

Psycho-educational Intervention: Its Effect on the Psychological Distress and Optimism Among Family Caregivers of Patients with Bipolar Disorder

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Abstract

Background: Bipolar disorder is a periodic and long-standing psychiatric disorder not only affects the patients but also affects the quality of life and psychological wellbeing of their families. **Aim:** This study aimed to evaluate the effect of a psycho-educational intervention on the psychological distress and optimism among family caregivers of patients with bipolar disorder. **Setting:** This study was conducted at the outpatient clinic affiliated to Abbassia mental health hospital. **Subjects:** a purposive sample of 60 family caregivers of patients with bipolar disorder from the previously mentioned setting. **Tools:** Three questionnaires were used: **1)** An interview questionnaire to assess demographic characteristics, knowledge, and reported practice among the studied caregivers **2)** Psychological distress measured by the Brief Symptom Inventory, and **3)** Life Orientation Scale to assess optimism. **Results:** The study results showed that there were significant differences between the pre and post-test in the four variables; knowledge, practice, psychological distress, and optimism; the P-Value was significant at 0.01 in knowledge and significant at 0.05 in practice, Brief Symptom Inventory, and the Life Orientation Scale. **Conclusion:** the psycho-educational intervention has a positive effect on reducing psychological distress and promoting optimism among family caregivers of patients with bipolar disorders. **Recommendation:** A continuous and periodic rehabilitation program should be conducted for family caregivers to improve their coping skills, optimism, and their quality of life.

Keywords: psychological distress- optimism- family caregivers-bipolar disorder

Introduction

Bipolar disorder is a major mental illness that follows a pattern of recurrent manic, hypomanic, depressed, or mixed episodes. Bipolar disorder is associated with significant impairment in personal and social functioning for the individual and their caregivers (Matthews, Murnan & Snyder, 2017).

The World Health Organization estimates that one in four families has one member with a psychiatric disorder; consequently, family members become primary caregivers who provide care to them (Rahmani, Ranjbar, Hosseinzadeh, Razavi, Dickens, & Vahid, 2019). The caregiving process can negatively affect the family caregiver's physical, psychological, financial, social life, family functioning, and marital relationship, resulting in poor physical health, social isolation, increased stress, and burden (Pompili, Harnic, Gonda, Forte, Dominici, Innamorati & Rihmer, 2014).

Studies of the impact of assuming such responsibilities have found that caregivers of

patients with bipolar disorder report high levels of physical health problems and psychological distress or depression. Caregivers of people with mental illness report more depressive symptoms than are reported by the general population with particular concerns to caregivers of persons with bipolar disorder. Caregivers who are overburdened experience high levels of the stress connected to their patients' problems; they experience less self-care and have poorer health outcomes (Perlick, Berk, Kaczynski, Gonzalez, Link, Dixon, & Miklowitz, 2016).

Family caregivers' main function is helping to meet the dependent person's basic and instrumental needs of daily life. So, the caregivers are exposed to various challenges and stressors on a daily basis, which make them feel a loss of personal control, resulting in physical and emotional alterations that can lead to the 'Caregiver syndrome', and confrontation of a wide variety of risk factors that undermine their well-being (Perez & Marques, 2018).

Every new relapse is a stressful event that creates painful feelings, disturbs the patient's life and family's equilibrium, and affects the roles of each family member, necessitating the development and adjustment of coping strategies. In order to care for the patient, caregivers frequently neglect their own and other family members' needs (Reinares, Bonnín, Hidalgo-Mazzei, Sánchez-Moreno, Colom, & Vieta, 2016). The caregiver may also feel guilty for contributing to the disorder, or he or she may reject the person/patient and get upset because the disorder is affecting or spoiling his or her life (Pompili, et al., 2014).

Even when the patient is in remission, the worry of a recurrence or relapse is present. The caregivers' responsibilities can be stressful and demanding, especially when they don't have enough knowledge, support, or training in coping skills. The family caregiver may feel that worrying about their own health is less important than caring for the patient's needs. Because patients are unable to return to work, school, or other daily activities for such a long time, they may become frustrated and distressed (Van der Walt, & Carbonatto, 2019).

On the other hand, caregivers who are distressed may act differently toward the patient, which may have an impact on the therapeutic outcome (Pompili, et al., 2014). Caregivers who experience higher levels of burden in caring for patients with bipolar illness have a negative influence on the course of the illness, particularly on the patient's medication adherence and the probability of recurrent mood episodes, in which living in a dysfunctional family is associated with more frequent relapses and hospitalizations, lack of compliance, and a worse social functioning (Fiorillo, Del Vecchio, Luciano, Sampogna, De Rosa, Malangone, & Maj, 2015).

