

Effect of family intervention on depressive symptoms, among patients with depression in conjunction with antidepressant medication

Mona A. El Bilsha

Correspondence:

Mona A. El-Bilsha; PhD.,
Psychiatric & Mental Health,
Mansoura University
Egypt
Email: elbilsha@yahoo.com

Abstract

Background: Depression is one of the most prevalent mental health disorders which causes persistent or recurrent symptoms leading to social and occupational impairment in addition to disability.

The aim of the study: The aim of this study was to assess the effect of family psycho-education intervention on depressive symptoms in patients with depression in conjunction with their antidepressant medication. The study was conducted in Mansoura University Psychiatric department.

Subjects and method: The study was carried out on 95 patients in the inpatient and outpatient Psychiatric department Mansoura University Hospital, Egypt. Ninety five families participated in this study (n = 95). Pre-tests and post-tests (n = 95), and 3-months after intervention were eighty eight (n = 88). A quazi experimental design was used in this study. This study examined all the male and female patients diagnosed with depression (DSM-IV). A structured interview questionnaire for personal data for patients and their caregiver, Beck Depression Inventory, Katz and Akpom Activity of daily living scale (ADL), were used to collect data.

Results: The findings of the study indicate that the performance of the ADL, and depressive symptoms improved after implementation of family intervention.

Conclusion: It can be concluded from the present study that ADL, and depressive symptoms in patients with depression improved after implementation of family intervention in conjunction with antidepressant drugs. This conclusion leads to accept the hypothesis of the study that family intervention along with antidepressant drugs improve the depressive symptoms among the depressed patients.

Key words: family intervention, Activity of Daily Living, Depressive symptoms, antidepressant medication.

Citation: Received: September 2018; Accepted: October 2018; Published: December 1, 2018. Citation: Mona A. El-Bilsha. Effect of family intervention on depressive symptoms, among patients with depression in conjunction with antidepressant medication. Middle East Journal of Psychiatry and Alzheimers. 2018; 9(2): 25-35. DOI: 10.5742MEPA.2018.93590

Introduction

Depression is one of the foremost prevailing mental states worldwide (WHO, 2017). In 2015 a survey conducted by World Health Organization estimates around 4.5% of the worldwide population suffer from the sequelae of depression. Therefore the total range of individuals with depression is estimated as 18.4% between 2005 and 2015. Depression has an effect on all age groups through childhood, adolescence, adulthood and elderly (Swan & Hamilton, 2014) It is common among adults (Kessler et al. 2005). Within the United States 12% of adolescents meet criteria for major depression (Merikangas et al. 2010),

Major depression (MD) is a universally occurring, extremely impairing, and often persistent mental disorder. (Spijker et al., 2004 ; Üstün et al., 2004 & Kessler, 2012). According to the World Health Organization (WHO) MD is considered the 4th leading cause of disability worldwide. Moreover, by 2020 it will become the 2nd leading cause of disability (Murray & Lopez 1996).

Historically, the main focus in the treatment of depression has been the use of anti-depressant medication (Keitner et al 2002). Depression may result in suicide. Suicide is considered the second leading cause of death in adolescence and early adulthood (WHO, 2017).

In 1999, Mansour and his colleagues studied the outcome of bipolar mood disorder in a sample of Egyptian patients and they found that 52.5 % get symptomatic recovery but 47.5 % get syndromal recovery and only 25 % of patients return back to base line in occupational and resident status scales and so are considered of good functional outcome.

Depression has a dramatic impact not only on those who suffer from it but also on their family members (Keitner et al., 2003). The past several decades have witnessed a dramatic increase in the number of individuals with depression worldwide (Boughton, 2009).

In Egypt, depression is a widely existing illness and the most prevalent and accounts for the majority of inpatients in the general mental hospitals (Okasha, 2006).

Family intervention is an effective therapy in treating people with depression. Family therapy for depression, is widely used across the developed countries, e.g. United Kingdom and United States (Henken et al, 2007).

Since there was not much reference to the use of family intervention in the Egyptian context, the current study aimed to assess the effect of family intervention in reducing the depression symptoms in patients in conjunction with antidepressant medication.

