

Effect of Psychoeducational Program on Eating Disorder Behaviors and Severity Level of Depression: A Quazi Experimental Study

Shwan Asaad Qadir¹, Salwa Shakir Muhsin²

¹ Assistant Lecturer / Family and Community Nursing Department, College of Nursing, University of Sulaimani, Kurdistan Region, Republic of Iraq, ² Prof. Dr. / Psychiatric Mental Health Department, College of Nursing, University of Sulaimani, Kurdistan Region, Republic of Iraq

Abstract

Background: Major depressive disorder is one of the public health problems with prevalence among worldwide. Major Depression (MD) is the most prevalent comorbid mood disorder in eating disorder (ED) patients, and the severity of depressive symptomatology seems to be related to the ED. Most international clinical practice guidelines recommend psycho-educational intervention as first step in the treatment protocol. This study aimed to find out the effect of the psycho-educational program as the treatment of choice for depression patient with eating disorder.

Methods: A quantitative quasi experimental study with pre-post intervention design used to evaluate the effectiveness of psychoeducation program. A non-probability, purposive sample size of (50) patients with major depressive disorder were recruited to the study from January 10th 2018 till October 1st 2019. Beck depression inventory (BDI) was used for measuring the severity of depression, and Garner eating disorder inventory (G-EDI) was other measure used to assess eating behavior problems. Data of the present study was analyzed through using application of statistical package for social sciences (SPSS) version.

Results: The study indicated a significant difference in Beck depression score in intervention and control group after intervention ($P < 0.001$). It shows that the mean ranks of the difference (gain in scores) of the experimental group was significantly ($p < 0.05$) higher than the mean ranks of the difference of the control group for all the parameters of eating disorders.

Conclusion: The findings indicated that the 6-sessions psycho-education program has great impact on the severity of depression and all component of eating disorder in patient diagnosed with depression in associated with eating disorder.

Keywords: Major depressive disorder, eating disorders, psychoeducation program.

Introduction

Major depressive disorder is one of the public health problems⁵, with prevalence 3.6% of global population¹⁸.

Corresponding author:

Shwan Asaad Qadir,

Family and Community Nursing Department, College of Nursing, University of Sulaimani, Kurdistan Region, Republic of Iraq, Tel: 009647701447252;

E-mail: shwan.qadir@univsul.edu.iq

Major Depression (MD) is the most prevalent comorbid mood disorder in eating disorder (ED) patients, and the severity of depressive symptomatology seems to be related to the ED one¹⁰. Lifetime comorbidity between eating disorders and mood disorders has been confirmed by several retrospective study, in anorexia nervosa the prevalence of mood disorders varies from 64.1% and 96% whereas in bulimia nervosa between 50% and more, and current comorbidity varies from 12.7 to 68% in anorexia nervosa and is about 40% in bulimia nervosa¹¹, and nearly half of BED patients have a comorbid mood

disorder¹⁹. It's normal for people with eating disorders to feel depressed at some point, but most research shows 50-75% of those with eating disorders experience major depressive disorder, which can put them at greater risk for suicide². Depression seems to aggravate the severity of eating disorders. Thus, depression may be an important link between eating disorders and suicide¹⁶. Most international clinical practice guidelines for the management of depression and feeding and eating disorders recommend psycho-educational intervention as first step in the treatment protocol^(5, 17). The psycho-education often precedes intensive forms of treatment or integrates with the other treatments¹⁵. Recently, the National Institute for Health and Clinical Excellence (NICE) defined psycho-education as "Any structured group or individual program that addresses an illness from a multidimensional viewpoint including social, biological, familial, and pharmacological perspectives as well as providing service users and carers with information support and management strategies"¹³. This study aimed to find out the effect of the psycho-educational program as the treatment of choice for depression patient with eating disorder.

Methodology

Study design:

A quantitative quasi experimental study with pre-post intervention design used to evaluate the effectiveness of psychoeducation program on eating behavior problems among outpatients with previously diagnosed with major depressive disorder. The study was carried out during the period from January 10th 2018 till October 1st 2019.

