

## Burden and Coping Patterns among Family Caregivers of Patients with Bipolar Disorder

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### ABSTRACT

**Background:** Bipolar Disorder is a major psychotic disorder which cause considerable burden and limitations among the caregivers of the affected patients. Different coping methods are used that may have a buffering effect on level of burden they experience. **Aim:** This study aimed to assess burden and coping patterns among family caregivers of patients with bipolar disorder. **Design:** A descriptive cross-sectional analytical study design was utilized. **Setting:** This study was carried out in the outpatient clinic of the Institute of Psychiatry affiliated to Ain Shams University. **Subjects:** this study was conducted on 140 family caregivers of patients with bipolar disorder. **Data collection tools:** 1) a structured interview schedule to assess: a) demographic data of caregivers, b) patient history of illness, c) knowledge about BD; 2) Burden assessment schedule scale; and 3) Coping strategies inventory scale. **Results:** data analysis showed that near half, near one third, & one quarter of the studied caregivers had severe, moderate, and mild levels of caregiving burden respectively. Regarding their coping pattern, more than two third of them had low problem focused engagement, while more than half of them had high problem focused disengagement and emotional focused disengagement respectively. **Conclusions:** This study concluded that, less than half of the studied caregivers had severe level of caregiving burden, about one third of them had moderate level of caregiving burden, three fifths of them had low engagement coping and more than half of them had high disengagement coping. **Recommendations:** Development of psycho-educational supportive program for family caregivers of patients with BD to reduce their burden and improve coping patterns. Establishment of counseling clinics for caregivers of patients with mental illness including BD to enhance their resilience, coping skills and quality of life.

**Key words:** Burden, Coping Patterns, Family caregivers, Bipolar disorder

### Introduction

Bipolar disorder (BD) is a chronic mental disorder that causes unusual shifts in mood, energy, activity levels, concentration, and the ability to carry out day-to-day tasks. These moods range from periods of extremely “up,” elated, irritable, or energized behavior (known as manic episodes) to very “down,” sad, indifferent, or hopeless periods (known as depressive episodes) (Matthews, Murnan & Snyder, 2017).

BD is a chronic illness associated with severely debilitating symptoms that can have profound effects on both patients and their caregivers and can have life-long adverse

effects on the patients’ mental and physical, educational, occupational functioning, and interpersonal relationships (McCormick, et al., 2015).

Caregivers of people with bipolar disorder may experience a different quality of burden than is seen with other illnesses. The World Health Organization (WHO) states caregivers burden as “the emotional, physical, financial demands and responsibilities of an individual's illness that are placed on the family members, friends, or other individuals involved with the individual outside the health-care system”. It includes taking care of personal hygiene of the patient and emotional

support such as listening, and counseling (Walke, et al., 2018).

Therefore, family caregivers of patients with BD use a range of coping strategies and resources to face the caregiving burden. They use both problem-focused coping (e.g., problem solving; cognitive restructuring) and emotional-focused coping (e.g., emotional expression; seeking social support) (Suriyamoorthi, et al., 2018).

### Significance of the study

In Egypt bipolar disorder co-morbidity was 20.3% among all psychiatric disorders based on an initial study conducted in Egypt from governmental and private psychiatric hospitals that included about 426 people at the age group of 18 to 55 years (Asaad, et al., 2014).

Family members assume the major responsibility for those patients, in addition to their responsibilities. In the developing world the care of the mentally ill is carried out by the family with minimal assistance from the health care system (Walke, et al., 2018).

Level of burden perceived by the primary caregivers and their effective coping are factors which can have major impact on their ability to care for the patient. Patient's outcomes and compliance with treatment are dependent on optimal caregiving so addressing caregiver's needs; addressing the burden perceived by caregiver and their coping can assist with good clinical care of patients with bipolar disorder. So, this study aimed to assess burden and coping patterns among family caregivers of patients with bipolar disorder. The results of this study will provide some insights and information on the problems and difficulties that result from caring for bipolar patients.

### Aim of study

This study aimed to assess burden and coping patterns among family caregivers of patients with bipolar disorder.

### Research Questions:

1. What is the burden experienced by family caregivers of patients with bipolar disorder?
2. What are coping patterns adopted by family caregivers of patients with bipolar disorder?
3. What are the relationships between burden and coping patterns among caregivers of patients with bipolar disorder?

### Subject and Methods

#### Research Design:

A descriptive cross-sectional analytical design has been utilized to fulfill the aim of the study and answer the research questions.