In addition, Caregiver distress can be increased by the high risk of suicidality in bipolar patients as up to 59% of patients may exhibit suicidal ideation or behavior during their lifetime. Research has shown that family support is critical in the treatment and care process (Jönsson, Skärsäter, Wijk, & Danielson, 2011).

Optimism for a better future in a stressful condition, such as chronic disease, could indicate hope as a way of dealing with the future (Schiavon, Marchetti, Gurgel, Busnello, & Reppold, 2017). For caregivers, this could be hoping for the patient's recovery or hoping that the caregiver would recover from the trauma of the loss as well. In any case, a positive anticipatory state has been discovered to be a valuable resource in the case of mental illness (Duggleby Holtslander, Kylma, Duncan, Hammond, & Williams, 2010), self-confident and optimistic approach increases, the care burden decreases, and as the helpless and pessimistic approach increases the care burden increases (Ayyıldız, & Gümüş, 2019).

Psychoeducational intervention for caregivers of bipolar patients can be effective for both those who live with patients and caregivers of patients who have more social dysfunction. Its objective is to improve conditions of understanding and comprehension of the addressed pathology, as well as highlight and reinforce the patient's positive characteristics. Psychoeducation is an efficient method of easy integration in the treatment of patients with mental disorders and among other populations. Studies have reported direct benefits for patients with BD when caregivers received the psychoeducational intervention and improve long-term outcomes, especially in Stage I bipolar patients (Fiorillo, et al., 2015; & Reinares, et al., 2016).

Significance of the study

Patients with bipolar disorders need an atmosphere that helps them to increase their compliance with medical treatment and improve interpersonal skills in everyday life independently. Creating such a healing climate is dependent on the caregiver who is capable of detecting and reinforcing positive patients aspects. According to previous literature, caregivers who experience higher levels of burden in caring for patients with bipolar disorder have a negative influence on the course of the disease process. A pessimistic view of the nature of bipolar disease remission by the caregiver due to the traumatic loss of a loved one may play a role in increasing the sense of distress for an adverse condition and poor clinical outcomes.

In response to alleviate caregivers' burden and change their pessimistic perception, psychoeducation interventions are an efficient method that can be applied by a psychiatric mental health nurse to caregivers who are often struggling to cope in their caregiving role with an enhanced sense of hope and skills for managing the relative's illness, defining self-care goals, and resolving barriers to patient.

Aim of the study:

This study aimed to evaluate the effect of the psycho-educational intervention on the psychological distress and optimism among family caregivers of patients with bipolar disorder through the followings:

This aim was achieved through:

1. Assessing the family caregivers' needs in terms of knowledge and practice before implementing the psycho-educational intervention.
2. Assessing the pretest scores of the psychological distress and optimism scales before implementing the psycho-educational intervention.
3. Developing and applying the psycho-educational intervention based on the 1st assessment.
4. Evaluate the effect of the psycho-educational intervention on knowledge, practices, psychological distress, and optimism among family caregivers of patients with bipolar disorder compared to their basic assessment.

Research Hypothesis:

The psycho-educational intervention has a significant effect on the psychological distress and optimism among family caregivers of patients with bipolar disorder compared to their basic assessment.

Subjects and Methods

Research design:

A quasi-experimental design on one group pre/post assessment was utilized.

A- Setting:

This study was conducted at an outpatient clinic affiliated to Abbassia mental health hospital.

B- Subjects:

A purposive sample of family caregivers of adult patients diagnosed with bipolar disorder. The study sample was selected based on inclusion criteria: those who were bearing the primary responsibility of patients, older than 21 years old, primary caregiver for at least last one year, taking care of a patient in the form of caring for and following their needs, following up their medication regime, on regular follow up in the outpatient clinic, and continuing communication with the hospital staff and being called during an emergency, not suffering from severe physical illness or mental disorders, didn't receive previously any form of psychoeducation about the disorder, and agreeing to participate in the study after being informed about it.

The sample size was determined according to Statistical records of the previously mentioned setting 2019; the total number of patients with bipolar disorders was 700 cases. The total size of the sample is estimated based on the subjects' inclusive criteria and their willingness to participate in the current study as well as the statistical calculation formula. In the experimental group, a power of 90%, a confidence interval of 95%, with a margin of error accepted and adjusted to 5%, and the significance level at 0.05. The sample size is statistically enough to detect a significant mean difference between the pre and post-test after psycho-educational intervention implementation.

