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Administration of Psychoeducational Treatment Programs Improves Depression, Eating Disorders, and Associated Psychological Traits

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ABSTRACT

Background: *Psychoeducation treatment sessions have been used to treat patients with major depressive disorder and eating disorder symptoms. These treatment sessions have also been used in patients with eating disorder and associated personality traits.* ***Aim:*** *This study investigated the impact of a psychoeducational intervention on personality traits of patients with both eating disorder symptoms and major depressive disorder.* ***Methods:*** *Fifty outpatients with diagnoses of major depressive disorder and bulimia were recruited in this study. Twenty-five patients received the psychoeducation treatment of six sessions, each of 90 minutes/week, whereas the other 25 patients did not receive the program. The Beck depression inventory (BDI), Eating disorders inventory (EDI), psychiatric and medical history information, and sociodemographic characteristics were measured in the initial assessment and again at the time of discharge from the program.* ***Results:*** *The psychoeducation program reduced the severity of depression and eating disorders of bulimia and body dissatisfaction in treated patients more than in control patients ($p<0.0001$). The program blocked further drive for thinness in treated patients in comparison to the control patients who continued to have increased drive for thinness ($p=0.001$). The intervention program also reduced the severity levels of psychological traits related to eating disorder named ineffectiveness, interpersonal distrust, interoceptive distrust, perfectionism, and maturity fears in treated patients when compared to control patients ($p<0.001$).* ***Conclusion:*** *Utilization of educational intervention in depressive patients with eating disorders can not only mitigate the level of depression and eating disorder symptoms but also improve the psychological traits associated with eating disorders.*

Keywords: Depression, Eating disordered, Personality traits, Psychoeducation

INTRODUCTION

Depression is a mental disorder that is characterized by persistent sadness and a loss of interest, accompanied by an inability to carry out daily activities, for at least two weeks. Depression is a highly prevalent disease. It is estimated that more than 300 million people worldwide suffer from depression. The World Health Organization classifies depression as the leading cause of disability worldwide and is a major contributor to the overall global burden of diseases [1]. The impact of depression; which is also called a major depressive disorder, unipolar depression, or clinical depression, on the physiology and biochemistry of the brain and its neurotransmitter functions and concentrations results not only in various impaired physical functions but also in changes in the mood and behaviors of patients. One of the major disease causes or outcomes is eating disorder. The latter is now considered a mental disorder marked by severe disturbances to a person's eating behaviors. Obsessions with food, body weight, and shape may be signs of an eating disorder. These disorders can affect a person's physical and mental health and can result in life-threatening conditions in some cases [2]. Common eating disorders include anorexia nervosa, bulimia nervosa, and binge-eating disorder. There are various personality traits and individual characteristics and experiences that are associated with the development of eating disorders. In this regard, perfectionism, interpersonal distrust, maturity fears, interoceptive distrust, and ineffectiveness were found to play roles in predicting the onset and maintenance of eating disorder of bulimic symptoms and body dissatisfaction of weight and shape concerns [3-5].

Both depressive disorders and eating disorder symptomology are multidimensional, heterogeneous, and overlapped disorders. Both conditions are related to their clinical descriptive, family-genetic, treatment, and biological findings. The prominence of depressive disorder symptomology in eating disorders has been confirmed [6]. Many research teams have found that depressive disorders significantly predicted an elevated risk of the onset [7] or increased severity of eating disorder symptoms [8,9]. Others have argued that depressive mood is a consequence of eating disorders [10,11]. In addition, there is also evidence that eating disorders and depressive moods have simultaneous reciprocal relationships. In other words, depression predicts future increases in eating disorders, and that eating disorders likewise predicts future increases in depression [12,13].

Most of the previous studies have sought to identify the implication of psychological traits that predict onset, symptomatic expression, and maintenance of eating disorders [4,14]. To our knowledge, only limited information regarding the impact of the psychoeducation program on the personality traits of eating disorder in patients with both eating disorder symptomatology and major depressive disorder is available. This is basically because of a few prospective studies had been conducted, and those using cross-sectional designs cannot yield conclusions regarding etiology. Therefore, the aim of the present study is to define the therapeutic outcomes of psychoeducation programs on the personality traits in patients with eating disorder symptomatology and major depressive disorder.