#### Setting of the Study:

This study was conducted in the outpatient clinic of the Institute of Psychiatry (Okasha center) affiliated to Ain Shams University hospitals.

#### Subjects:

A purposive sample of 140 family caregivers of patients with bipolar disorder according to certain inclusion criteria, and determined by using appropriate statistical equation.

$$S = \frac{X^2 NP (1-P)}{d^2 (N-1) + X^2 P (1-P)}$$

s= required sample size

x=the table value of chi-square for 1 degree of freedom at the desired confidence level (3.841)

N=the population size.

P=the population proportion (assumed to be .50 since this would provide the maximum sample size)

d=the degree of accuracy expressed as a proportion (.05) (Krejcie, & Morgan, 1970).

#### Inclusion criteria for patient with bipolar disorder:

- Age: 18 - 40 years old (adult age).
- Gender: males and females.

- Diagnosed case of bipolar disorder for at least one year.
- Without any co-morbid psychiatric disorder.
- Patient adhered to treatment plan for the last 6 months.

#### **Inclusion criteria for family caregivers of patients with bipolar disorder:**

- Age: adult caregiver who are closely related and directly involved in the care of patients with bipolar disorder for at least one year.
- Primary person responsible for the patient well-being and stay within the same home.
- Gender: males and females.
- Educational level: all educational levels and different socioeconomic status.
- Free from any psychiatric illness.
- Not responsible for caregiving of other patient in the family.

#### **Data Collection tools**

##### **1-A structured interview schedule to assess:**

- Demographic data of studied caregivers:** it included age, gender, relation to patient, marital status, residence etc
- Patient's History of illness regarding BD:** It included duration of illness, duration of treatment, etc.
- Knowledge about BD:** to assess knowledge of caregiver about bipolar disorder, it includes definition, signs and symptoms, causes and methods of treatment

##### **2-Burden assessment schedule (BAS):**

Burden assessment schedule is an instrument developed by **Thara, Padmavati, Kumar, (1998)** to assess objective and subjective burden experienced by the caregivers of chronic mental ill patients. It assesses 9 different areas of objective and subjective caregiver burden: *Spouse related factors, Physical and mental health factors, External support factors, Caregiver's routines factors, Financial support of patient factors,*

*Taking responsibility factors, Socialization factors, Patient's behavior factors, and Caregiver's strategy factors.* It has a total of 40 items on a 3-point Likert scale in which very much=3, to some extent=2 and not at all=1.

##### **Scoring**

The severity of burden was categorized into 4 groups (**Bhandari, et al., 2015**), a score of:

- 40 on BAS indicate no burden,
- 41-60 indicate minimal burden,
- 61-80 indicate moderate burden,
- 81-100 indicate severe burden and 101-108(120 in case of spouse) very severe burden.

##### **3- Coping strategies inventory (CSI):**

This self-report questionnaire was designed by **Tobin, (1984)**, and modified by the researcher; it designed to assess thought and behavior of the people used to handle the internal or external demands of a specific stressful event. The scale has 26 items questionnaire, where each item is rated on a 3-point Likert scale "rare, sometimes and always". The respondents indicated for each item the extent to which they performed that particular coping response in dealing stressful situation.

**Scoring**

Tertiary subscales	Secondary subscales	Primary subscales	Low	High
Engagement coping	Problem focused engagement	Problem solving (3 items)	3:6.6	6.7:9
		Cognitive restructuring (2 items)	2:4.4	4.5:6
	Emotional focused engagement	Emotional expression (4 items)	4:8.4	8.5:12
		Social support. (5 items)	5:11	11.1:15
Disengagement coping	Problem focused disengagement	Problem avoidance (3 items)	3:6.6	6.7:9
		Wishful thinking (3 items)	3:6.6	6.7:9
	Emotional focused disengagement	Self-criticism (2 items)	2:4.4	4.5:6
		Social withdrawal (4 items)	4:8.4	8.5:12

**Operational Design**

The operational design for this study includes preparatory phase, pilot study, field work, limitations of the study, and ethical considerations.

**Preparatory phase:**

It included reviewing past, current, local, and international related literature, and theoretical knowledge of various aspects of bipolar disorder, caregiver's burden and coping using books, articles, internet, periodicals, and journals.

**Tools validity and reliability**

It was ascertained by experts from Psychiatric/Mental Health Nursing and Community Health Nursing, their opinions were elicited as regards to the tools format layout, knowledge accuracy, and relevance between translated and original copies. After modification, coping strategies inventory was

tested and evaluated for their face and content validity, and reliability.