The sample size was calculated by **Lemeshow, Hosmer& Klar, Lwanga, & WHO, 1990**, using the following formula:

$$n = \frac{2\delta^2(Z_{1-\frac{\alpha}{2}} + Z_{1-\beta})^2}{(\mu_1 - \mu_2)^2}$$

So that the estimated sample size of 60 family caregivers of patients with bipolar disorder was involved in the current study.

C- Study Tools: All the study tools were translated into a simple Arabic language as follows:

I: An interview demographic questionnaire was designed based on the related literatures (**Perlick, Miklowitz &**

Lopez, Chou, Kalvin, Adzhiashvili, & Aronson 2010; & Mourad & Abd El-Saliheen, 2016) to assess four parts

1. **Demographic characteristics of family caregivers of patients with a bipolar disorder** such as gender, relationship to the patient, educational level, and duration of caregiving
2. **characteristics of patients with bipolar disorder** such as age, duration of illness, numbers of previous hospital admission, and residence place
3. **Questions to assess caregivers' educational needs about bipolar disorder** include 10 questions (meaning (one item), predisposing factors (two items), manifestations (two items), treatment (two items), and care management (three items)).

Scoring system: two grades were given for the correct answer and one grade for the incorrect answer. The total level of caregivers' knowledge score was categorized as follows:

Unsatisfactory level < 60 % (0 < 12)
Satisfactory level ≥ 60 % (12 ≤ 20)

4. **Questions to assess caregivers' needs for practices in caring for their patients and dealing with risky and undesirable behaviors because of their mental illness, includes 13 questions.**

Scoring system: Each question has the answer with Always=2 degree, sometimes=1 degree, and never = zero degrees.

Unsatisfactory level < 75 %. (0 < 19.5)
Satisfactory level ≥ 75 % (19.5 ≤ 26)

II: The Brief Symptom Inventory (BSI): 53 items were developed by **Derogatis, 1975**, to measure a person's psychological symptoms. It also was applied to determine the psychological health conditions among family caregivers (**Neil, 2003; Razani, Kakos, & Orieta-Barbalace, Wong, Casas, & Josephson 2007**). It involves 9 symptoms dimensions: 1- Somatization (items 2, 7, 23, 29, 30, 33, 37) e.g. having faintness or dizziness, having pains in the heart or chest; 2- Obsession-Compulsion (items 5, 15, 26, 27, 32, 36) e.g. trouble

remembering things, having to check and double-check what you do; 3-Interpersonal Sensitivity (items 20, 21, 22, 42) e.g. Your feelings being easily hurt, Feeling inferior to others; 4- Depression (items 9, 16, 17, 18, 35, 50) e.g. thoughts of ending your life, feeling lonely; 5- Anxiety (items 1, 12, 19, 38, 45, 49) e.g. nervousness or shakiness inside, suddenly scared for no reason; 6- Hostility (items 6, 13, 40, 41, 46) e.g. feeling easily annoyed or irritated, temper outbursts that you could not control 7- Phobic Anxiety (items 8, 28, 31, 43, 47) e.g. feeling afraid in open spaces, feeling uneasy in crowds; 8- Paranoid Ideation (items 4, 10, 24, 48, 51) e.g. feeling others are to blame for most of your troubles, feeling that most people cannot be trusted; 9- Psychoticism (items 3, 14, 34, 44, 53) e.g. the idea that you should be punished for your sins, never feeling close to another person. Items 11, 25, 39, and 52 are not involved in any of the 9 symptoms dimensions but are included in the scale due to their clinical importance and are included in the total scale scores e.g., poor appetite, trouble falling asleep. Each item is rated on a 5-point Likert scale ranging from 0 (not at all) to 4 (extremely). Ratings describe the person 's severity of distress over the past week.

Scoring system: The total scores of each dimension are determined by summing the values for the items and the resulting score is divided by the number of items. The higher scores of each dimension as well as the grand total scores of BSI indicate the greater scores of caregivers' psychological distress.