MATERIALS AND METHODS

Study Design and Participants

This prospective randomized, parallel-group experiment was conducted at the Ali Kamal Consultation Center at the Psychiatric Department of University of Sulaimani General Teaching Hospital from June 2017 to June 2018. Fifty patients diagnosed with major depressive disorder and eating disorder symptomology that is periodically attending Ali Kamal Consultation Center for treatment and follow up were recruited. Those 50 patients were then divided into the intervention group (n=25) and the control group (n=25). The criterion to split subjects into two groups was based on self-selection; by which the participants chose to attend or not attend the program. Inclusion criteria included identified patients with major depressive disorder with the current presence of eating disorder symptoms based on consultant psychiatric assessment, 18 years old or more, both genders, and perfect adherence to treatment therapy. Exclusion criteria included patients that are with psychotic symptom based on the consultant psychiatrist's assessment, alcoholic, drug abusers, diabetic, hypertensive, or with cancer. Our exclusion criteria also included women with current pregnancy and puerperium period and those who do not speak and understand the Kurdish language fluently. This study was approved by the Institutional Review Boards of Sulaimani General Health Directorate. Table 1 shows the clinical data of all participants.

Measures

Before the psychoeducational sessions, subjects completed a questionnaire including sociodemographic characteristics on age, height, weight, nationality, marital status, and educational level, number of children, employment status, and economic status; psychiatric and medical history information including duration of depression, number of hospitalizations, suicidal attempts, family history of mental illness, physical illnesses, and medication history; dietary history and lifestyle; Beck Depression Inventory scale (BDI) [15,16]; and Eating Disorders Inventory (EDI) [17]. The BDI, EDI, psychiatric and medical history information, and sociodemographic characteristics were measured in the initial assessment and again at the time of discharge from the program.

The EDI is a self-report questionnaire that measures eating-related attitudes and behaviors as well as psychological factors commonly associated with eating disorders. This inventory consists of eight subscales with a total of 64 items measure eating-related attitudes and behaviors (problematic eating behavior). This inventory used in clinical and research purposes for adult males and females [17].

The BDI is one of the most widely used psychometric test that evaluates the severity of depression as well as cognitive and psychosocial symptoms. It evaluates key symptoms of depression including the feeling of sadness, pessimism, sense of failure, self-dissatisfaction, guilt, punishment, self-dislike, self-accusation, suicidal ideas, crying, irritability, social withdrawal, indecisiveness, body image change, work difficulty, insomnia, fatigability, loss of appetite, weight loss, somatic preoccupation, and loss of libido. This multiple-choice inventory is a brief scale of 21 items, and the assessment of the severity of depression symptoms is based on a scale of 0-63 points. The usually accepted cut-off points for adjusting the intensity/severity are as follows: No Depression: 0-9 points, mild depression: 10-18 points,

moderate depression: 19-29 points and severe depression: ≥30 points [15,16]. Table 2 shows the severity of depression and psychiatric clinical history in the control and treated participants.

The intervention consisted of six psychoeducational sessions with 90-minute sessions per week. The content of the psychoeducation was based upon the psychoeducational materials provided in Waller and coworkers [18] and Belak and coworkers [19]. The program provided health education about depression and eating disorder symptoms and their interactions; the role of diet, physical exercise, and sleep; pharmacological treatment and adherence to treatment; breathing techniques; problem-solving skills; diagnosis of destructive behavioral attitudes; provision of a harm minimization with each patient's individualized harm minimization plan; self-esteem and self-image; pleasant and physical activities, social skills, and assertiveness. The primary goals meant for a patient's enrollment in this psychoeducational course were to provide patients with objective facts to help them challenge cognitive distortions (e.g., perfectionism, and body dissatisfaction); improve patients' insight into the gravity of their conditions and combat anosognosia by explaining how eating disorders can disturb organ systems; clearly detail the relationship between eating disorders and depression, body image disturbances, cognitive decline, and interpersonal and interoceptive distrust; and help patients to identify their own obstacles to promote treatment success. The attrition rate across the six sessions was zero percent.