Aim of the Study

To assess the effect of family intervention in reducing depression symptoms in patients with depression in conjunction with antidepressant medication.

Research Hypothesis

Family intervention will improve depression symptoms in depressed patients in conjunction with antidepressant medication.

Methodology

Research Design:

It is a quasi-experimental design.

Setting:

The study was conducted in Mansoura Psychiatric Hospital. The hospital is located in Dakahlia Governorate, Egypt. The hospital serves three governorates: Dakahlia, Demiat and Kafer Elsheikh for psychotic and drug dependent patients. The inpatient clinics and the outpatient ward of the hospital were included. The inpatient wards consist of 80 beds and are divided into male and female units and the maximum stay at the hospital is one month.

Sample: Convenience sample of 95 hospitalized depressed patients and their relatives were selected and assessed to fulfill the inclusion criteria.

Informed consent was obtained from the patients and their relatives to be enrolled in the study and they received:

- a) Standardized pharmacological treatment.
- b) Family psycho-education in 12 sessions (which ranged from two to three sessions per week). Patients and families participated together in the program, which was designed to educate them about depression, increase their awareness of the impact of stress and depression on daily life, help families recognize and monitor stress, help the patients and their families to develop good coping skills to manage stress and improve communication skills.

A) Inclusion criteria

- 1- Patients with diagnosis of major depression according to patients' records.
- 2- Age 18-60 years old.
- 3- Families of patients with depression
- 4- Sex: Both males and females.
- 5- Giving informed consent before enrolment in the study.
- 6- Have at least one available caregiver willing to be enrolled in the study.

B) Exclusion Criteria:

- 1- Presence of psychiatric co-morbidity (alcohol or other substance abuse or personality disorder).
- 2- Presence of mental retardation, developmental disability and neurological disorder.
- 3- Living alone.

4- Inability to understand the educational material presented in the program due to a clinically evident handicap, cognitive impairment or acute psychiatric pathology.

Tools for data collection:

Three tools were used to collect the data and these included:

Tool I: based on the related review of literature, a semi structures interview sheet was developed which included socio-demographic and clinical data of the depressed patients and their family caregivers.

- a- Socio-demographic characteristics of the depressed patients such as age, gender, level of education, marital status, and occupation.
- b- Clinical data of the patients including: duration of illness, mode of admission, family history, suicidal thoughts, support system, smoking habits, eating and sleeping habits.

II- Beck Depression Inventory-II (BDI-II; Beck, Steer, Ball, & Ranieri, 1996) published in 1996, has widespread use amongst researchers. Patients were assessed before and after the intervention to evaluate the changes in the depression symptoms and the effect of family intervention on them. The scale consists of 21 items, with a Likert scale from 0 to 3, 1 – 10: These ups and downs are considered normal, 11 – 16: Mild mood disturbance, 17 – 20: Borderline clinical depression, 21 – 30: Moderate depression, 31 – 40: Severe depression, over 40: Extreme depression.

III-Katz and Akpom Activity of Daily Living scale (ADL):

This scale was designed originally by Katz and Akpom (1976) to measure activities of daily living. The scale is composed of 6 six main ADL: bathing, dressing, feeding, transfers, continence and ambulation. The 6 items are rated on a Likert scale that ranges as follows: 1= independent, 2= partial dependent, and 3= dependent. They are categorized into three levels of dependency: fully independent score 6 points, partial dependent score from 7 to 12 points and totally dependent score 13 to 18.

-Assessment phase: Assess depressive symptoms of 95 patients by using Beck Depression Inventory, Activities of daily living, personal hygiene, social interaction, sleeping and eating patterns.

-Designing phase: Family intervention was designed for 12 sessions for two-three sessions/week. Firstly, start on the individual level, then small group and then in large group.

-Implementation Phase: Implementation of the family intervention designed for 12 sessions for 2-3 sessions/ week. Firstly, start on the individual level, then in small group and in large group.

- Evaluation phase: Evaluate the effect of the implementation of family intervention on the depressive symptom by use of Beck depression inventory, and

ADL scale one month after and three months after implementation of family intervention for 88 patients.