Internal consistency (Cronbach alpha) and Pearson correlation coefficient (r) were tested for each tool.

Tool	Reliability Pearson correlation coefficient (r)	Cronbach alpha
BAS	.084	0.74
CSI	0.71	0.82

**Pilot study**

The pilot study was conducted on a ratio of 10 % of the study sample size "14 cases" to evaluate the clarity, applicability, and feasibility of the research tools and to estimate the time needed for data collection. There was no modification needed based on the results of the pilot.

**Field work**

The study consumed six months during the period from the beginning of August 2019 to the end of January 2020.

Before starting the data collection, the nature and the purpose of the study were explained to:

1. Medical director of Institute of Psychiatry (Okasha center) to get an official permission.

2. The head nurse and nursing staff in outpatient clinics to gain their cooperation.

Data were collected daily for 4 days a week (Sunday, Monday, Wednesday, and Thursday) during the morning shift (9.00 a.m:2.00 p.m.) for 25-30 minutes for each case. The researchers met with each caregiver individually, the purpose and nature of the study were explained; and the confidentiality of data was ensured. Caregivers were asked if they were interested and agreed to participate in the study. After that, the researchers interviewed the participants individually.

**Administrative Design**

An official letter was issued from the Faculty of Nursing-Ain Shams University to the director of Institute of Psychiatry (Okasha center), explaining the aim of the study and requesting their permission for data collection. Oral consent was obtained from every participant who included in the study.

**Ethical considerations**

Approval from Ethical committee in Faculty of Nursing- Ain Shams University was obtained to carry out the study. Official permission from medical director of Institute of Psychiatry (Okasha center) was obtained.

After securing official requirements for carrying out this study, the subjects were informed about their right to participate or not in the study and to withdraw at any time without giving any reason. The participants were also assured about the confidentiality and anonymity of data and that data will only be used for the purpose of the study. The researcher took oral consent from the caregivers if they agreed to participate.

### Statistical Design

The statistical analysis of data was done by using computer software for excel program and the Statistical Package for Social Science (SPSS), version 20. Descriptive data was statistically analyzed using Mean stander deviation and percentage. Pearson correlation coefficient “r- test” was used to test the correlation between the study variables.

Degree of significance results were: -

- P. Value>0.05(Not Significant)
- P. Value≤0.05(significant)
- P. Value≤0.001(Highly Significant)

### Results

Table (1) reveals that, 44.3% of the studied caregivers' age ranged from  $36 \leq 50$  years, and their mean age was  $46.3 \pm 7.9$  years. As regard to gender and marital status, 77.9% & 71.5% of the studied caregivers were female and married respectively. In relation to the educational level of the caregivers under the study, it was found that, 37.9% of them were illiterate. As regard the relation of the caregivers to patients, 43.6% of them were the parents. Also, 67.1% of them were employed, 86.4% of them their monthly incomes were not enough respectively. Furthermore, 20% of the caregivers had chronic disease, 53.6% of the suffered caregivers had hypertension.

Figure (1) illustrates that, 97.8%, 92.9%, 65.7%, and 64.3% of the studied caregivers had satisfactory level of knowledge about

nature, signs, and symptoms, causes, and treatment of bipolar disorder respectively.

Figure (2) illustrates that, 68% of the studied caregivers had satisfactory level of total knowledge about bipolar disorder, while 32% of them had unsatisfactory level.

Table (2) reveals that, 53.9% of spouse caregivers had severe burden regarding spouse related factors. Also, 42.2%, 44.3%, 45%, 52.1%, 55%, 62.1%, 62.9%, and 69.3% of the studied caregivers had severe levels of burden regarding caregiver's strategy factors, socialization factors, physical and mental health factors, external support factors, patient's behavior factors, taking responsibility factors, caregiver's routines factors, and financial support factors of patient respectively.

Figure (3) illustrates that, 42.9% of the studied caregivers had severe level of total burden. Also, 32.1% of the studied caregivers had moderate level of total burden, while 25% of the studied caregivers had mild level of total burden.

Table (3) reveals that, regarding problem focused engagement coping, caregivers of patients with BD had low problem solving and cognitive restructuring as their mean scores were 4.77 and 2.19 respectively. As regards emotional focused engagement coping, they had low emotional expression, and perceived low social support as their mean scores were 5.61 and 7.34 respectively.