Study sample:

A non-probability, purposive sample size of (50) patients with major depressive disorder were recruited from attending Ali Kamal consultation center / psychiatric department in Sulaimani city for treatment and follow up. Patients being older than 18 years old and had drug adherence have been recruited to this study. Any patient was diagnosed with other mental disorders such as drug abuse, and pregnant women or puerperium were excluded from this study.

The study instrument:

The questionnaire includes socio-demographic characteristics such as patient's age, gender, marital

status, and level of education, employment status, residential area, income and BMI. And psychiatric characteristics: such as duration of depression, number of hospitalizations, suicidal attempts and family history of mental illness were part of the questionnaire.

Beck depression inventory (BDI) was used for measuring the severity of depression. It is a (21) multiple choice scale statements that evaluates key symptoms of depression including: 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 libido.

Measurement and scoring:

Beck depression inventory was 4 Likert scale in term of severity of the symptoms, it was scored from zero to 3. Each item of Beck depression inventory is ranked in terms of severity of the symptoms, and it was scored from absence of a symptom (zero) to an intense level (3). Severity of depression was based on the added scores of all items, and it was categorized to 5 levels, which was Normal range (1-10), Mild mood disturbances (11-16), Minimum depression (17-20), Mild depression (21-30), Moderate depression (31-40), and Severe depression (Over 40).

Eating disorder behaviors scale (G-EDI) is a list of (64) items related to (8) subscales, it is six Likert scale ranging from never to always. Items are scored as (never = 0, very rarely = 1, rarely = 2, occasionally = 3, frequently = 4, always = 5). For each sub-scale, item's score was added, mean was calculated to find out the severity of the subscale. The higher the mean of score refers to the higher severity of eating disorder behaviors in each subscale.

Validity and reliability:

The face validity of the questionnaire was established through a panel of (13) experts of different specialists related to the field of the present study. The internal consistency of the instrument was determined through the computation of Cronbach's Alpha test. the Cronbach Alpha test of the reliability of the questionnaire was (0.842).

Statistical Method

Data of the present study was analyzed through using application of statistical package for social sciences (SPSS) version (22). Mean and mean rank was calculated for each scale. Mann Whitney, Kruskal Wallis and Wilcoxon signed rank test were used to compare the mean ranks of two groups, test the significant relation of the study variables with scores. The P-value of ≤ 0.05 was considered statistically significant.

Results and Discussion

Table 1 indicated that there is a significant difference in Beck depression score in intervention and control after intervention ($P < 0.001$). In the experimental group there had been marked improvements of the means of Garner scale scores after the intervention which is not true for the control group. It shows that the mean ranks of the difference (gain in scores) of the experimental group was significantly ($p < 0.05$) higher than the mean ranks of the difference of the control group for all the parameters of eating disorders.

Table (2) presents that the scores of gain in Garner scale after the intervention had been compared according to gender of the patient. The table indicates that the mean rank of difference for bulimia among females was 16.1 which was significantly higher than the mean rank (8.4) of the males ($p = 0.009$). The mean rank of difference of body dissatisfaction was 16.2 for females which was significantly higher than the mean rank of difference of males which was 8.2 ($p = 0.008$). On the other hand, regarding the ineffectiveness, the mean rank of difference of males (16.8) was significantly ($p = 0.034$) higher than that of females (10.5). Regarding other Garner subscale, significant difference have not detected between genders.

Table 3 indicates that the mean rank of difference for bulimia among females was 16.1 which was significantly higher than the mean rank (8.4) of the males ($p = 0.009$). The mean rank of difference of body dissatisfaction was 16.2 for females which was significantly higher than the mean rank of difference of males which was 8.2 ($p = 0.008$). On the other hand, regarding the ineffectiveness, the mean rank of difference of males

(16.8) was significantly ($p = 0.034$) higher than that of females (10.5). No significant difference was detected between males and females in the mean ranks of the other subscales.