Statistics

Statistical differences of the severity of depression, eating disorder, and associated psychological traits before and after the intervention program were analyzed using the Student's t-test. The Pearson's chi-square test of independency (contingency table of 2 × 2), or the Fisher exact test when appropriate, was used to determine the statistical difference of the demographic data, psychiatric clinical history, and severity of depression in the control and treated participants. Statistical differences were considered significant at $p<0.05$. The statistical software of SPSS 18.0 (SPSS Inc., Chicago, IL, USA) was used to conduct all the statistical tests.

RESULTS

Severity of Depression

The administration of psychoeducation programs on eating behavior problems to patients with major depressive disorder was effective in reducing the severity of depression, per Beck depression inventory, from 32.5 ± 1.6 to 9.4 ± 0.8 ($p<0.0001$, Figure 1). The non-treated group with the psychoeducation program also showed reduced severity of depression at the same time period from 31.1 ± 1.9 to 27.2 ± 1.6; however, the reduction was insignificant. To further analyze this observation, the independent t-test for the mean differences before and after the start of the program between control and the treated patient was conducted to evaluate the level of effectiveness of the program in comparison to the control group. In this regard, the level of improvement (i.e. reduction in depression) was significantly higher in those who underwent treatment in comparison to those who did not, 23.0 ± 1.1 *vs.* 4.0 ± 0.8, $p<0.0001$, respectively.

Bulimia

The administration of psychoeducation programs on eating disorder to patients with major depressive disorder was effective in reducing bulimia in those patients, per Garner eating disorder inventory, from 12.3 ± 2.3 to 6.6 ± 1.1 ($p<0.0001$, Figure 2A). Patients that have not received the treatment program reported a similar level of bulimia for the same period of time, 15.6 ± 2.3 *vs.* 14.8 ± 2.0, $p=0.3$. Overall, the comparison between the control and treated group showed that the program treatment resulted in the lower level of bulimia in the treated group than in the control group, 6.6 ± 1.1 *vs.* 14.8 ± 2.0, respectively, $p=0.001$.

Drive for Thinness

The administration of the psychoeducation program on eating behavior problems to patients with major depressive disorder was ineffective in reducing the drive for thinness, per Garner eating disorder inventory, ($p=0.2$, Figure 2B). However, the drive for thinness in control patients has increased during the same period of time from 11.7 ± 0.9 to 22.1 ± 1.4, $p<0.0001$, indicating that the utilization of psychoeducation program has prevented further drive for thinning in the treated group. Furthermore, the comparison between control and treated group showed that the program treatment resulted in a lower score of the drive for thinness in the treated group than did the control group, 12.2 ± 1.1 *vs.* 22.0 ± 2.3, respectively, $p=0.001$.

Body Dissatisfaction

The administration of psychoeducation programs on eating behavior problems to patients with major depressive disorder was effective in reducing levels of body dissatisfaction in patients, per Garner eating disorder inventory, from 19.6 ± 3.2 to 9.3 ± 1.3 ($p<0.0001$, Figure 2C). Patients that have not received the treatment program reported a similar level of body dissatisfaction for the same period of time, 20.7 ± 3.0 *vs.* 20.3 ± 2.7, $p=0.7$. Overall, the comparison between control and treated group showed that the program treatment resulted in the lower level of body dissatisfaction in the treated group than in the control group, 9.3 ± 1.3 *vs.* 20.3 ± 2.7, respectively, $p=0.001$.