Table (4) reveals that, regarding problem focused disengagement coping, caregivers of patients with BD had high problem avoidance and wishful thinking as their mean were 7.19 and 7.04 respectively. Regarding emotional focused disengagement coping, they had high self-criticism and social withdrawal as their means were 5.18 and 8.94 respectively.

Figure (4) showed that, 71.4% of the studied caregivers used low problem focused engagement, while 57.1% of them, used high emotional focused engagement. Also, 59.3% & 56.4% of them used high problem focused disengagement and emotional focused disengagement respectively.

Figure (5) showed that, 60.7% of the studied caregivers used low engagement

coping. While 39.3% of them used high engagement coping. This figure also indicated 52.9% of the studied caregivers used high disengagement coping. While 47.1% of them used low disengagement coping.

**Table (5)** shows that, there was a moderate positive correlation between caregivers' knowledge and their coping patterns in which  $r = 0.412$  at  $p = .001$ . Also,

there were moderate negative correlations between caregivers' knowledge and their burden levels; and caregivers' coping patterns and their burden levels in which  $r = -0.436$ , and  $-0.461$  at  $p = .000$ .

**Table (1): Frequency distribution of the studied caregivers according to their demographic characteristics and health history (n=140).**

Items	No.	%
<b>Age (year)</b>		
• 20≤35	28	20
• 36≤50	62	44.3
• > 50 years	50	35.7
<b>Mean ±SD</b>	<b>46.3± 7.9</b>	
<b>Gender</b>		
Male	45	32.1
Female	95	77.9
<b>Relation to patient</b>		
• Parent	61	43.6
• Spouse	39	27.9
• Sibling	22	15.7
• Daughter	10	7.1
• Son	8	5.7
<b>Marital status</b>		
• Single	8	5.7
• Married	100	71.5
• Divorced	22	15.7
• Windowed	10	7.1
<b>Educational level</b>		
• Illiterate	53	37.9
• Primary education	19	13.6
• Secondary education	28	20
• University education	40	28.5
<b>Employment</b>		
• Employed	94	67.1
• Unemployed	46	32.9
<b>Adequacy of monthly income (No.=140)</b>		
• Enough=adequate	19	13.6
• Not enough	121	86.4
<b>Chronic disease</b>		
• Yes	28	20
• No	112	80
<b>Type of chronic diseases (No.=28)</b>		
• Diabetes	10	35.7
• Hypertension	15	53.6
• Heart disease	13	46.4

\* Numbers are not mutually exclusive

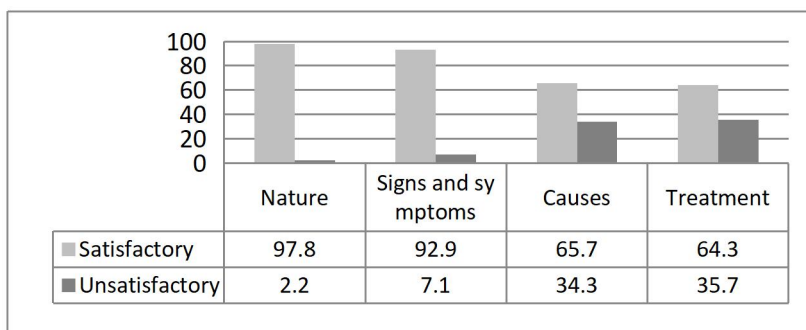


Figure (1): Frequency distribution of the studied caregivers according to their knowledge about bipolar disorder nature, sign, and symptoms, causes, and treatment (n=140).

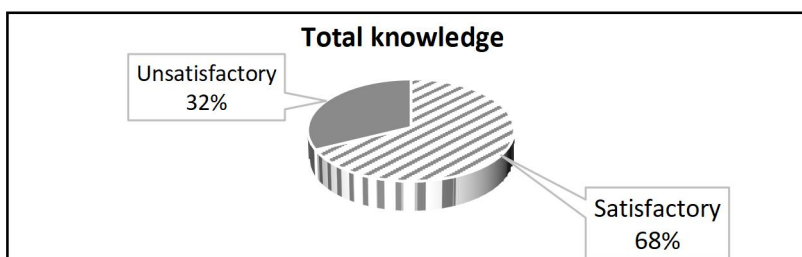


Figure (2): Frequency distribution of the studied caregivers according to their total knowledge about bipolar disorder (n=140).

Table (2): Frequency distribution of the studied caregivers according to their burden of caregiving of patients with bipolar disorder (n=140).