Regarding the employment status (Table 4), significant mean gains in Garner scale have been seen in drive for thinness, and body dissatisfaction. The mean ranks of drive for thinness of the self-employed and unemployed were significantly higher than those of those employed in governmental and private sectors ($p = 0.038$). Regarding the body dissatisfaction, the highest mean and mean rank of the difference was for the unemployed ($p = 0.017$)

Table (5) shows that there was no significant association between the mean ranks of the difference in scores of all eating behaviorists and income except for the drive for thinness ($p = 0.005$), but it is evident here that there is no consistent trend.

In this study, the depression level was assessed through the Beck depression inventory (BDI). The mean and mean rank of the difference in Beck depression inventory scores before and after intervention show that the experimental group gained more points of improvement of depression symptoms (mean=23) than the control group (mean=4). The findings indicated large effect size within experimental group after post-intervention of 6-sessions psycho-education program while the effect size within control group was small over time of re-test assessment ($P > 0.001$). The findings of this study showed that the mean and mean rank scores in the subscale bulimia and body dissatisfaction were significantly higher in females (8.2, 16.1) (14.3, 16.2) compare to males (2.0, 8.4) (4.4, 8.2) respectively, similarly with the results of ¹⁴, body dissatisfaction's mean and mean ranks scores were significantly higher among unemployed subjects compared to other categories of employment status of intervention group. Additionally, the findings could be explained by the escape theory which suggests that some people narrow their level of attention to the current and immediate stimulus environment in order to distract attention from negative affect, for example depression, hence leading to external eating disorder behaviors ¹⁴.

Table 1. Means of the difference in Beck depression score before and after the intervention in the two study groups.

Difference in Beck depression score (pre – post intervention) in the experimental group		Difference in Beck depression score (pre – post-test) in the control group		
Mean	Mean rank	Mean	Mean rank	p*
23.0	(38.0)	4.0	(13.0)	< 0.001

*By Mann-Whitney test

Table 2. Mean and mean rank of the difference between the pre and post intervention of eating disorder behaviors of the two study groups.

Difference in scores of indicators†	Experimental group		Control group		P*
	Mean	Mean rank	Mean	Mean rank	
Drive for thinness	12.1	(35.94)	-1.2	(15.06)	< 0.001
Interpersonal distrust	10.4	(35.98)	2.0	(15.02)	< 0.001
Perfectionism	11.4	(37.88)	-0.5	(13.12)	< 0.001
Bulimia	5.7	(30.48)	0.8	(20.52)	< 0.015
Maturity fears	12.6	(37.62)	-3.5	(13.38)	< 0.001
Interoceptive awareness	11.5	(35.16)	4.0	(15.84)	< 0.001
Body dissatisfaction	10.3	(33.92)	0.4	(17.08)	< 0.001
Ineffectiveness	15.4	(35.56)	3.4	(15.44)	< 0.001

*By Mann Whitney test, comparing the mean ranks of the two groups.

†The difference in scores = reading before the intervention – reading after the intervention.

Table 3. Parameters of the difference (pre – post intervention) in eating disorder behaviors scores by gender in the intervention group.

Eating disorders Indicators	Gender	Mean	Mean rank	p*
Drive for thinness	Male	10.5	(10.9)	
	Female	13.2	(14.4)	0.242
Interpersonal distrust	Male	12.2	(16.2)	
	Female	9.3	(10.9)	0.078
Perfectionism	Male	12.5	(15.9)	
	Female	10.7	(11.1)	0.107
Bulimia	Male	2.0	(8.4)	
	Female	8.2	(16.1)	0.009
Maturity fears	Male	13.7	(15.1)	
	Female	11.8	(11.6)	0.242

Cont... Table 3. Parameters of the difference (pre – post intervention) in eating disorder behaviors scores by gender in the intervention group.

Interoceptive awareness	Male	11.9	(13.5)	0.800
	Female	11.2	(12.7)	
Body dissatisfaction	Male	4.4	(8.2)	0.008
	Female	14.3	(16.2)	
Ineffectiveness	Male	18.8	(16.8)	0.034
	Female	13.1	(10.5)	

*By Mann-Whitney test.