Interpersonal Distrust

The administration of psychoeducation programs on eating behavior problems to patients with major depressive disorder was effective in reducing the Interpersonal distrust, per Garner eating disorder inventory, from 18.4 ± 1.4 to 8.0 ± 0.7 ($p<0.0001$, Figure 3A) in the treated group. Similarly, the control patients also showed a slight improvement, but significant ($p=0.02$), on the level of interpersonal distrust from 17.1 ± 1.7 to 15.1 ± 0.6. The mean differences of interpersonal distrust before and after the start of the program in the treated patients and the counterpart results from the control patients were analyzed. In this regard, the level of improvement (i.e. reduction in interpersonal distrust) was significantly higher in those who underwent treatment in comparison to those who did not, 10.4 ± 0.8 *vs.* 2.0 ± 0.8, $p<0.0001$, respectively.

Perfectionism

The administration of psychoeducation program on eating behavior problems to patients with major depressive disorder was effective in reducing the trend of perfectionism, per Garner eating disorder inventory, from 21.5 ± 1.0 to 10.0 ± 0.6 ($p<0.0001$, Figure 3B) in the treated group. Patients that have not received the treatment program maintained a high trend of perfectionism, 21.1 ± 1.1 *vs.* 21.6 ± 0.9, $p=0.5$. Overall, the comparison between control and treated group showed that the program treatment resulted in the lower trend of perfectionism in the treated group than in the control group, 10.0 ± 0.6 *vs.* 21.60 ± 0.9, respectively, $p<0.0001$.

Maturity Fears

The administration of psychoeducation program on eating behavior problems to patients with major depressive disorder was effective in reducing maturity fears in those patients, per Garner eating disorder inventory, from 26.0 ± 1.9 to 13.5 ± 1.1 ($p<0.0001$, Figure 3C). The maturity fears in control patients were observed to increase during the same time period of treatment from 27.4 ± .1.6 to 30.8 ± 1.5 ($p=0.008$), indicating that the program treatment was not only able to prevent but also to reduce maturity fears in patients. Overall, the comparison between control and treated group showed that the program treatment resulted in the lower level of maturity fears in the treated group than in the control group, 13.4 ± 1.1 *vs.* 30.8 ± 1.5, respectively, $p=0.001$.

Interoceptive Distrust

Interoceptive distrust measures the ability of an individual to discriminate between sensations and feelings, and between the sensations of hunger and satiety. The administration of psychoeducation program on eating behavior problems to patients with major depressive disorder was effective in reducing Interoceptive distrust level in those patients, per Garner eating disorder inventory, from 23.2 ± 1.7 to 11.7 ± 1.1 ($p<0.0001$, Figure 3D). Similarly, the control patients also showed a slight improvement, but significant ($p<0.0001$), on the level of Interoceptive distrust as it was observed to decrease from 22.3 ± 1.6 to 18.3 ± 0.1.4 during the same treatment period. To further analyze that improvement in interoceptive distrust in treated patients was significantly different from that observed in the control group, the mean differences of interoceptive distrust before and after the start of the program in the treated patients and the counterpart results from the control patients were evaluated. In this regard, the level of improvement (i.e. reduction in interoceptive distrust) was significantly higher in those who underwent treatment in comparison to those who did not, 11.5 ± 0.7 *vs.* 4.0 ± 1.0, $p<0.0001$, respectively.

Ineffectiveness

The administration of psychoeducation program on eating behavior problems to patients with major depressive disorder was effective in reducing levels of ineffectiveness in patients, per Garner eating disorder inventory, from 30.8 ± 2.6 to 15.4 ± 1.5 ($p<0.0001$, Figure 3E). Similarly, the control patients also showed a slight improvement, but significant ($p=0.01$), on the level of ineffectiveness as it was observed to decrease from 27.8 ± 2.6 to 24.4 ± 2.3 during

the same treatment period. To further analyze that improvement in ineffectiveness in treated patients was significantly different from that observed in the control group, the mean differences of ineffectiveness before and after the start of the program in the treated patients and the counterpart results from the control patients were evaluated. In this regard, the level of improvement (i.e. reduction in ineffectiveness) was significantly higher in those who underwent treatment in comparison to those who did not, 15.4 ± 1.3 *vs.* 3.4 ± 1.2, p<0.0001, respectively.