BAS	Mild (%)	Moderate (%)	Severe (%)
Spouse related factors (No.=39)	17.9	28.2	53.9
Physical and mental health factors	19.3	35.7	45
External support factors	13.6	34.3	52.1
Caregiver's routines factors	15.7	21.4	62.9
Financial support of patient factors	7.1	23.6	69.3
Taking responsibility factors	14.3	23.6	62.1
Socialization factors	12.8	42.7	44.3
Patient's behavior factors	16.4	28.6	55
Caregiver's strategy factors	25.7	32.1	42.2

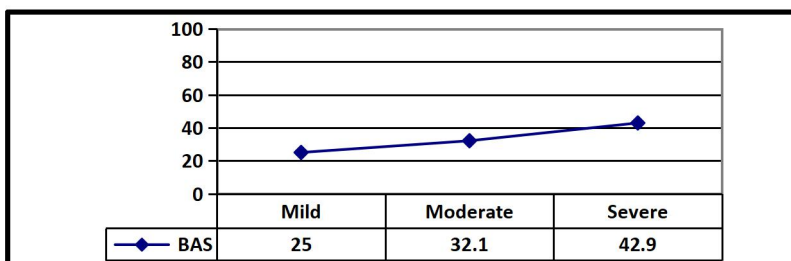


Figure (3): Frequency distribution of the studied caregiver according to their total levels of burden (n=140).

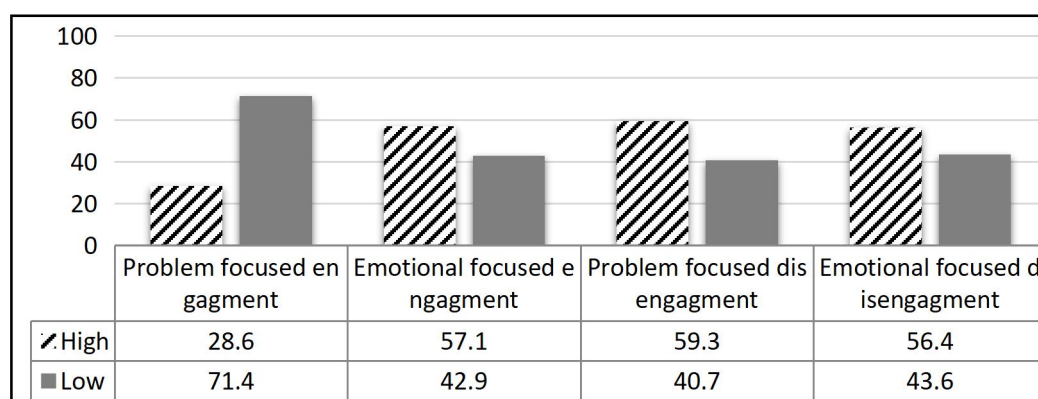
**Table (3):** Frequency distribution of the studied caregiver according to their problem and emotional engagement coping (n=140).

Items	Rare		Sometimes		Always	
	N	%	N	%	N	%
Problem focused engagement coping						
problem solving:						
I made a plan of action and followed it.	48	34.3	79	56.4	13	9.3
I struggled to resolve the problem.	50	35.7	75	53.6	15	10.7
I've been thinking hard about what steps to take.	35	25	80	57.1	25	17.9
Mean ± SD 4.77±1.34						
Cognitive restructuring:						
I told myself things that helped me feel better.	39	27.85	81	57.85	20	14.3
I've been trying to see it in a different light, to make it seem more positive.	40	28.6	69	49.3	31	22.1
Mean ± SD 2.19±0.8						
Emotional focused engagement coping						
Express Emotion:						
I let out my feelings to reduce the stress.	56	40	60	42.9	24	17.1
I got in touch with my feelings and just let them go.	83	59.3	40	28.6	17	12.1
I was angry and really blew up.	21	15	51	36.4	68	48.6
I've been saying things to let my unpleasant feelings escape.	84	60	46	32.9	10	7.1
Mean ± SD 5.61±1.40						
Social support:						
I talked to someone that I was very close to.	87	62.1	40	28.6	13	9.3
I let my friends help out.	91	65	32	22.9	17	12.1
I asked a friend or relative I respect for advice.	94	67.1	35	25	11	7.9
I've been getting help and advice from other people.	86	61.4	33	23.6	21	15
I talked to someone who was in a similar situation.	79	56.4	42	30	19	13.6
Mean ± SD 7.34±2.17						



**Table (4):** Frequency distribution of the studied caregiver according to their problem and emotional focused disengagement coping (n=140).