III: The Life Orientation Scale (LOT-R): 10 items were developed by **Scheier, Carver, & Bridges, 1994**, to assess the optimism versus pessimism among caregivers in relation to specific situations. It also assesses the subjects' adaptation in relation to their psychological well-being as well as identifies their willingness to support their patients with bipolar disorders. This scale includes 3 items (1, 4, 10) that measure optimism, 3 items (3, 7, 9) measure pessimism, and 4 items (2, 5, 6, 8) that serve as fillers. Each optimism item is rated

on a 5-point Likert scale: ranging from 0 (strongly disagree) to 4 (strongly agree), while the rate of pessimism items is vice versa.

Scoring system: The overall scores are the sum of optimism and pessimism items (1, 3, 4, 7, 9, 10). the four filler items are not included in the total score estimation. Higher scores indicate more optimism among subjects.

IV: The psycho-educational intervention was designed by researchers obtained from the standardized references (Perlick, et al., 2010; Rexhaj, Leclerc, & Bonsack, Golay, & Favrod, 2017; Rezaei, Bayani, Mokhayeri, Waye, Sadat, Haroni, & Armoon, 2018; and Mirshah, Zarei, & Bahreini 2019) to reduce psychological distress and promote optimism among study subjects. It includes 8 sessions: simple information about bipolar disorder and its care management (2 sessions), caregiver practices such as dealing with undesirable patient behaviors, managing their activities of daily living, seeking social support, managing emotional distress and loneliness because of the caregiving role, and using effective communications. practicing simple exercises and relaxation to help them manage painful emotions and spending pleasurable times. The researchers used educational strategies in the form of discussion, role play, the booklet. The content was revised by a jury of 3 psychiatric mental health nursing experts to confirm its validity for covering objectives, the accuracy of information as well as its representativeness,

Tools validity and reliability:

1) Validity:

The Content validity was reviewed by 3 specialists in the psychiatric/mental health nursing department, Faculty of Nursing, Ain shams university. Tools with the Arabic language were checked for their relevance, clarity, comprehension, ease, and applicability. After that, some modifications were done.

2) The Reliability:

The reliability of tools was checked and approved high-reliability value, by the Cronbach alpha coefficient statistical test. It

was 0.89 for the interviewing questionnaire, 0.93, for the Brief Symptom Inventory (BSI), and 0.91 for The Life Orientation Scale (LOT-R).

Pilot study

A pilot study was conducted on a sample of 6 family caregivers of patients with bipolar disorder in the outpatient clinic to test the tools for their applicability and to ensure that the subjects had a comprehensive understanding of the tools as well as the time needed to collect data, accordingly necessary modifications were done. Subjects who shared in the pilot study were excluded from the main study sample.

Ethical considerations

The research permission was obtained from the ethical committee in the faculty of Nursing, Ain Shams University, and from the Director of Al-Abbassia Mental Health Hospital. Furthermore, written informed consent was obtained from the study subjects after their agreement to take part in the current research. The researchers assure that all the subjects' information is confidential, and all data was dealt with anonymity. The subjects were also informed that they have the right to continue or withdraw at any time of the study.

Fieldwork:

The current study was initiated in September 2019 and had been finished in March 2020. During this period, the study was conducted through the following consecutive phases:

A. Assessment Phase: During this phase, the researchers selected and interviewed the subjects who met the study criteria for assessing their needs and the study tools. The objectives were explained to the subjects and their approval and informed consent were obtained from them. The data were taken from each subject within 45 minutes. The assessment phase took about 2 months 2 days per week (Monday and Tuesday)

B. Implementation phase:

The psycho-educational intervention was applied to the study subjects in 8 consecutive sessions aiming at reducing psychological distress and promoting optimism among study subjects. Each caregiver was acquainted with essential knowledge including simple information about bipolar disorder such as the

meaning of disease, signs and symptoms, predisposing factors, and care management (session1&2) the researchers provided the disease information on a videotape. Between the breakpoints, the researchers stop the video to summarize and illustrate the knowledge as well as ensure that each subject understood the information. Furthermore, each subject was acquainted with practical skills including dealing with undesirable patient behaviors, managing activities of daily living, seeking social support, managing emotional distress and loneliness because of the caregiving role, and using effective communications. practicing simple exercises and relaxation and spending pleasurable times (from session 3 to session 8). All information and practice were repeated and illustrated to the subjects to ensure that each subject understand and comprehend all learned information and practices. The researchers had met each study subject individually or in a group; each group does not exceed 10 in number. Each subject was met one day per week whether on Monday or Tuesday. Meeting in a group can facilitate learning among study subjects through expressing feelings, exchanging experiences, as well as enhancing interaction with each other. The session duration ranged between 1 to 2 hours. Follow-up and phone calls were conducted to know the subjects' attendance in the outpatient clinic. The researchers gave the booklet to the subjects as referral guidelines at their homes.