Table 4. Parameters of the difference (pre – post intervention) in eating disorders scores by occupation in the intervention group.

Difference in scores	Employment	Mean	Mean rank	p*
Drive for thinness	Employee public sector	4.0	(3.3)	0.038
	Employee private sector	6.5	(6.5)	
	Self-employed	14.0	(15.1)	
	Unemployed	13.8	(15.1)	
Interpersonal distrust	Employee public sector	11.7	(15.5)	0.547
	Employee private sector	8.0	(11.0)	
	Self-employed	12.1	(15.6)	
	Unemployed	9.6	(11.3)	
Perfectionism	Employee public sector	11.0	(11.2)	0.635
	Employee private sector	12.5	(15.0)	
	Self-employed	12.4	(15.6)	
	Unemployed	10.8	(11.7)	
Bulimia	Employee public sector	6.0	(13.5)	0.485
	Employee private sector	7.5	(14.0)	
	Self-employed	2.6	(9.4)	
	Unemployed	7.1	(14.7)	
Maturity fears	Employee public sector	14.0	(13.2)	0.521
	Employee private sector	14.5	(17.3)	
	Self-employed	13.3	(15.3)	
	Unemployed	11.5	(11.1)	

Cont... Table 4. Parameters of the difference (pre – post intervention) in eating disorders scores by occupation in the intervention group.

Interoceptive awareness	Employee public sector	10.7	(10.7)	
	Employee private sector	11.5	(13.8)	
	Self-employed	11.0	(12.0)	
	Unemployed	11.9	(14.0)	0.875
Body dissatisfaction	Employee public sector	2.0	(4.8)	
	Employee private sector	6.5	(9.5)	
	Self-employed	5.3	(9.5)	
	Unemployed	15.5	(17.3)	0.017
Ineffectiveness	Employee public sector	18.0	(16.2)	
	Employee private sector	20.0	(17.3)	
	Self-employed	16.3	(13.2)	
	Unemployed	13.6	(11.5)	0.619

*By Kruskal Wallis test.

Table 5. Parameters of the difference (pre– post intervention) in eating disorder behaviors scores by income in the intervention group.

Eating disorders	Income	Mean	Mean rank	P*
Drive for thinness	Sufficient	18.0	(20.3)	
	Barely sufficient	6.7	(6.9)	
	Insufficient	14.5	(15.5)	0.005
Interpersonal distrust	Sufficient	12.3	(16.8)	
	Barely sufficient	8.0	(8.6)	
	Insufficient	11.7	(15.2)	0.069
Perfectionism	Sufficient	9.7	(7.3)	
	Barely sufficient	12.2	(14.8)	
	Insufficient	11.3	(13.1)	0.302
Bulimia	Sufficient	7.0	(16.5)	
	Barely sufficient	7.1	(14.4)	
	Insufficient	4.5	(11.2)	0.391
Maturity fears	Sufficient	11.7	(11.2)	
	Barely sufficient	12.4	(12.8)	
	Insufficient	12.8	(13.5)	0.877
Interoceptive awareness	Sufficient	10.7	(10.7)	

Cont... Table 5. Parameters of the difference (pre– post intervention) in eating disorder behaviors scores by income in the intervention group.

	Barely sufficient	11.4	(13.1)	
	Insufficient	11.7	(13.5)	0.834
Body dissatisfaction	Sufficient	11.7	(16.5)	
	Barely sufficient	11.4	(10.4)	
	Insufficient	9.2	(14.0)	0.357
Ineffectiveness	Sufficient	15.7	(13.8)	
	Barely sufficient	14.9	(12.1)	
	Insufficient	15.7	(13.4)	0.898

*By Kruskal Wallis test.

Conclusion

The findings indicated that the 6-sessions psycho-education program has great impact on the severity of depression and all component of eating disorder in patient diagnosed with depression in associated with eating disorder. The variance in the effect of this program had seen with difference socioeconomic status.