Body Mass Index (BMI)

The administration of psychoeducation program on eating behavior problems to patients with major depressive disorder has not changed BMI in patients, 25.7 ± 1.1 before the treatment *vs.* 24.4 ± 0.9 after the treatment patients (p=0.3, Figure 3F). Similarly, the control patients did not have a significant change in their BMI during the same treatment period, 23.1 ± 1.0 before the treatment *vs.* 22.7 ± 0.8 after the treatment, p=0.3. In addition, the mean difference in BMI before and after the start of the program treatment in the treated patients was similar to that in the control patients for the same period of time, 0.4 ± 0.4 *vs.* 0.3 ± 0.3, respectively, p=0.5.

Table 1 The demographic data of control and treated participants

Parameter	Control	Treated
Number of Participants	25	25
Marital Status (%)		
Single	36	28
Married	60	52
Divorced	4	16
Widowed	4	0
Educational Level (%)		
Illiterate	4	16
Elementary School	68	64
High School	24	12
College and Above	4	8
Occupation (%)		
Public Sector	12	12
Private Sector	0	8
Self-employed	12	28
Unemployed	76	52
Residency (%)		
Urban	92	96
Rural	8	4
Monthly Income (%)		
Sufficient	20	12
Barely Sufficient	20	36
Insufficient	60	52
BMI (Average ± SEM)	23.1 ± 4.7	25.7 ± 5.7
p>0.5		

Table 2 Severity of depression and psychiatric clinical history of all participants in the control and treated groups

Parameter	Control	Treated
Number of Participants	25	25
Severity of Depression		
Borderline	8	4
Moderate	40	32
Severe	40	40
Extreme	12	24
Duration of Current Disease		
<5 years	44	28
5-9 years	24	28

≥ 10 years	32	44
No. of Hospitalization		
None	68	60
1-2	20	32
≥ 3	12	8*
Attempted Suicide	28	60
Family History of Depression	44	24
Data are presented as percentages. *p=0.02		

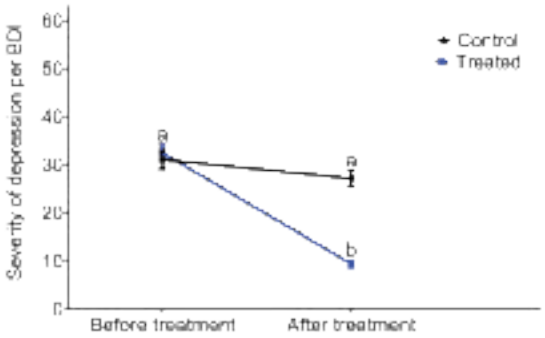

Figure 1 The effect of psychoeducation program on severity of depression. Data with different superscripts are significantly different where p<0.0001. BDI: Beck Depression Inventory scale

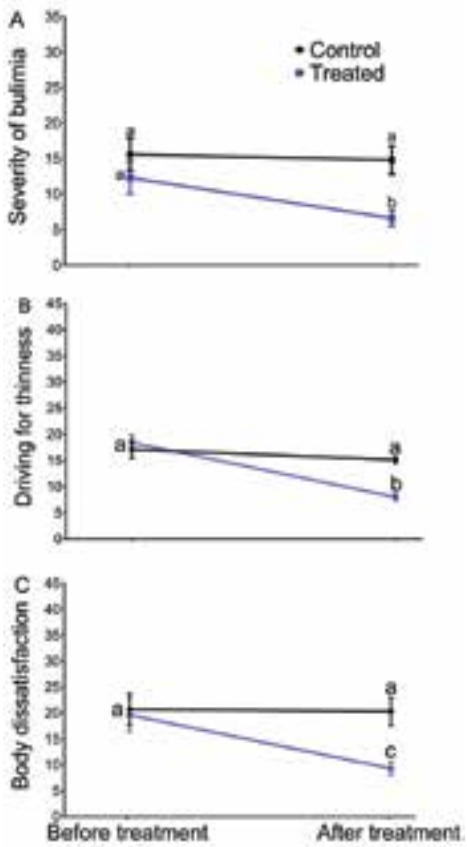

Figure 2 The impact of psychoeducation program on the eating disorders symptomology of bulimia (A), drive for thinness (B), and body dissatisfaction per Garner eating disorders inventory. Data with different superscripts are significantly different where p<0.001