- Intervention

Family intervention was conducted three times a week for 4 weeks. The intervention components included the following:

- 1- Engagement of family and building connection with caregivers.
- 2- Education about illness which was designed to enhance generalization to real world and promote a supportive family environment. It included the following:
 - a- Understanding the nature of the illness
 - b- Main symptoms and early identification of symptoms
 - c- Identification of triggering factors
 - d- Treatment: mood stabilizers, antipsychotics and antidepressants.
 - e- Family treatment: enhancing compliance planning of coping strategies
 - f- Other main issues: suicidal thoughts, hospitalization, and counselling on genetic factors.
- 3- Problem solving and communication skills including prevention and management of family stress.
- 4- Social skills training.

Results

- Socio-demographic characteristics of depressed patients and their caregiver.
- Depression symptom pre and post implementation of family psycho education intervention.

Part I: Socio-demographic and clinical characteristics of the studied patients:

Table (1) shows that, more than three quarters (84%) of the study's ages ranged between 18 and 55 years. More than half were females; around one third of the patients are illiterate and more than one fifth just read and write. More than one third of the study samples (35.8) are single and more than half of the samples (52.6%) are unemployed.

Table (2) illustrates that (63.2%) were admitted to the psychiatric hospital involuntarily; also, more than half (56.8%) have family history of mental illness. Also, about the same percentage (52.7%) have their date of beginning of illness as 10 years and more. Nearly one quarter of the samples (24.2%) are smokers, (58.9%) have suicidal thoughts and more than two thirds (76.8%) have enough support system.

Table (3) shows that, more than half of the caregivers of the depressed patients (52.6%) their ages are either late adulthood or elderly; the majority of them (93.7%) are females, about three quarters of the caregivers are either parents or partner, which represents (44.2%) and (29.5%) respectively.

Table 1: Socio-demographic characteristics of the study sample

Socio-demographic characteristics	No	%
Age		
From 18 to less than 35	47	49.5
From 35 to less than 55	33	34.7
55 years and more	15	15.8
Gender		
Male	46	48.4
Female	49	51.6
Educational level:		
Illiterate	31	32.6
Read and write	22	23.2
Technical diploma	25	26.3
Higher education	17	17.9
Marital status		
Single	34	35.8
Married	48	50.5
Divorced	7	7.4
Widow	6	6.3
Occupation		
Not working	13	13.7
House wife	37	38.9
Employee	26	27.4
Technical work	19	20
Total	95	100

Table 2: Clinical characteristics of the studied depressed patients

Clinical data	No	%
Mode of admission		
Voluntary	35	36.8
Involuntary	60	63.2
Family history		
No	41	43.2
Yes	54	56.8
Duration of illness		
One years –less than 4 years	27	28.4
From 4-less 10 years	15	15.8
From 10 years – less than 15 years	22	23.2
15 years and more	28	29.5
Smoking habits:		
No	72	75.8
Yes	23	24.2
Presence of suicidal thoughts		
No	39	41.1
Yes	56	58.9
Support system		
Not adequate	22	23.2
Adequate	73	76.8
Total	95	100

Table 3: Socio-demographic characteristics of the studied caregivers

Items	No 95	% 100
Age		
Adolescent/early adulthood	22	23.2
Middle adulthood	23	24.2
Late adulthood	29	30.5
Elderly	21	22.1
Gender		
Male	5	5.3
Female	89	93.7
Degree of relative		
Parents	42	44.2
Partner	28	29.5
Sister/brother	7	7.4
Daughter/son	11	11.6
Daughter/son in law	7	7.4
Total	95	100

Part II: Depression symptoms pre, post immediately and three months after implementation of psycho education intervention.

Table (4) illustrates the clinical characteristics (depressive symptoms) among the depressed patients in the study sample. Regarding social withdrawal, all depressed patients suffering from social withdrawal changed to (12.6%) immediately after intervention and decreased to (5.7%) three months after implementation of family intervention. In relation to sleeping hours, of the ninety five patients, 87 (91.6%) who slept less than 4 hours, and 8.4% who slept from 4 to less than 6 hours, immediately after implementation of family intervention more than half of the patients (59%) slept from 6 to 8 hours and more a night and three months after implementation of family intervention this changed to about 95%.