C. Evaluation phase:

The 2nd assessment was obtained after implementing the psycho-educational program (posttest) from the subjects by using study tools. The results were compared before and after the psycho-educational intervention to evaluate the effectiveness of the program.

Data analysis:

Data entry and statistical analysis were done using the Statistical Package for Social Science (SPSS) version 25.0. Data were tabulated, coded, revised, and analyzed using number and percentage distribution and comparisons between pre and post-tests by using the paired T-test in the form of mean, standard deviation, and Pearson correlation. Statistical significance was considered at a p-value <0.05.

Results

Table 1 shows the demographic characteristics of the studied caregivers. 55% of subjects' ages ranged from 39 to less than 50 years old and 80% of them were females. As well, 66.7 % of them were married and 58.3% of them had a school education. The mother is the main family caregiver which constituted 41.7% followed by the wife (30%). 51.6% of them assumed caregiving for 3 to 5 years duration. Regarding working conditions, 60.3% were unemployed and 65% were unsatisfied with their income. Concerning their residence, 71.1% of them live far from the hospital.

Table 2 reveals the patients' characteristics, 58.3% of patients were aged between 36 to 40 years old, and 66.7 % of them were males. Regarding marital conditions, 51.7% of them were single. Concerning the level of education, 43.4 had school education and 91.7 did not work. Concerning illness duration, 51.6 % of them suffered from bipolar disorder for 3 to 5 years, and 41.7% of them had two hospital admissions.

Table 3 illustrates the knowledge about bipolar disorder and care management among the subjects before and after the psycho-educational intervention implementation. It was observed that there were significant changes in all items' scores submitted by subjects (except for the meaning of bipolar disorder, and signs & symptoms) compared to the first assessment, e.g. a significant difference in the mean score regarding the care management from 2.76 to 4.43 (P-Value= 0.00). Therefore, there was a significant difference in the total knowledge among subjects after the implementation of the psychoeducational intervention (P-Value significant at 0.01).

Table 4 reveals that there were significant changes in scores regarding the patients' care reported practices among subjects between the first and second assessments. For example, before the psycho-educational sessions, there were low mean scores values for the family caregivers providing support and reassurance (1.0), Encouraging regular sufficient sleep (1.02), and dealing with crisis situations (0.97). While after the psycho-educational intervention, the mean scores increased among subjects (1.61, 1.61, and 1.66 respectively). So, there was a statistically significant difference in total mean score comparison, after the psycho-

educational intervention (P-Value significant at 0.05).

Table 5 clarifies that all the psychological symptom dimensions reported by subjects were significantly decreased after the psycho-educational intervention except phobic anxiety and paranoid ideations symptoms. The total mean scores of the psychological distress symptoms were significantly changed in the favor of the subjects from 179.34 to 123.42 (P-Value significant at 0.05).

Table 6 shows the statistically significant differences between pre and post-test regarding the optimism and pessimism subscales. It meant that the subjects improved their responses in both subscales (the mean changes from 5.45, 5.68 to 8.8, and 8.81 respectively).

So that a significant difference was observed in the total scale (P-Value significant at 0.05).

Table 7 shows the correlation between the life orientation scale with knowledge, practice, and brief symptom inventory among the studied caregivers after implementing the psycho-educational intervention, there were strong positive correlations between life orientation with total knowledge, and total reported practice after implementing the psycho-educational implementation among the studied caregivers in which $r=0.882$, and 0.856 at P-value =0.001 respectively. Also, there was a strong negative correlation between life orientation and brief symptom inventory after psychoeducational intervention implementation in which $r=-0.744$ at P-value=0.01.

