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Effectiveness of Interpersonal Therapy on Emotion Regulation and Depression in Women with Bulimia Nervosa

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Abstract

Background: Binge eating disorder is considered the ingestion of an unusually large amount of food with the lack of control during the overeating episodes.

Objectives: This study aimed to determine the efficacy of interpersonal group therapy on depression and emotion regulation in women with bulimia nervosa.

Methods: This quasi-experimental study used a pretest-posttest design, a control group, and a two-month follow-up. A total of 30 research samples from the community of women with bulimia nervosa who were referred to the Iranian Overeating Association in Tehran between September and November 2019 were selected by convenience sampling method and randomly assigned to experimental and control groups. The required findings were collected using the depression inventory and emotional regulation in three rounds: pre-and post-tests, as well as follow-up, and analyzed using variance analysis with repeated measures.

Results: The results of repeated measures analysis of variance showed that interpersonal group therapy was effective in reducing depression and improving emotional regulation strategies in patients with bulimia nervosa. Bonferroni test showed that this effect was lasting over time.

Conclusion: Considering the efficacy of interpersonal group therapy on depression and emotional regulation, using interpersonal group therapy is recommended for women with bulimia nervosa.

Keywords: Bulimia Nervosa, Depression, Emotional Regulation, Female.

Introduction

Binge eating disorder (BED) is considered the ingestion of an unusually large amount of food with the lack of control during the overeating episodes, occurring usually at least twice a week for six months (1). BED is also characterized by recurrent episodes of binge eating lacking regular compensatory behaviors, such as vomiting or using laxatives with disorders, including features, such as eating on the verge of bursting and eating a full, alone, depressed, or guilty person (2). Medical evidence shows that overeating causes serious medical conditions, such as high blood pressure, diabetes, increased cholesterol, followed by cardiovascular complications. In addition, overeating, and consequently, obesity increase the chances of cardiac arrest and specific cancers, such as colon, breast, prostate, and uterus cancer, as well as certain types of arthritis decreasing the quality of life and increasing the risk of premature death (3).

One of the psychological complications associated with binge eating is depression (4), which is considered the common cold of psychological disorders. Low mood, irritability, hopelessness, despondency, and sadness without any enjoyment of life are common experiences of depression; however, familiarizing with these states does not achieve awareness due to the significant progress in understanding this illness in the last few years (5). Moreover, depression can be triggered by various causes, such as diseases and disorders, including binge eating, leading to a person's loss of hope. In addition to improving life quality and taking care of oneself, depression treatment also facilitates pharmacology and reduces self-destructive behaviors. Therefore, all of these factors reduce depression, improve mental health in patients with obesity, and decrease related fatality (6).

In addition to depression, another psychological complication in patients with overeating disorder is emotional dysregulation (7). In this regard, recent eating disorder psychopathological models focused on the role of emotional regulation as a key factor in the spectrum of eating disorders (8). The ability to understand and regulate emotions is considered one of the principles of wellbeing, and difficulty in regulating emotions may have negative consequences, such as eating disorders (9).

Cognitive-behavioral therapy, dialectical behavior therapy, interpersonal therapy (IPT), and appetite awareness therapy all seem effective in reducing the frequency of overeating episodes (10). IPT is short-term psychotherapy focusing on interpersonal structures, contexts, and skills (11) based on Meyer's integrative psychobiological, Sullivan's interpersonal theory, and Bowlby's attachment theories. Therefore, its main emphasis is the relationship between mood and interpersonal events. The findings of various studies on child or animal development, emotional expression, social support, and life events highlighted the importance of this relationship. Distressing events and psychosocial tensions may predict depression, whereas intimate connections with other people may work as a supportive function against depression. Accordingly, in interpersonal psychotherapy, certain genetic and environmental factors may contribute to depression. For this reason, this type of therapy emphasizes the patient's psychosocial and interpersonal contexts (12). Interpersonal psychotherapy maintains that not only are interpersonal relationships crucial in personality formation, they also contribute significantly to the development of psychological disorders. By focusing on alleviating depression symptoms and regulating emotions, interpersonal psychotherapy aims to assist patients with bulimia nervosa in addressing the social and interpersonal problems associated with the disorder and provide an environment in which patients' problems and challenges are discussed and resolved, leading to reduced interpersonal isolation ultimately (13).