The same table (4) illustrates that the majority of the patients (88.4%) were completely dependent in relation to ADL. While immediately after implementation, partially dependent and independent represented 71.6 % and 27.4%, respectively. This percentage changed to partially dependent (13.7%) and independent (88.4%) three months after implementation of family intervention. Concerning eating habits, the majority of depressed patients (90.5%) eat less than normal or refuse to eat. After implementation of the intervention about three quarters of the patients (72.6%) ate with encouragement and around one fifth (18.9%) ate without encouragement and three months after implementation this percentage reached (76.8%) who ate alone and (23.2%) who ate with encouragement. The same table also illustrates the prevalence of depressive symptoms among the patients where according to Beck depression scale, all of the patients had severe and extremely severe grade of depressive symptoms. After implementation of the intervention 93.7% experienced mild, moderate depression and immediately after

implementation of the intervention (28.4%) had mild/moderate depression three months after implementation of family intervention.

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Table (5) presents the correlation between depressive symptoms and personal hygiene and activity of daily living. It shows statistically significant positive correlations among all these parameters. The strongest of these correlations was between depression & ADL three months after implementation of the intervention ($r=0.616$). Conversely, there is a statistically significant negative correlation among support system and presence of depression one month and three months after implementation of family intervention.

Table 4: Clinical characteristics of the depressed patients pre, immediately, post and three months after implementation of family intervention

Items	Baseline (96)		Immediately post (95)		3 months after (88)		Test of significance	
	No	%	No	%	No	%	T	P
Beck depression scale								
- Normal	0	0	6	6.3	63	71.6	Friedman Test Chi-Square =164.99 P= .000	
-Mild/borderline/moderate	0	0	89	93.7	25	28.4		
- Severe / extreme	95	100	0	0	0	0		
Social withdrawal								
No	0	0	83	87.4	83	94.3	Friedman Test P= 0.000	
Yes	95	100	12	12.6	5	5.7		
Activity of daily living:								
Independent	0	0	27	28.4	76	86.4	Friedman Test Chi-Square =162.28 P= .000	
Partially dependent	11	11.6	68	71.6	12	13.6		
Dependent	84	88.4	0	0	0	0		
Eating habits								
Eat all amount without encouragement	9	9.5	18	18.9	68	77.3	Friedman Test Chi-Square =144.4 P= .000	
at with encouragement	0	0	69	72.6	20	22.7		
Food refusal/less than normal	86	90.5	8	8.4	0	0		
Sleeping hours:								
Less than 4 h – less 6 h	95	100	39	41.1	4	4.5	Friedman Test P= 0.000	
From 6 h – 8 h and more	0	0	56	58.9	84	95.5		
Total	95	100	95	100	88	100		

Table 5: Correlation between depression and support system, personal hygiene and ADL pre and post intervention

Parameters	Sign	Depression 1 Month After	Depression 3 Months After
Support system	r		-0.302-**
	p		0.003
Social isolation one month after	r	-0.032-	-0.103-
	p	.762	.337
Social isolation 3 months after	r	0.066	0.172
	p	0.539	0.109
Sleeping hours pre	r	-.077-	-.199-
	p	0.458	0.063
Sleeping hours 1 month after	r	-.217-*	-.003-
	p	.035	.978
Sleeping hours 3 months after	r	-.0110-	-.127-
	p	.288	.238
ADL 1 month after	r	.316**	
	p	.002	
ADL 3 months after	r		0.631**
	p		0.000

Analysis of the Results

Data were analysed using SPSS (Statistical Package for Social Sciences) version 20. The data were examined for normal distribution. Qualitative data were presented as a number and percent. Comparison between groups was done by Chi-Square test. $P \leq 0.05$ was considered to be statistically significant.