Table (1): Distribution of demographic characteristics among family caregivers of patients with bipolar disorder (no.= 60)

<i>Item</i>	No. = 60	%
Age (years)		
21 ≤ 38	22	36.7
39 ≤ 50	33	55
50 <	5	8.3
Mean ± SD= 42.66±5.63		
Gender		
Male	12	20
Female	48	80
Marital status		
Unmarried	19	31.7
Married	40	66.7
Widow/ Widower	1	1.6
Level of education		
Read & write	16	26.7
School education	35	58.3
High education	19	31.7
Relation to the patient		
Father	2	3.3
Mother	25	41.7
Husband	5	8.3
Wife	18	30
Son	3	5
Daughter	5	8.3
Brother	2	3.3
Duration of care		
1 year – 3years	10	16.7
3 year – 5years	31	51.6
Above 5 years	19	31.7
Work status		
Work	25	41.7
Not work	35	60.3
Income satisfaction		
Yes	21	35
No	39	65
Residence		
Near to hospital	17	28.3
Far from hospital	43	71.7

Table (2): Distribution of characteristics of patients with bipolar disorder (no.=60)

<i>Item</i>	No.	%
Age (years)		
18≤35	20	33.3
36≤40	35	58.3
40 <	5	8.4
Mean ± SD= 31.35± 4.64		
Gender		
Male	40	66.7
Female	20	33.3
Marital status		
Single	31	51.7
Married	23	38.3
Widow/ Widower	6	10
Level of education		
Illiterate	14	23.3
Read & write	20	33.3
School education	26	43.4
Work status		
Work	5	8.3
Not work	55	91.7
Duration of illness		
1 year – 3years	10	16.7
3 year – 5years	31	51.6
Above 5 years	19	31.7
Number of previous hospitalizations		
One	20	33.3
Two	25	41.7
Three	15	25

Table (3): Comparison of family caregivers' knowledge regarding bipolar disorder before and after implementing the psycho-educational intervention

Knowledge	Before		After		t-test	P-value
	Mean	SD	Mean	SD		
Meaning of Bipolar Disorder	1.16	0.36	1.86	0.54	2.753	0.921
Signs & symptoms	2.63	1.34	2.99	0.99	2.726	0.83
Predisposing factor	1.42	0.27	2.96	0.80	3.431	0.00***
Treatment	1.26	0.88	2.86	0.81	2.753	0.05*
Care management	2.76	1.49	4.43	1.24	3.431	0.00***
Total knowledge	9.23	4.34	15.1	4.38	7.253	0.01**

* = Statistically significant at 0.05

** = Statistically significant at 0.01

*** = p 0.001

Satisfactory: ≥ 60%

Unsatisfactory: < 60%

Table (4): Comparison of family caregivers' reported practice in caring for their patients with bipolar disorder before and after implementing the psycho-educational intervention.

Practice	Before		After		t-test	P-value
	Mean	SD	Mean	SD		
1. Understanding patient condition	1.1	0.39	1.71	0.27	2.053	0.05*
2. Reducing pressure and stress on the patient	1.03	0.34	1.82	0.09	2.326	0.01**
3. providing support and reassurance	1.0	0.33	1.61	0.28	2.421	0.05*
4. Promoting social interaction and friendships	0.82	0.26	1.32	0.39	2.535	0.05*
5. Enhancing self-esteem	0.98	0.28	1.52	0.49	2.372	0.05*
6. Encouraging regular sufficient sleep	1.02	0.33	1.61	0.36	2.228	0.01**
7. Emphasizing medication compliance	1.33	0.44	1.82	0.08	3.125	0.05*
8. Regular consultations with a psychiatrist	1.33	0.46	1.81	0.06	3.022	0.05*
9. Providing healthy nutrition	1.23	0.41	1.77	0.14	3.016	0.05*
10. Avoiding overly stimulating environments	1.12	0.39	1.66	0.24	2.989	0.05*
11. Encouraging regular exercise	1.03	0.34	1.4	0.43	2.883	0.123
12. Dealing with patient's risky and/ or undesirable behaviors	0.89	0.28	1.33	0.44	2.758	0.331
13. Dealing with crisis situations	0.97	0.31	1.66	0.18	2.884	0.05*
Total practice	13.85	4.56	21.04	3.45	13.325	0.05*

* = Statistically significant at 0.05

** = Statistically significant at 0.01

*** = p 0.001

Satisfactory: $\geq 75\%$ Unsatisfactory: $< 75\%$ **Table (5):** Comparison between mean scores of the Brief Symptom Inventory among the studied caregivers before and after implementing Psycho-educational intervention.