Regarding its conceptualization and treatment of depressive disorders, the interpersonal approach to psychotherapy is supported by an extensive research background. Furthermore, experiences are often among the predictors of the onset of depression. Comprehensive and extensive research can prove the efficacy of IPT in reducing depression and improving mental health, showing depression symptoms almost completely disappeared in more than 50% of the patients who underwent this treatment (14). Explanatory models of overeating formulated from binge eating and eating disorders show painful emotions are the most important factors, precipitating and maintaining overeating, which is crucial for the patient in regulating effect (15). Psychotherapeutic methods may be effective in the treatment of patients with obesity-related disorders, and interpersonal psychotherapy can be supportive (short-term or long-term), cognitive, behavioral, or psychodynamic, while the nature of group therapy may vary from psychodynamic to full support (16). Considering the success of interpersonal psychotherapy in the treatment of psychological disorders and improving people's health and wellbeing, psychotherapists mainly aim to improve the quality of society's life and wellbeing. Accordingly, this study aimed to determine the efficacy of interpersonal group therapy on depression and emotion regulation in women with bulimia nervosa and answer a question as follows: "Is interpersonal group therapy effective on depression and regulating emotions in women suffering from bulimia nervosa?".

Materials and Methods

The present study employed a quasi-experimental methodology with a pretest-posttest design, a control group, and a round of follow-up tests on the entire 30-40-year-old women suffering from bulimia nervosa referred to the Iranian Overeating Association in Tehran between September and November 2019. A study sample volume of 30 individuals was selected, and the required sample size was calculated considering 0.40, 0.95, and 0.80 test power with 10% loss for each group (13). Following a clinical interview, eligible patients were determined and screened using the convenience sampling method, and randomly divided into experimental and control groups, each comprising of 15 samples. The experimental group was then tested once a week in 70-90 sessions for 8 weeks, while the control group received no intervention. Post-test was then administered to both control and experimental groups. The stability of the results in this project was followed up three months after implementation. Between September and November 2019, the inclusion criteria included women between 30-40 years, suffering from serious mental disorders that received medical and psychotherapeutic interventions, non-interference with the current treatment, and did not receive psychotherapeutic treatment or weight loss diets simultaneously, leading to the target variables. Exclusion criteria consisted of subjects who were taking psychotropic medicine or drugs affecting mental health during the intervention with more than two-session absences.

Firstly, the purpose of the research and other conditions were clearly described for participants so that participating was completely optional without any effects on their health care process. Secondly, the consent forms were filled out and recorded by the subjects with approval from the Ethics Committee of Tehran Islamic Azad University of Medical Sciences, Tehran, Iran (IR.IAU.TMU.REC.1400.027)

Beck Depression Inventory (Beck & Beck, 1972):

The Beck Depression Inventory (BDI) measures the severity of depression with 21 self-report questions assessing the severity of depressive symptoms in the last two weeks before the test. BDI also shows high internal consistency, good test-retest reliability, and high correlative, concurrent, and construct validity, compared to other similar clinical and nonclinical instruments (17). The reliability and validity of this inventory were estimated at 0.93

using Cronbach's alpha coefficient. The minimum and maximum total scores in this questionnaire are 0 and 63, respectively.

The instrument measures patients' conditions based on their test scores (the scores are defined as 5-9: normal range, 10-18 and 19-29 mild to moderate and severe depression, respectively, and 30-63: severe depression.). Scores below 4 may indicate that the patient is pretending depression and/or with histrionic or borderline disorders and the possibility of depression (18). Moreover, the reliability of the instrument using Cronbach's alpha was obtained at 0.89 in the current study.