Financial Disclosure: There is no financial disclosure.

Conflict of Interest: None to declare.

Ethical Clearance: All experimental protocols were approved under the Family and Community Nursing Department and all experiments were carried out in accordance with approved guidelines.

References

1. Araya R , Rojas G , Gaete J , Rojas M. Treating depression in primary care in low-income women in Santiago, Chile: a randomized control trial. *Lancet*. 2003;361(9362):995-1000. PMID: 12660056.
2. Blinder B , Cumella E , Sanathara V. Psychiatric comorbidities of female inpatients with eating disorders. *Psychosomatic Medicine*, 2006;68:454-462.
3. Bordbar MR , Faridhosseini F. Psychoeducation for Bipolar Mood Disorder. Mashhad University of Medical Sciences. *Psychiatry and Behavioral Sciences Research Center*. 2012; 325.
4. Calvert F , Smith E , Brockman R , Simpson S. Group schema therapy for eating disorders: study protocol. *Journal of eating disorders*. 2018; 6: 1. PMID: 29344359.
5. Casañas R , Catalán R , del Val JL , Real J , Valero S , Casas M. Effectiveness of a psycho-educational group program for major depression in primary care: a randomized controlled trial. *BMC Psychiatry*. 2012;18(12):230. PMID: 23249399.
6. Colom F , Veita E. Psychoeducation for bipolar disorders, In: Kaplan & Sadok's Comprehensive textbook of psychiatry, 9th edition, Sadok B.J.; Sadok V.A. & Ruiz. P. (Ed). Lippincott Williams % Wilkins, New York. 2009;1822-1833.
7. Fairburn C , Cooper Z , Doll H , O'Connor ME , Bohn K , Hawker D , Wales J , Palmer R. Transdiagnostic cognitive-behavioral therapy for patients with eating disorders: A two-site trial with 60-week follow-up. 2009;166(issue 3): 311-319. PMID: 19074978.
8. Garner DM. Development and validation of a multidimensional Eating Disorder Inventory for anorexia nervosa and bulimia. *International Journal of Eating Disorders*, 1983;2:15-34.
9. Garner DM. *Eating Disorder Inventory-3. Professional Manual*. Lutz, FL: Psychological Assessment Resources, Inc. 2004.
10. Giovanni A , Carla G, Enrica M, Federico A, Maria Z, , Secondo F. Eating Disorders and Major Depression: Role of Anger and Personality. *Depression Research and Treatment*, Article ID 194732, 2011;7.
11. Godart NT , Perdereau F , Rein Z , Berthoz S , Wallier J, Jeammet P , Flament MF. Comorbidity studies of eating disorders and mood disorders. Critical review of the literature. *J Affect Disord*. 2007;97(1-3):37-49. PMID: 16926052.

12. Hudson J, Hiripi E, Pope H, Kessler R. . The prevalence and correlates of eating disorders in the national comorbidity survey replication. *Biol Psychiatry*. 2007; 61(3): 348–358. PMID: 16815322.
13. Juruena M F. Clinical research and treatment approaches to affective disorders. Published by In Tech, Janeza Trdine 9, 51000 Rijeka, Croatia. 2012; 325.
14. Paans NPG , Bot M , van Strien T , Brouwer IA , Visser M , Penninx BWJH. Eating styles in major depressive disorder: Results from a large-scale study. *J Psychiatr Res*. 2018;97:38-46. PMID: 29175296.
15. Pinto-Gouveia J , Carvalho SA , Palmeira L , Castilho P , Duarte C , Ferreira C1, Duarte J, Cunha M , Matos M , Costa J . BEfree: A new psychological program for binge eating that integrates psychoeducation, mindfulness, and compassion. *Clin Psychol Psychother*. 2017;24(5):1090-1098. PMID: 28124451.
16. Pisetsky E , Thornton L , Lichtenstein P , Pedersen N , Bulik C. Suicide attempts in women with eating disorders. *Journal of Abnormal Psychology*. 2013;122(4):1042-56. PMID: 24364606.