Brief Symptom Inventory Dimensions	Before		After		t-test	P-value
	Mean	SD	Mean	SD		
1. Somatization	24.61	4.35	16.97	2.51	4.053	0.04*
2. Obsession-Compulsion	18.18	2.28	16.22	1.66	3.426	0.123
3. Interpersonal Sensitivity	13.97	1.17	8.55	2.70	5.431	0.05*
4. Depression	21.55	1.36	13.32	2.67	4.435	0.05*
5. Anxiety	22.11	1.61	14.25	1.59	5.272	0.04*
6. Hostility	16.79	1.34	10.54	1.27	5.443	0.04*
7. Phobic Anxiety	14.88	2.29	13.24	2.10	5.123	0.333
8. Paranoid Ideation	16.69	1.98	14.52	2.92	5.243	0.113
9. Psychoticism	18.21	0.37	10.56	2.21	4.992	0.04*
Grand Total ***	179.34	19.75	123.42	21.63	15.582	0.05*

* = Statistically significant at 0.05

***Grand Total= total of dimensions+ items 11, 25, 39, 52

Table (6): Comparison between mean scores of the Life Orientation Scale among the studied caregivers before and after implementing Psycho-educational intervention.

The Life Orientation Scale	Before		After		t-test	P-value
	Mean	SD	Mean	SD		
Optimism						
1- In uncertain times, I usually expect the best	1.87	0.13	2.92	0.08	3.853	0.05*
4- I am always optimistic about my future	1.95	0.05	3.07	0.79	4.431	0.04*
10- Overall, I expect more good things to happen to me than bad	1.63	0.37	2.81	0.19	3.735	0.04*
Total Optimism	5.45	0.55	8.8	1.06	6.221	0.05*
Pessimism						
3- If something can go wrong for me, it will	1.86	0.14	2.96	0.04	3.893	0.05*
7- I hardly ever expect things to go my way	1.99	0.01	2.98	0.02	3.931	0.05*
9- I rarely count on good things happening to me	1.83	0.17	2.87	0.13	3.635	0.05*
Total Pessimism	5.68	0.32	8.81	0.19	6.413	0.05*
Total	11.13	0.87	17.61	1.25	9.352	0.05*

* = Statistically significant at 0.05

Table (7): Correlation between the Life Orientation Scale with knowledge, practice, and Brief Symptom Inventory among the studied caregivers of patients with bipolar disorder after implementing Psycho-educational Intervention.

Variables	Total Life Orientation Scale	
	Pearson correlation coefficient	P-Value
Total Knowledge	0.882	0.001***
Total Practice	0.856	0.001***
Total Brief Symptom Inventory	- 0.744	0.01**

*Correlation is significant at the 0.05 level **Correlation is significant at the 0.01 level

*** Correlation is significant at the 0.001 level

Discussion

Bipolar disorder is a periodic and long-standing psychiatric disorder not only affects the patients but also affects the quality of life and psychological wellbeing of their families (Rexhaj, Jose, Goley & Favrod, 2016). Family caregiving is important for providing support especially during recurrence as well as during the acute phase of the disorder. Therefore, the demands for psycho-educational intervention are essential for families to induce enhance their psychological distress and future concerns about their patients (Rexhaj, et al., 2017).

Regarding the demographic characteristics among the studied subjects, the mean age of the subjects was 42.66. More than three-quarters of the subjects were females and more than two-thirds of them were married. This can be due to that traditionally female caregiver is a part of our cultural role that spend more hours caring for each family member and providing household duties, while males are always taking the financial part. On the other hand, the current study found that more than two-fifths of the caregivers were mothers and about one-third of them were wives which confirms the researchers' analysis of the female caregiving role. This result is congruent with Mohamed, Mohsen, Morkosb, & Naguib, 2020, who confirmed that more than half of the family caregivers were females and their mean age was 41.16. Regarding working conditions, two-thirds of the subjects were unsatisfied with their income; this may be since about two-thirds of them were not working, in addition, more than three-quarters of the subjects spent money on transportation because of the long distance from the hospital. Furthermore, the subjects reported that part of their money was expended on the treatment of their mentally ill patients. These current results were agreed upon by Mohamed, Darweesh & Mohamed (2019), who found most

of the family caregivers were unemployed and suffered from a lack of income.