Items	Rare		Sometimes		Always	
	N	%	N	%	N	%
<b>Problem focused disengagement</b>						
<b>Problem Avoidance:</b>						
I slept more than usual.	9	6.4	51	36.4	80	57.2
I tried to forget the whole thing.	6	4.3	39	27.85	95	67.85
I avoided thinking or doing anything about the situation.	13	9.4	40	28.5	87	62.1
Mean $\pm$ SD 7.19 $\pm$ 1.30						
<b>Wishful Thinking:</b>						
I hoped a miracle would happen.	4	2.85	25	17.85	111	79.3
I wished that the situation would go away or somehow be over with.	3	2.1	32	22.9	105	75
I wished that the situation had never started.	6	4.3	21	15	113	80.7
Mean $\pm$ SD 7.04 $\pm$ 0.39						
<b>Emotional focused disengagement</b>						
<b>Self-criticism</b>						
I blamed myself.	10	7.1	28	20	102	72.9
I criticized myself for what happened.	7	5	25	17.9	108	77.1
Mean $\pm$ SD 5.18 $\pm$ 0.41						
<b>Social withdrawal</b>						
I spent more time alone.	21	15	51	36.4	68	48.6
I avoided my family and friends.	23	16.4	47	33.6	70	50
I didn't talk to other people about the problem.	19	13.6	54	38.6	67	47.8
I kept my thoughts and feelings to myself.	14	10	47	33.6	79	56.4
Mean $\pm$ SD 8.94 $\pm$ 2.88						

**Figure (4):** Frequency distribution of the studied caregivers according to coping patterns subscales (n=140).

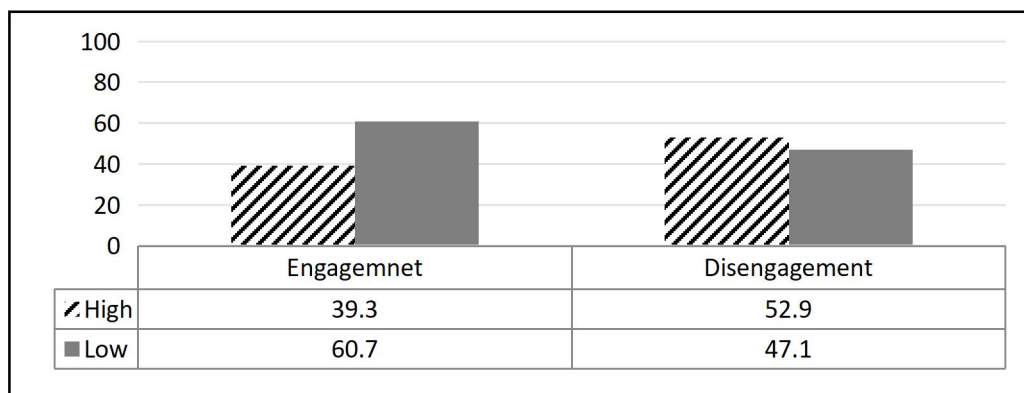


Figure (5): Frequency distribution of the studied caregivers according to total level coping patterns (n=140).

Table (5): Correlation between knowledge, burden levels and coping patterns among caregivers of patients with bipolar disorder

Items	Caregivers' knowledge	Caregivers' burden levels
Caregivers' knowledge		r= - 0.436 p= .000**
Caregivers' coping patterns	r= 0.412 p= .001**	r= - 0.461 p= .000**

(\*) Statistically significant at  $p < 0.05$  -- (\*\*) highly significant at  $p < 0.01$

## Discussion

Bipolar disorder is mood disorder and one of the leading causes of disability worldwide and is associated with high rates of mortality from both suicide and medical comorbidities. Caregiving to patients with bipolar affective disorder is a stressful process and caregivers occasionally need professional support (Rowland, & Marwaha, 2018).

Therefore, this study was carried out to assess burden and coping patterns among family caregivers of patients with bipolar disorder.

Data analysis of the current study revealed that the majority of the studied caregivers had satisfactory level of knowledge about nature, and signs and symptoms of bipolar disorder, also about two thirds of them had satisfactory level of knowledge about causes, and treatment of bipolar disorder. Overall, more than two thirds of the studied

caregivers had satisfactory level of total knowledge about bipolar disorder, while less than one third of them had unsatisfactory level.

These results in line with the study done by Baruch, et al., (2018), who stated that the studied caregivers had good and satisfactory knowledge about the disorder.