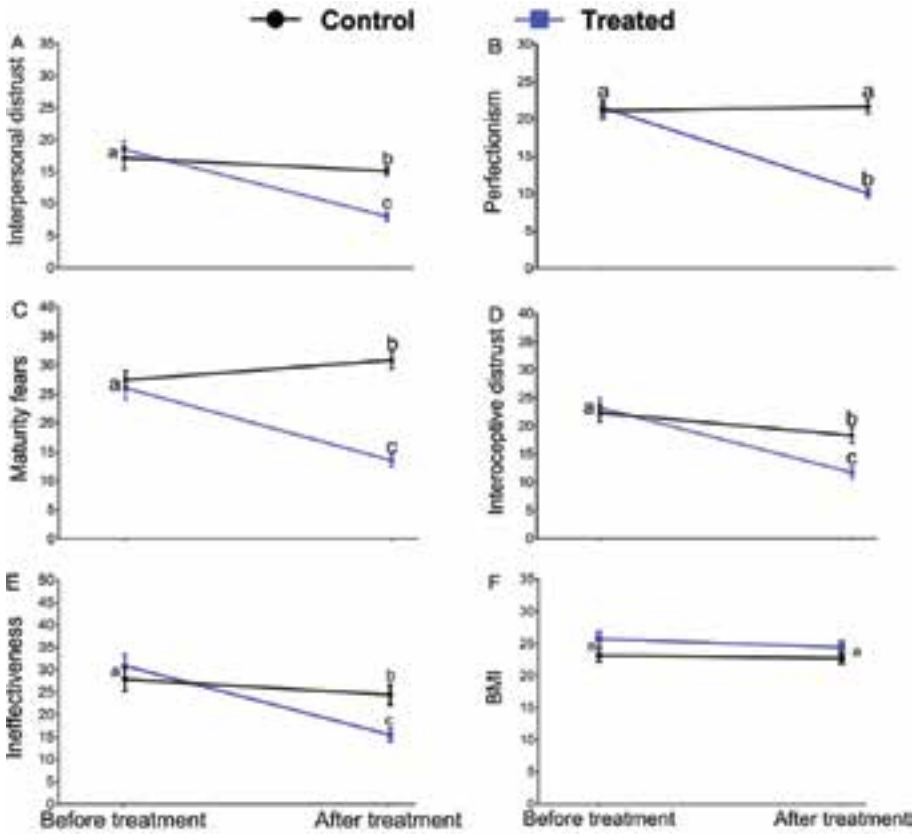

Figure 3 The impact of psychoeducation program on body mass index (BMI) and eating disorder psychological traits of Interpersonal distrust (A), perfectionism (B), Maturity fears (C), interoceptive distrust (D), and ineffectiveness (E). Data with different superscripts are significantly different where p<0.02

DISCUSSION

Depressive and eating disorder symptoms are highly related and may result in serious comorbidity in patients. Here, we evaluated a psychoeducation program in patients with major depressive disorder and eating disorder symptoms related to eating, weight, and shape, as evidenced by the drive for thinness, bulimia, and body dissatisfaction. The impacts of the psychoeducation program on the general psychological traits that are also relevant to eating disorders, such as ineffectiveness, perfection, interpersonal distrust, interoceptive awareness, and maturity fears were also evaluated. We observed that the administration of a psychoeducation program can not only help with eating disorder symptoms but also can reduce the severity of depression itself. In this study, treated patients were shown to have reduced depression, drive for thinness, bulimia, body dissatisfaction, interpersonal distrust, the trend of perfectionism, maturity fears, Interoceptive distrust, and levels of ineffectiveness.