Concerning the subjects' knowledge and practices about their patients' illness and care management, the subjects submitted higher scores of knowledge (except for the meaning of bipolar disorder and signs & symptoms) and skills after the psychoeducational intervention implementation compared to the basic assessment. This may be due to the subjects reporting that there is a lack of time among the psychiatric mental health care professionals to provide sufficient information and skills for the patients and their families. This analysis was agreed by Viana, Gruber, Shahly, Alhamzawi, Alonso, & Andrade, 2013, who mentioned that psychiatric professionals can not give the necessary required information and skills regarding the caregiving roles which put the family under psychological distress. Furthermore, most of the subjects have moderate to high educational levels that they are interested to have accurate information and skills to maintain a good quality of life for their patients. This result was supported by Gabra, Ebrahim, Osman, & Al-Attar, 2020, who investigate knowledge among family caregivers of mentally ill patients at Assiut University Hospitals, they asserted that most of the studied family caregivers had insufficient knowledge that interfere to meet the patient's care and demands. This result also supported by Viana, et al., 2013, who found that family caregivers were improved their information and skills about the disorder after the guidance of mental health nursing intervention. Mourad & Abd El- Salihenin, 2016, found that statistically significant improvement in the practical scores before and after the psychological counseling; according to their finding, the family caregivers through counseling sessions verbalize their psychological distress when dealing with the patients' risky and inappropriate behaviors, they also found supportive listening approach from the

researchers during the intervention sessions and gained information and training on how to support, help and encourage their patients. Another research conducted by **Perlick, Jackson, Grier, Huntington, Aronson, Luo, & Miklowitz, 2018**, supported the present study and found that the family caregivers of patients with bipolar disorders increased their information and the necessary skills as well as they reported satisfaction after 6 months of health education.

In the comparison of the Brief Symptom Inventory among subjects Before and After Psycho-educational Intervention implementation, significant differences can be observed in the psychological distress scores after the program. It means that the family caregivers submitted low mean scores in the psychological distress and become more aware of how to manage their distress symptoms. Before the psycho-educational intervention, most of the subjects in the current study reported high levels of somatic symptoms such as pain and headache, anxiety symptoms such as worrying about their patients' future, obsessive symptoms such as double-checking, and difficulty making decisions, depressive symptoms such as a feeling of loneliness. This may be because the current research program provided the required information and skills needed for the family caregivers to manage their emotional distress and loneliness as well as seek social support. The current study agreed with the study conducted by **Perlick, et al., 2010**, who found that there was a great reduction in the depressive symptoms of the family caregivers after applying the health education. These results are also congruent with **Mirshah, et al., 2019**, who reported that the family caregivers' psychological conditions were enhanced in the experimental group after completing the program education, the research also paid attention that family caregivers are more liable to have psychological distress compared to the general populations.

Comparison of the Life Orientation Scale among subjects, a statistically significant improvement in the family caregivers' optimism versus pessimism after the psycho-educational intervention implementation. This may be due to improving family caregivers' knowledge and skills related to meeting the patients' needs and managing undesirable and risky behaviors as well as dealing in emergency situations. In addition,

the current research provides supportive intervention for the family caregivers in overcoming negative thoughts, obsessive ideas, and seeking social support so that family caregivers submitted higher scores in an optimistic view regarding their future, and willingness to support their patients. This present study agreed by **Schou, Ekeberg & Ruland, 2005**, who confirmed that there is a positive relationship between the family caregivers' quality of life and their optimistic view regarding their future. This result also was supported by **Rexhaj, et al., 2017**, who confirmed that after the five sessions of program education, the family caregivers who have patients with bipolar disorders become more optimistic and have more adaptive strategies in caring for their patients.

The result of the current study showed that there were strong positive correlations between Life Orientation Scale with total knowledge, and total reported practice, as well as there was a strong negative correlation between Life Orientation Scale and Brief Symptom Inventory after psychoeducational intervention implementation among the studied caregivers. It means that optimism and decreasing psychological distress among subjects can be improved by education and required skills management of their patients. So, the four study variables are interrelated with each. This result was agreed by **Perlick, et al., 2010**, who confirmed that facilitating caregivers' education and the practice of illness management are important to reduce distress experiences as well as their negative concerns about their future and patients' upcoming situations.

Conclusion:

Based on the findings of the current study, it is concluded that the psycho-educational intervention has a positive effect on reducing psychological distress and promoting optimism among family caregivers of patients with bipolar disorders. The family caregivers submitted higher mean scores on knowledge, practice, Brief symptoms Inventory, and Life Orientation Scale in the post-assessment compared to the baseline data.

Recommendations:

1. Further research to evaluate the long-term effects of a family psycho-educational intervention on family caregivers' psychological outcomes.
2. A continuous and periodic rehabilitation program should be conducted for family caregivers to improve their coping skills and their quality of life.
3. Establishment of counseling clinics for caregivers of patients with mental illness including Bipolar Disorder to enhance resilience, coping skills, and quality of life.

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