However, these results disagree with the study carried out by Hubbard, et al., (2016), who found that more than two thirds of the studied caregivers had poor level of knowledge about symptoms of bipolar affective disorder pre psychoeducation.

### **Burden among caregivers of patients with BD.**

Finding of the current study showed that, less than half of the studied caregivers had severe level of caregiving burden. Also, about one third of them had moderate level of caregiving burden. While one quarter of them had mild level of caregiving burden.

This elevated level of burden might be owing to the physical and emotional drain, exhaustion of caregiving process, the stress of coping with disruptive behavior, disruption of family routines, the stigma they face, and the restriction of social activities to economic hardship. Also, threats, annoyances, time spent with the patients, limited social life and leisure activities are also predictors of burden.

These results agreed with **Shamsaei, et al., (2015)**; **Derajew, et al., (2017)**; and **Parija, et al., (2018)** who reported that family caregivers experienced high level of burden.

In particular, results of the current study showed that more than two thirds of the studied caregivers had severe levels of burden regarding financial support of the patient factors; and less than two thirds of the studied caregivers had severe levels of burden regarding taking responsibility factors.

Financial burden was experienced because of the majority of the studied caregivers their monthly incomes were not enough, and three quarters of the studied patients were unemployed. Also, the caregivers need more expenses to cover the cost of medication, psychotherapy sessions, monthly follow up, and the cost of transportation. Moreover, caregivers may eventually lose their jobs in order to provide ongoing care to the patient.

These results are similar with **Sintayehu, et al., (2015)**, who stated that less than three quarters of the studied caregivers had high level of burden related financial support. Also, **Grover, Chakrabarti, et al., (2015)**, reported that, caregivers of patients with BAD often have little financial support to provide for their patients' needs.

But these results disagree with the study conducted by **Zaki, et al., (2014)**, who indicated that more than half of the studied caregivers had low level of financial burden.

Results of the current study showed that less than two thirds of the studied caregivers had severe levels of burden regarding the caregiver's routine factors, and less than half of the studied caregivers had severe levels of burden regarding physical and mental health factors.

These might be due to the studied patients needed help to carry out the activities of daily living and medical care which affect the caregivers' daily routine. Also, more time the caregivers spent with the care recipient, they may have less time for themselves, which increases the caregivers' experiencing of burden and can compromise their physical and mental health and can exacerbate existing chronic health conditions, as one fifth of the studied caregivers had chronic disease.

These results are supported with the study done by **Mulud, & McCarthy, (2017)**, who indicated that the levels of burden were higher in caregivers with a greater inclination towards psychoticism. In the same field, **Yesufu et al., (2015)** stated that more than half of the studied caregiver reported sleep disturbance.

These results are supported with the study done by **Hailemariam, (2015)** and stated that family members with mental illness exposed caregiver to have psychological distress, subjective burden, and affiliate stigma. Also, these results are agreed with a study by **Geriani, et al., (2015)** who indicated that the levels of burden were higher in caregivers with a greater inclination towards psychoticism.

Results of the current study revealed that, more than half of spouse caregivers had severe burden regarding spouse related factors.

These results may be due to the nature of bipolar disorder which causes the person to experience intense shifts in moods, sometimes from a manic state to a depressed state. These shifts can occur with changes in sexual desire, confidence, or loss of interest in previously enjoyable activities. In addition, some side effects of psychotropic medications may contribute to these issues.

These results are in accordance with **Arabaci, et al., (2018)**, who stated that there is a decrease in the psychosocial adjustment, especially in the "sexual relationship" and "extended family relationships".

Results of the current study showed that more than half of the studied caregivers had severe levels of burden regarding external support factors. These results may be due to, caregiving can be a very challenging task where caregivers don't have enough support

from the family, friend, social, medical team, and community services.

These results are approved with **Ae-Ngibise, et al., (2015)**, who stated that emotional distress, financial burden, lack of support networks, social exclusion, health impact, and absence of decentralized mental health services were experienced by family caregivers. These findings highlight the need for interventions to support people with mental disorders and their caregivers.

Results of the current study showed that more than half of the studied caregivers had severe levels of burden regarding patient's behavior factors, and that less than half of the studied caregivers had severe levels of burden regarding socialization factors.

These results might be due to patients with bipolar disorder often engage in behaviors that are frightening, disruptive, troublesome, or at least annoying and the caregivers sometimes can also be a target of the patient's abusive or violent behavior, leading to restriction of their social and leisure activities, as well as the social discrimination and stigma attached to the mental illnesses.