Limitations of the study:

The rapid discharge of the patients made it difficult to achieve follow up in the inpatient department so we followed up the patients and their caregiver at outpatients' clinic after one month and three months. Hence follow up was made after only one month and three months of intervention. But it was too difficult to follow up the patients after 6 months or more. Also, some patients and their caregiver were illiterate so we depended on the caregiver recall instead of writing. Some patients (7 patients) dropped out of the study during follow up three months after.

Discussion

Depression is the most common psychiatric disorder worldwide. It affects the patients and their families, therefore family psycho-education has been established to intervene and teach effective coping strategies either for the patients or their families (Fallahi et al., 2014) and (Yazici et al., 2016). Moreover, some studies have reported that family psycho-educational interventions significantly reduce depressive symptoms and decrease caregivers' burden (Bernhard et al., 2006) and (Perlick et al., 2010). So, the present study aimed to find out the effect of family intervention on the depressive symptoms among depressed patients in conjunction with their antidepressant medication. It was hypothesized that family intervention will improve depression symptoms in depressed patients in conjunction with antidepressant medication.

The present study showed that around half of the patients' ages ranged from 18 to 35 years and illiteracy was prevailing among one-third of the studied sample, which is expected because more than half of the patients were females and to the minimal weight given to female education especially in rural areas. Moreover, more than one third of the study samples are single and more than half of the patients are not working. This explains the effect of mental illness especially depression on the social and occupational life of the patients. This is in agreement with previous studies in the Egyptian population. (El-Bilsha, 2013) and (Ibrahim 2012). Regarding caregiver gender, the majority of the caregivers were female; more than half of them were in adulthood or elderly. In relation to the degree of relation to patients, mothers or wives of the patients were the main caregivers. This is expected because females are responsible for caring for all family members especially the sick members. In addition, most of the patients live in rural areas where the extended families are common. Mothers as caregivers represent less than half of the studied samples. This may be related to the

nature of the extended families. More than one third of the patients were single which means that mothers are responsible for their care and this reflects the nature of the women in Egyptian culture. These results are similar to the previous studies by (Wong, Lam & Chan 2011) and (George, Sharma & Sreekumaran 2015) who showed that more than half of the caregivers were females, were married and housewives. In line with the foregoing, (El-Mahdi et al., 2010) & (Souza et al., 2016) mentioned that mothers, wives and daughters were most of the caregivers. In contrast, studies done in Portugal (Goncalves et al., 2011) and (Ranjbar et al., 2015) showed that the most of the caregivers were male.

Regarding the activities of daily living and personal hygiene, it was observed that the majority of the patients neglect personal hygiene and are dependent in performance of ADL and only one fifth of the patients undertake personal hygiene with encouragement. This is expected because depression is marked by neglect of personal hygiene, and loss of energy and interest or pleasure, and social and occupational impairment.

After implementation of the family intervention the present study revealed that there is a statistically significant improvement of activities of daily living and personal hygiene. This may be related to improvement of depression symptom through improvement of interpersonal relationships among patients and their families, anxiety outlets, adherence to medications and support from the family members. This is in agreement with the previous studies (El-Bilsha, 2013) and (Katz and Keren, 2011) who concluded that there were significant differences in relations between activity therapy and activities of daily living. Moreover, there is a previous study (Eran et al., 2012) (35) that suggests that remission of post-stroke depression over the first few months after stroke is associated with greater recovery in ADL function than continued depression. Early effective treatment of depression may have a positive effect on the rehabilitation outcome of stroke patients.

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People with mental health problems remain highly isolated from the community (Newlin et al., 2015). The present study reported that all of the depressed patients have social isolation. This may be due to the fact that depression is characterised by social withdrawal and it is described as a withdrawal pattern of behaviour in addition to the effect of negative thoughts like hopelessness, helplessness, lack of interest and motivation, and suicidal thoughts which cause the depressed patients to withdraw from the environment and interpersonal relationships. All of this leads to feelings of isolation. On the same line, (Bauer et al., 2012) highlighted that chronic mental disorders like depression largely result in serious problems such as social and occupational impairment and poverty, even in times when the patient is free from symptoms.