Emotion Regulation Questionnaire

The emotion regulation questionnaire (ERQ) is one of the most reliable assessment instruments for measuring various cognitive strategies developed by Garnefski, Kraaij, and Spinhoven. The correlation coefficients among the scores of 108 participants were

calculated in two rounds with two- to four-week intervals to assess the ERQ's ret

est reliability. The coefficients obtained were 0.70 for self-blame, 0.81 for acceptance, 0.74 for rumination, 0.77 for positive refocusing, 0.83 for refocusing, 0.76 for positive reappraisal, 0.78 for putting into perspective, 0.72 for catastrophizing, and 0.80 for other-blame, showing the satisfactory level of the ERQ's retest reliability. To evaluate the ERQ's internal consistency, Cronbach's alpha coefficient was used for the participant scores. The Cronbach's alpha coefficients were defined to measure self-blame (0.76), acceptance (0.83), rumination (0.79), positive refocusing (0.87), refocusing (0.85), positive reappraisal (0.79), putting into perspective (0.87), and catastrophizing (0.79). Furthermore, 10 experts in the field of psychology evaluated the content validity of the questionnaire, and Kendall's coefficients of the concordance for each measure were 0.73, 0.80, 0.75, 0.86, 0.81, 0.79, 0.85, and 0.87, respectively (19). The reliability of the questionnaire for the present research was 0.75 for all items that was an acceptable outcome (Table 1).

Table 1. Interpersonal group therapy session

Session	Content
1 and 2	The group leader collects some information about the client's depression symptoms, well-being, and emotional regulation deficiencies associated with the onset of depression symptoms and dysregulated emotions. The first phase of the IPT aims to define, recognize, and identify interpersonal issues and disputes. In this phase, a history of the client's past and present relationships has to be obtained.
3 to 6	Teaching interpersonal relationships improves techniques and strategies. In this phase, the therapists teach the clients such IPT techniques as modeling, role-playing, self-training, positive ruminations, social problem solving, self-assertion, self-confidence, and positive thoughts and ask the client to practice them. The problem areas on which the therapist focuses are grief (bereavement and mourning), role disputes, role transitions, and interpersonal deficits.
7 to 9	Treatment terminates the patient applying the acquired techniques in the real world. The client-therapist relationship is temporarily meant to improve the client's health, not to replace the relationships in the real world.

In descriptive statistics, central and dispersion indices, such as mean and standard deviation were used. Inferential statistics (repeated measures ANOVA) was also utilized in this study. The above statistical analysis was performed using SPSS software (version 22) with a significance level of 0.05.

Results

A total of 30 females participated in the control and experimental groups with average ages of 36.60 and 35.43 years in the experimental and control groups, respectively.

Table 2. Mean±SD of depression and emotional regulation based on measurement stages in groups

Group	Variable	Index	Pre-test	Post-test	Follow-up
Experimental	Depression	Mean	35.7	27.7	28.8
		SD	5.7	4.9	4.3
	Adaptive Cognitive Emotion Regulation	Mean	22.3	25.1	24.8
		SD	3.7	4.1	4.4
	Maladaptive Cognitive Emotion Regulation	Mean	28.4	25.5	24.9
		SD	5.8	4.9	4.6
Control	Depression	Mean	34.1	32.2	32.3
		SD	4.9	5.1	5.1
	Adaptive Cognitive Emotion Regulation	Mean	21.7	21.4	21.7
		SD	3.3	2.6	2.7
	Maladaptive Cognitive Emotion Regulation	Mean	27.9	27.1	26.7
		SD	5.7	5.5	5.7

Table 3. Results of repeated measure analysis of variance

Variable	Effects	SS	Df	MS	F	Pvalue	Eta
Depression	Time	443.5	1.1	400.5	63.6	0.001	0.69
	Group*Time	158.7	1.1	143.3	22.8	0.001	0.45
Adaptive Cognitive Emotion Regulation	Time	34.8	1.3	27.7	16.2	0.001	0.37
	Group*Time	46.4	1.2	36.9	21.6	0.001	0.44
Maladaptive Cognitive Emotion Regulation	Time	89.7	1.4	64.6	35.2	0.001	0.56
	Group*Time	24.3	1.4	17.5	9.5	0.002	0.25