These results agree with the study conducted by **Leng, et al., (2019)**, and indicated that more than half of the studied caregivers had severe level of burden toward their patients' behavior.

These results agreement with the study done by **Tabeleão, et al., (2014)**, who stated that, participants reported rejection by relatives because of their family member's illness. Also, some participants reported being unable to attend social gatherings because they had no one to leave the patient with, as relatives were not willing to assist with the care of the patient.

#### **Coping patterns among caregivers of patients with BD.**

Regarding problem focused engagement coping, caregivers of patients with BD had low problem solving and cognitive restructuring. This result might be due to increased dependency on caregivers, more hours of caring would be expected from them, which would exhaust their capacity to manage care demands with problem solving

style. Evidenced by their frequent use of problem and emotional focused disengagement coping. As well, in this study less use of problem focused engagement was related significant among caregivers who were illiterate, unemployed and had not enough income. As people who have adequate financial and support resources can deal with their caregiving burden.

These results agree with the study by **Bridi, et al., (2018)**, who stated that less than three quarters of the caregivers under study had less use of problem focused engagement. Also, these results are in line with **Sharma, (2017)**, who found that caregivers of BD patients used problem focused coping.

As regards emotional focused engagement coping, they had low emotional expression, and perceived low social support. This result might be due to the chronicity of the patients' disorder (more than three quarters of them had the disorder for more than five years), lead to the experience of severe level of burden at external support factors among the caregivers.

These results agree with the study achieved by **McCann, Cotton, & Lubman, (2017)** and revealed that caregivers tended to report less emotion-focused coping. But these results disagree with the study done by **Mohmed, et al., (2019)**, who found that, the most frequently used strategy by caregivers was emotion focused engagement.

Regarding problem focused disengagement coping, caregivers of patients with BD had high problem avoidance and wishful thinking. In the present study frequent use of problem focused disengagement was related significantly among caregivers who were less than 36 years old and had not enough income. The financial problems can induce a lot of stress on family caregivers and result in maladaptive coping strategies because they had less resource to meet the caring demands.

These results are supported with the study done by **Miklowitz, & Chung, (2016)** and reported that greater use of problem focused and seeking support coping strategies were associated with higher positive personal caregiving experience.

Regarding emotional focused disengagement coping, caregivers of patients with BD had high self-criticism and social withdrawal.

These results could be due to the patient's abusive or violent behavior and the social stigma they face related to having a close relative with a mental illness sometimes prevents them from having leisure and social activity or even getting married.

These results are supported with the study done by **Hassan, et al., (2014)** who found that the highest mean scores of coping strategies utilized by them were related to self-criticism and social withdrawal.

The present study revealed that, there was a moderate negative correlation between caregivers' burden and their coping patterns. As caregivers who had low engagement coping experienced severe level of burden related to caregiving of mentally ill patient

This result is agreed with **Kate, et al., (2013)**, who stated that caregiving burden, especially tension is associated with use of maladaptive coping strategies, poor quality of life and higher level of psychological morbidity in caregivers. Also, **Bademli & Duman, (2014)** stated that the less coping pattern of caregivers, the higher the level of burden.

The present study revealed that, there was a moderate positive correlation between caregivers' knowledge and their coping patterns. Also, there was a moderate negative correlation between caregivers' knowledge and their burden level.

This could be explained as, less than two fifths of studied caregivers were illiterate. Therefore, illiteracy and unawareness of illness among caregivers was associated with less use of engagement coping strategies like problem solving and cognitive restructuring and frequent use of disengagement coping strategies like problem avoidance, wishful thinking self-criticism and social withdrawal, which contributes to their experience of a severe level of burden as a result

These results agree with **George, et al., (2015)**, who stated that caregivers' knowledge had a positive effect on their coping pattern.

These results are supported with the study done by **Ebrahimi, et al., (2018)** who mentioned that there was a highly significant negative correlation between burden level of the studied caregivers' and their knowledge

## Conclusion

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Caregivers of BD patients had different high levels of burden and had low engagement coping. As well as there is a great relationship between coping strategies and burden levels as perceived by these caregivers. As there was a moderate negative correlation between caregivers' coping patterns and their burden levels.

## Recommendations

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- Development of psycho-educational supportive program for family caregivers of patients with BD to reduce their burden and improve coping patterns to deal with stress resulting in caring of their patients.
- Establishment of counseling clinics for caregivers of patients with mental illness including BD to improve to enhance resilience, coping skills and quality of life.
- Further qualitative research regarding burden and coping patterns of caregivers of patients with BD.

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