interview group showed that they were more recorded caloric intake ( $\chi^2= 3.56, p= 0.05$ ).

Table 2 present that motivational group lost weight more significantly compared to standard group ( $t= 6.45, p<0.001$ ).

**DISCUSSION**

A main result of the current survey was that integrating motivation interview into a standard program can be lead to more beneficial outcomes, not only about commitment to behavioral change but also regarding weight loss. Moreover; results indicated that motivation interview remain for long-term as Navidian study showed [31]. Dorsten survey also indicated that motivation interview can be more effective in weight loss program [32]. Our results are in accordance with Woollard study that presented mean weight loss in motivation group (-1.70 kilogram) was significantly different and higher than control group (+0.05 kilogram) [33], Carels investigation about using motivation interview for people who were disappointed to weight loss showed that participants in motivation sessions (4 session, 45 to 60 minutes per session) had more weight loss and more involved strongly in physical activity, as well [34]. In contrast, in Webber study, there was not statistical significant relationship between the face- to- face initial motivation session and internet behavioral weight loss intervention after 15 weeks [35]. According to adherence to a behavioral weight loss program, our study results are in relevance with Smith study that are strongly similar to group meeting participation, doing exercise and turned in diaries that, in both studies, motivation interview group had better achievement in terms of aforementioned behaviors, despite of that, in Smith exploration, decreased BMI were not significant between the two groups that was not similar to our survey [36]. An study titled motivation interview effects on lifestyle changes in hypertension patients by Navidian and et all presented that group motivation interview made greater improvement in related lifestyle behaviors among hypertension patients including physical activity, low cholesterol diet, fruit and vegetables consumption and salt limited consumption compared to control group [37]. Kreman and colleagues survey reported that although both groups of motivation interview and control were not achieved to recommended and standard level of cholesterol as 200 mg/ dl, despite of that, motivation interview group showed more decreased mean of cholesterol as 37.5 mg/ dl than control group as 16.4 mg/dl that report efficacy of motivation intervention regarding dietary behavioral change in patients with cardiovascular diseases[38]. Results of Dunn and colleagues investigation using meta-analysis also indicated that motivation interview application in changing diet and increasing physical activity has meaningful effect [39].

Table 1: Content and structure of motivation interview sessions

Session	Content
First	Accustom : welcome, norms and group process, facilitators philosophy, freedom exercise, exercise the effect of behavior, exercise the assessment of commitment and confidence to change
Second	Emotions: exercise of identifying feels, exercise and its fix using emotional aspects and home assignments
Third	Positive and negative aspects of behavior and change: exercise of brain storm about short-term and long- term benefits and disadvantages, exercise of table of positive and negative aspects, exercise of alternatives
Fourth	Values: defining values, exercise of identifying and prioritizing first level values, exercise of compliance of value and behavior
Fifth	Final evaluation: summarize previous exercise using perspective practice and readiness for making behavioral change

**Table 2-** Mean 2 and 6 month post- treatment characteristics of motivation and standard group.

variable	group	2 month follow up	6 month follow up	P value
Weight loss (kg)	motivation	6.2 ± 2.5	6.1 ± 2.3	* 0.001
	standard	3.8 ± 1.7	3.1 ± 1.4	
	total	5 ± 2.1	4.6 ± 1.8	
Reported exercise (days)	motivation	34.5 ± 12.1	33.8 ± 11.8	* 0.03
	standard	21.9 ± 10.3	21.7 ± 10	
	total	28.2 ± 11.2	27.7 ± 10.9	
Reported intake calories (days)	motivation	69.6 ± 18.1	68.2 ± 17.8	* 0.05
	standard	46.3 ± 21.7	47.8 ± 22.1	
	total	57.9 ± 19.9	58 ± 19.9	
Food diaries submitted	motivation	17.4 ± 2.2	17.7 ± 2.3	* 0.04
	standard	12.1 ± 2.7	10.1 ± 2.9	
	total	14.7 ± 2.4	13.9 ± 2.6	
Treatment sessions attended	motivation	14.2 ± 1.9	14 ± 1.8	* 0.02
	standard	9.6 ± 2.4	9.1 ± 2.2	
	total	11.9 ± 2.1	11.5 ± 2	

Means± SD, analysis of covariance adjusted for baseline, \* Kruskal- Wallis test.

## CONCLUSION

Significant weight loss in women with obesity shows the efficacy of motivation intervention. Furthermore; long- term behavioral change caused by motivational interviewing was completely obvious after 6 month, in addition, women in motivation interviewing were more inclined to participate in group meeting, more reported exercise, more reported intake calories and food diaries submitted, as well. Unfortunately, the vast majority of studies to weight loss have been failed because they are justly supported by standard and simple nutrition education. Then; more weight loss and its continuity can be done using motivation interviewing technique.

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