Rodgers and Paxton evaluated in their review the impact of indicated prevention and early intervention on co-morbid eating disorder and depressive symptoms [20]. They reported that many intervention programs (92%) were successful in decreasing eating disorder symptoms; however, only 42% of the evaluated reports were successful in decreasing both eating disorder and depressive symptoms. Our results indicate that our interventional program was effective in reducing both eating disorder and depressive symptoms in alignment with Rodgers and Paxton report of less than 50% of studies successfully decreased concurrent depressive and eating disorder symptoms [20]. It is possible that most of the utilized interventions are essentially designed to target eating disorder symptoms, with little attention to depression symptoms as opposed to our intervention program. Although there is a widespread recognition for the importance of depressive symptoms in eating disorder, it is also possible that the lack of clarity in the conceptualization of depressive symptoms within intervention evaluation may have played a role in program treatment limited capacity to decrease depressive symptoms [21]. One additional point to explain the effect of psychoeducation program on eating disorder but not depressive symptoms, reported by other investigators, is the potential impact of frequency and duration of program

sessions on treatment outcomes. Results suggest that efforts to prevent depression would produce a higher yield of engagement with shorter programs that include homework assignments and delivered by professional interventionists [22]. In addition, there may be important clinical differences in the molecular basis of clinical depression in men and women or sex-specific differences in the molecular mechanisms that determine resistance to depressive stimuli. For instance, a genetic susceptibility locus D2S2944 as a risk factor in women, but not in men, with recurrent, early-onset depression has been identified [21,23]. Finally, although body-image and eating disturbances have been utilized to predict the onset of depression [11]; depressive disorder noticed in patients with eating disorders may not be secondary to eating disorder symptomology or might have developed independently in some patients [20]. Therefore, these factors collectively may explain the controversy noticed with the treatment outcomes of both eating and depressive symptoms following psychoeducation program treatments.

Drive for thinness is an excessive concern with dieting, preoccupation with weight, and fear of weight gain. Despite the lack of significant improvement for the drive for thinness in treated patients after completion of the program, the psychoeducation program was effective in preventing further drive for thinness in treated patients when compared to control patients that scored elevated score for the drive for thinness at the end of the treatment period. It is possible that sample size may have been inadequate to detect an effect of improvement, and not only to block further drive for thinness, in treated patients. Furthermore, the drive for thinness may not be a stable construct. High instability or variability in such a construct may help to explain the lack of improvement in the treated group. It is possible that individuals with more severe depressive symptomatology and eating disorder are in need of treatment that is longer or qualitatively different in order to successfully affect behavior change [24].

Bulimia is a dysfunctional behavior, where patients will be engaged in episodes of binge eating and purging. It has a prevalence of up to 19% in female American university students. On university campuses, the prevalence of anorexia nervosa is between 1 to 4.2%. Psychoeducation was successful in reducing the harm resulting from the eating disorder pathology of bulimia in our patients. Indeed, the reduction of this harm in patients may result in other potential outcomes, such as greater medical compliance, reduction of physical complications, and the need for fewer intensive medical and supportive interventions [25]. In terms of clinical practice, our findings necessitate the importance of the use of psychoeducation in routine clinical settings as a prerequisite to therapy or parallel intervention for patients with bulimia nervosa. This has the advantage, therefore, of allowing the therapist to focus more on the therapeutic needs of individual patients rather than on providing standard health-promotional information. However, the use of such approaches requires further program development and treatment options [25,26]. Further studies are also required to investigate the usefulness of education programs as an effective treatment for those with anorexic disorders.