After implementation of psycho-educational intervention social isolation represented only 13% of the study sample one month after, and decreased to 6% three months after implementation of family intervention. This may be related to the effect of family intervention in a form of social support in conjunction with antidepressants. This is in agreement with a study conducted by El-Bilsha, 2005 on Egyptian elderly people who experience depression and loneliness which concluded that there was an improvement of social interaction after implementation of activity therapy.

The present study reported that more than two thirds of the studied samples have enough support system. This reflects the Arab culture, which emphasizes the importance of the role of families and friends in supporting patients according to the teachings of Islamic law. But still there is insufficient support and they need more support for both patients and their families. In line with the foregoing, (Griffiths et al., 2011) recommended the importance of family and friends in supporting people with depression. Moreover, there is some evidence that (Christensen et al. 2006) found that an internet psycho-educational intervention was effective in reducing depressive symptoms.

In relation to sleeping patterns and eating patterns, the present study showed that the majority of the depressed patients have insomnia and anorexia but after implementation of the family psycho-educational intervention in the present study, the results showed statistically significant improvement of eating and sleeping patterns. This can be explained by the fact that depressed patients may suffer from food refusal due to delusion of guilt, sin and self-blame, hopelessness, helplessness, loss of interest and suicidal thoughts in addition to the anxiety which may affect sleeping pattern. Add to that, most depressed patients suffer from early insomnia especially with suicidal thoughts. The foregoing result is in congruence with (Furukawa, 2010) and (McKenna, & Eyler, 2012) who reported that the onset of depressive or

manic episodes mostly begin with mood changes, sleep disturbance, psychomotor disturbance, and appetite changes. In addition, elevation of patient's anxiety may also occur up to 3 weeks before the developing of manic episodes.

Depression is one of the most common mental health conditions and is the leading cause of disease burden worldwide. Several studies reported that family interventions have been shown to boost treatment response and adherence and to decrease relapse in the treatment of other disorders such as schizophrenia and bipolar disorder (Dixon et al., 2010; Glynn, Cohen and Niv, 2007; Rea et al., 2003).

The study results indicated that all of the patients had severe and extremely severe grade of depressive symptoms according to Beck depression scale which changed to mild and moderate grade of depressive symptoms after one month of implementation of the intervention and more than one quarter of the studied sample had mild/moderate depression three months after. The differences are statistically significant. This may be due to the effect of family intervention in conjunction with antidepressants, which decrease level of anxiety through expression of feeling, enhancement interpersonal relationships and social interaction, moreover the effect of support system, the effect of medication, which decreased level of anxiety through the expression of feeling, enhanced interpersonal relationship and social interaction, enhance social support which lead to improved adherence to medication, encouraged independence in ADL performance and personal hygiene, improved eating and sleeping habits. It might also enhance anxiety outlets, decreased feeling of anxiety, helplessness and hopelessness. All these factors enhanced feelings of self-esteem and decreased feelings of depression. This is in agreement with (Henken et al, 2007) who concluded that family intervention is an effective therapy in treating people with depression. Family therapy for depression, is widely used across the developed countries, e.g. United Kingdom and United States.

Moreover, (Mittleman, et al., 2004) concluded that sustained counselling and support lead to reduced depressive symptoms in spouse-caregivers of Alzheimer's disease patients.

Noosha and her colleague studied the effect of a brief psycho-educational intervention for family members of depressed veterans in primary care. They found Veterans showed a decrease in depression severity, improvements in symptom and occupational global functioning, and an increase in general life satisfaction (Noosha et al., 2018). Moreover, (Uebelacker, Hecht and Miller, 2006) reported that family therapy decreased depressive symptoms among individuals who received family therapy. Similarly, (Miller et al., 2005) and (Lemmens et al., 2009) showed that Participation of family members in the treatment of depression has also led to enhanced outcomes, such as higher rates of treatment response, an earlier treatment response and improvements in symptom severity.

The present study hypothesis was that family intervention will improve depression symptoms in depressed patients in conjunction with antidepressants medication. The findings of the study revealed that depressive symptoms improved after implementation of family intervention. Therefore, these findings lead to acceptance of the study hypothesis.

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