Table 3 shows the effect of time and its interaction on the group for the variable of depression, showing a significant membership in a group for changing depression severity (P<0.05), and the effect of time indicates that changing of depression scores is significant in posttest and follow-up stages (P<0.05). The result of Table 2 also shows the effect of time and its interaction on the groups for the variables of adaptive and maladaptive cognitive emotion regulation. The group effect shows that membership in a group is significant for changes in the severity of cognitive emotion regulation (P<0.05). Furthermore, the effect of time indicates that changing of cognitive emotion regulation scores is significant in posttest and follow-up stages (P<0.05). The interaction impact demonstrates that cognitive emotion regulation scores in the posttest and follow-up stages in the experimental group increase more than that in the control group (P<0.05). The Bonferroni post-hoc test was used to investigate differences between the means in therapy phases. Additionally, the interaction effect demonstrates that reduction in depression scores in the posttest and follow-up stages is higher in the experimental group than that in the control group (P<0.05). To investigate differences
between the means in the termination phase, the Bonferroni post-hoc test was used as observed in Table 4.

Table 4. Bonferroni post-hoc test results for the comparison of mean depression scores in three measurement stages

Variable	Compared Groups	Mean Differences	P-value
Depression	Pretest-posttest	4.9	0.001
	Pretest-follow-up	4.4	0.001
	Posttest-follow-up	0.5	0.12
Adaptive Cognitive Emotion Regulation	Pretest-posttest	1.3	0.001
	Pretest-follow-up	1.4	0.001
	Posttest-follow-up	0.1	0.99
Maladaptive Cognitive Emotion Regulation	Pretest-posttest	1.8	0.001
	Pretest-follow-up	2.3	0.001
	Posttest-follow-up	0.53	0.07

Table 4 reveals a significant difference between depression scores of pretest and posttest phases, as well as pretest and follow-up phases. Based on the comparing adjusted means, the depression scores in the posttest and follow-up phases decrease more significantly, compared to the pretest phase scores. In addition, no significant difference was observed between the posttest and follow-up phase regarding the depression scores. Therefore, the efficacy of the interpersonal approach to treating depression among women suffering from bulimia nervosa is significant and lasting, and a
significant difference was found between cognitive emotion regulations scores of pretest and posttest phases, and pretest and follow-up phases.
Comparing adjusted means shows that the cognitive emotion regulation scores in the posttest and follow-up phase increase more significantly, compared to the pretest phase scores. In addition, no significant difference was considered between the posttest and follow-up phase cognitive emotion regulation scores. Therefore, the efficacy of the interpersonal approach to treating depression among women suffering from bulimia nervosa is significant and lasting.

Discussion

The present study was conducted to determine the efficacy of interpersonal group therapy on depression and emotion regulation in women with bulimia nervosa. The first finding demonstrated that the interpersonal approach significantly reduced depression in women with bulimia nervosa with a lasting effect in the long run. Our findings were consistent with those of relevant studies conducted by Gamble et al. (8) and Dietz et al. (5), showing the

effectiveness of interpersonal psychotherapy in reducing depression.

The cornerstone of interpersonal group therapy is the theory that shows the roots of the symptoms of depression in multi-layer genetic and environmental factors. However, depression factors do not occur in a vacuum, and depressive symptoms are usually traceable to recent events in the individual's life, particularly concerning people with intimate feelings. Additionally, identifying those symptoms, learning how to cope with them, and understanding their relationship with the onset of symptoms are helpful (20). Individuals suffering from bulimia nervosa are prone to more severe depression than regular people (21). IPT's straightforward argument maintains that the depressed individual's distress does not necessarily emanate from their inability or defects in dealing with everyday life; however, it is a reasonable emotional response to a cluster of distressing situations. In addition, this normalization poses the risk of losing self-confidence or underestimation of abilities on the patient's side. IPT begins by validating the patient's distress as a very real and painful phenomenon and continues by explicating the nature of faulty cycles and self-indulgent interpersonal predictions that are very distressing, devouring one's entire life, and engendering clinical depression symptoms.