The psychological and personality characteristics labeled ineffectiveness, interpersonal distrust, interoceptive awareness, perfectionism, and maturity fears measure traits that have been identified to play a fundamental role in the etiology and maintenance of disordered eating pathology. Individuals with eating disorders often display high levels of perfectionism (high standards). Mechanisms by which perfectionism, which is the state when patients are not being satisfied with anything less than perfect, could lead to eating disorders or other psychopathology include attempts to attain and maintain social status or rank or long-term effects of attempts to conceal mistakes [27]. Indeed, perfectionistic traits may lead an individual to adhere rigidly to strict rules regarding what or when they should eat, place an over-emphasis on the attainment of the thin ideal, and be overly critical when expectations are not met [4]. Our results showed that the utilization of psychotherapy treatment resulted in a reduced level of perfectionism. Given that perfectionism can predict both the onset and maintenance of eating disorders, targeting high perfectionism in both cases may be crucial to prevent the occurrence and chronic nature of these disorders [4]. In addition, perfectionism has been observed to be involved not only in eating disorders but also in various psychological conditions such as depression, obsessive-compulsive disorder, and suicidality [28], emphasizing that interventions to target clinical perfectionism may have benefits on eating and comorbid disorders. In addition to perfectionism, ineffectiveness; which is patients with feelings of inadequacy, insecurity, worthlessness, having no control over their lives, low self-efficacy, and strong emotions, has been critical to the development of eating disorders through its influence on ineffectiveness [3]. Higher levels of concern over mistakes perfectionism at baseline were subsequently associated with higher levels of ineffectiveness over time, which was associated with the growth of risk of eating disorder over time [5]. We observed that the administration of psychoeducation program to patients with major depressive disorder and eating behavior problems was effective in reducing levels of ineffectiveness in patients, per Garner eating disorder inventory. Our and previous results suggest the usefulness of psychoeducation interventions related to self-criticism and ineffectiveness to decrease the risk for developing eating disorders [5].

Interoceptive distrust encompasses not only a reluctance to form close relationships but also the reluctance to express feelings to others, which may contribute to difficulty in the self-regulation of negative emotional states [29]. The psychoeducation program used with our patients with major depressive disorder was able to reduce the effect of Interoceptive distrust significantly. Interoceptive distrust, as a personality trait, is common in patients with eating disorders [30] and predicts the onset of eating pathology in adolescence [31] and relapse among individuals with bulimia [32].

Maturity fears are the fear of facing the demands of adult life. It is a personality trait that doesn't associate with weight phobia. However, it denotes insecurity, relationship incompetence, ineffectiveness, incapability of asking and getting help from others, and more importantly bulimia [33]. In addition, evidence for a predictive association between maturity fears and eating disorder onset have been reported [4]. Higher maturity fears emerged as a potential risk factor for the onset of an eating disorder as individuals transitioned from their 20 s to their 30 s. In the present study, the average age of both groups of patients was around 34 years, placing them with that stage of the developmental transition period and emphasize the necessity to treat those patients as early as possible. Our results show that the utilization of the psychoeducational programs to prevent eating disorders in patients with fears of developmental transitions resulted in a significant reduction in maturity fears in treated patients when compared to control women. Accurate collection of information about eating disorders can ameliorate unhealthy attitudes towards eating behavior and related destructive personal traits such as ineffectiveness and maturity fears [34].

Body image dissatisfaction is defined as the negative perceptions and feelings a person has about their body and is influenced by factors such as body shape and appearance, attitudes towards weight gain, and cultural norms in relation to ideal bodies. Body image is an important part of a person's self-concept and has been linked to various psychopathologies, most frequently eating [35,36]. Moreover, midlife women reported greater body dissatisfaction and disordered eating than midlife men. Moreover, obese women have greater body image dissatisfaction and disordered eating than normal weight and overweight midlife women. In addition to gender and weight, obese women have greater body image dissatisfaction and disordered eating than normal weight and overweight women [35]. Indeed, both weight (overweight/obese) and age (midlife stage) have been reported to associate with great body image dissatisfaction [37,38]. Therefore, in our research, gender, age, and weight have been controlled. With this, the treatment program was able to reduce the severity of body dissatisfaction in treated patients with depression and eating disorders. On the other hand, this study was not designed to obtain data of follow-up assessment from patients several months after the end of the psychoeducation program, and therefore, we were unable to evaluate data regarding full remission and potential relapse.

CONCLUSION

In summary, this is the first report that measures the usefulness of psychoeducation therapy in patients with major depression and food disorders in Iraq. Our results showed that the implementation of an educational program for those patients was successful to resolve issues related to not only depression but also food disorder on both clinical levels and personality and psychological trait levels.

DECLARATIONS

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Conflicts of Interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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