In the current study, another reason for the efficacy of interpersonal group therapy is covering all areas of depression by emphasizing the four main problem areas, namely grief, role disputes, role transitions, and interpersonal deficits. Even when addressing the intrapersonal areas, such as self-fulfilling predictions, IPT points out their impact on interpersonal relationships. Therefore, interpersonal group therapy simultaneously challenges interpersonal and intrapersonal relationships from a broader perspective, and its contextual nature paves the way for permanent changes. Self-appraisal of expectations are considered as follows: 1) discovering patterns in relationships, 2) combining women's old roles and their expectant role as a mother, 3) presenting them as developmental roles, 4) learning communication analysis by stressing the role of needs in communication, and 5) emphasizing the quality of expressing feelings and others' reactions as some of the parameters. Furthermore, the communicative behavior repertoire of women suffering from bulimia nervosa contributed to a reduction in the severity of their depression (22).

According to the second finding, the interpersonal approach to improve adaptive and maladaptive emotion regulation of women suffering from overeating is significantly efficacious for the long term, which is in agreement with the result of a study by Asl Soleymani et al. (1) that pointed to the efficacy of the interpersonal approach to adaptive emotion regulation; however, it was inconsistent with their findings on the emotional regulation of maladaptive approaches. Asl Soleymani et al. (1) found that the interpersonal approach was ineffective in maladaptive emotion regulation approaches.

Concerning the efficacy of the interpersonal group therapy on emotional regulation strategies, the participated women, suffering from bulimia with role transition in IPT groups as group therapy, experienced reduction in social isolation and loneliness feelings to improve their key interpersonal relationships and were provided with the opportunity to share their experiences with other women. This contributes to the normalization of their problems and creates common concerns. Furthermore, the IPT group provides the opportunity for the participants to learn through modeling with success stories of other women, resulting in gaining insight, learning creative solutions, and experimenting with new behaviors (23), social support, (i.e., acceptance), and instrumental help (i.e., providing information, assistance, and recommendation). Furthermore, social support is associated with high well-being and emotional regulation and prevents transition to various isolations and emotional withdrawals, damaging relationships, preventing the intensification of destructive conflicts, and providing emotional intimacy in the long run (24).

Based on a qualitative study, some responses associated with IPT include the ability to engage in multiple perspectives, awareness of others' feelings, a desire to influence change, and a sense of self-responsibility. In interpersonal psychotherapy, the client's emotions are supported with an understandable state as individuals situated in the context of their current or past interpersonal relationships (25). IPT stresses are defined as follows: 1) interpersonal relationships (social roles and interactions between people) vis-à-vis object relations or intrapsychic phenomena, 2) role conflicts and expectations vis-à-vis internal desires and conflicts, and 3) the "here and now" experiences vis-à-vis past or childhood experiences (25).

Due to the clients' difficult situation, they have relatively reasonable emotional reactions to unreasonable situations instead of responding to malfunctioning thoughts about potentially reasonable conditions. The two primary tasks in IPT are establishing joint tasks and identifying an interpersonal focal point showing the best way for the patient's depression and emotional dysregulation. The therapist is considered the patients' instructor and supporter, who helps the patients identify the current distressing conditions in their life, decide what changes they want to make in that life, and then find the available options for those changes. In this therapeutic relationship, the therapist highly values the client's emotions, approves the appropriateness of the

emotions, and then connects them to necessary conditions for addressing and changing by the client. Therapeutic optimism is another communication element explicitly emphasized. Clients are assured that they are depressed with largely treatable depression (i.e., alternative approaches and their emotional regulation may be improved). Therefore, the intervention of interpersonal group therapy may be employed as an effective treatment method for depression and improvement of emotional regulation among patients with bulimia nervosa and can ultimately enhance their physical and mental health, as well as their quality of life. This is achievable by such techniques as modeling, role-playing, self-training, positive ruminations, social problem solving, self-assertion, self-confidence, and positive thoughts in the interpersonal approach (25).

In the current study, the most important limitation was non-randomized sampling. Future studies with randomized sampling methods to achieve better generalization and the efficacy of the interpersonal group therapy method on other variables, such as anxiety and quality of life in patients with bulimia nervosa should be investigated. Finally, interpersonal group therapy can be used as a complementary treatment in tandem with medical treatments on patients suffering from bulimia nervosa.

Conclusion

Considering the efficacy of interpersonal group therapy on depression and emotional regulation, it is recommended to use interpersonal group therapy for women with bulimia nervosa.

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