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The relationship between coping styles and family burden in chronic schizophrenic and bipolar type I patients' caregivers

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Abstract

Background Caregivers play an essential role in caring of patients with psychiatric disorders. It is important to focus on family burden and coping styles of chronic psychiatric disorders' caregivers. In this survey, the aim was to measure coping styles' of schizophrenic and bipolar type I patients' caregivers, their burden and its relationship between these scales. In this cross-sectional study, 100 main caregivers of patients (50 schizophrenic patients, 50 bipolar type I patients) from both Razi psychiatric hospital were enrolled in the study in 2014. The instruments were family burden interview schedule (FBIS) and Weintraub coping orientations to problems experienced (COPE). Chi-square, Pearson correlation coefficient, and independent t-test were used for data analysis.

Results There was inverse correlation between burden and problem-focused coping strategy about caregivers of both groups ($r = -0.29, P < 0.01$). There was a direct correlation between burden and emotional-oriented and less benefit and not effective coping strategies, but it was not significant. The independent t-test demonstrated caregivers' burden is not significantly different between bipolar mood disorder and schizophrenia.

Conclusions Social support and health services to caregivers of chronic schizophrenia and bipolar disorder are necessary. Training effective coping style reduces perceived caring burden.

Keywords Bipolar disorder type I, Caregivers, Caregiver burden, Coping styles, Schizophrenia

Background

Families are the best source of caring for chronic psychiatric patients. Families take care of approximately 60–85% of people with a handicap or disability [1]. The burden is observed among caregivers because of chronic psychiatric patients, such as patients with schizophrenia or bipolar in family. Schizophrenia and bipolar disorder

are chronic and debilitating ones that can lead to progressive reduction in social interaction (social isolation), their jobs and many dimensions are affected in a person's life. The prevalence of schizophrenia is 1% and bipolar disorder is 1% in all communities [1].

Schizophrenia and bipolar disorder are chronic and debilitating disorders that lead to significant social isolation. Their performance and most aspects of a person's life are affected by these disorders. Stressor assessment and management of family burden is an important issue. It helps the caregivers to provide better care for patients. The results show improving coping strategies to reduce the burden is also important [2].

Increased responsibilities in families lead to awareness of these patients' problems. This will be helpful for caregivers of patients to deal with these problems [3]. Some studies showed that the diversity and intensity of

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care could lead to susceptibility to stress in caregivers of patients. If appropriate intervention is not done, this problem may reduce the level of physical and mental health of caregivers [4]. The overloading pressure that was caused due to patient caring is called family burden in 1950 [5]. Burden is a certain amount of psychological pressure and problems expressed by caregivers or the patient's family in 1966. It includes a range of psychological, emotional, social, and economic conditions. The burden imposed by the care of a mental illness can reduce the quality of a caregiver's life [5]. In other words, burden lead to poor quality of life in caregivers and this issue causes poor caring, poor compliance, and violent behavior inward to patient [6]. Burden is two types; "objective" and "subjective". Objective burden is negative caregivers' experiences due to the role of caregiver. Objective burden involves the disruption of family life that is potentially observable. Subjective burden is a feeling that occurs in caregivers following the care of the patients [7].

Coping style is as action-oriented and intra psychic efforts to manage the demands caused by stressful events. It is important for its significant impact on stress-related psychiatric and physical health outcomes and suitable intervention choice [7]. Lazarus theory conceptualized coping as a complex, organized sequence of behaviors that include cognitive appraisal, action impulses, patterned revised transactional model somatic reactions, and reflect physiological aspects of a particular emotion. Folkman and Lazarus defined eight factors of coping: confrontative coping, distancing, self-controlling, seeking social support, accepting responsibility, escape-avoidance, goal directed problem-solving and positive reappraisal [8].

The impact of burden like any other stressors depends on cognitive assessment of the problem and resources that are available to cope with it. The person's vulnerability to psychological pressure depends on person's coping skills and social supports [9]. Caring of chronic patients, including schizophrenia leads to use of maladaptive coping strategies in their caregivers. It causes challenges in mental health [10]. There is no direct correlation among burden, feelings of perceived burden, and its negative consequences. So that, Folkman and Lazarus discussed that coping strategies play a mediating role in feeling of burden and their perception of negative consequences [11]. Problem-focused coping styles can reduce the burden and emotion-focused coping styles and ineffective coping styles can increase the burden, or at least there has no effect on adjustment. In summary, family burden of schizophrenia and bipolar disorders depends on coping strategies they use [12]. In a study by Noori on caregivers of schizophrenic patients found that, the psychological burden between them was moderate to severe.

This rate was higher in female and more subjective. It was shown the coping strategies are different between caregivers [13]. Khajavi et al. showed that the level of psychological burden in caregivers of schizophrenia patients was higher than caregivers of bipolar patients, but they did not find a significant correlation between problem-solving coping style and burden [14]. Distress is more often in caregivers who report more consequences, who tend to use more ineffective coping style, and have passive reaction styles [15].

Purpose of most interventions is improving patient mental health, and caregivers' situation was the second goal in those researches. Accurate assessment of emotional status, evaluating various stressful situations and providing efficient social support can reduce burden care. Appropriate intervention for caregivers includes giving useful information, careful assessment of problems and supporting them. This type social support reduces isolation, helping problem solving when deal with problems and they give sufficient attention to improve patients' quality of life. In other words, burden has important effect on caregivers' quality of life. It causes poor care or violent behavior against patients or poor therapeutic compliance. The impact of burden like any other stressor depends on cognitive assessment of the problem and resources that are available to cope with it. The vulnerability of any person is influenced by his coping skills and availability of social support [16].

There is no direct correlation between stress, feelings of stress and its negative consequences. Folkman and Lazarus believe that coping strategies have mediating role in cost burden and its negative consequences [16]. Using problem-focused coping styles reduce the burden and emotion-focused coping style and ineffective style increase the burden or these have no effective roles in adjustment [17].

The burden is depending on caregivers' coping strategies [18]. In Iran, family plays a pivotal role in caring of severe and chronic psychiatric patients. The research hypothesis is that there is an inverse correlation between problem-oriented coping strategy and psychological burden of caregivers of schizophrenia and bipolar patients. Another hypothesis is that there is a direct and significant correlation between emotion-oriented coping strategy and psychological burden of these two groups of patients. This study aimed to evaluate stressful factors in Iranian caregivers and their coping strategies use for this domain.

Methods

This research was a cross-sectional survey. The study population included all caregivers of patients with schizophrenia or bipolar I mood disorder who were referred to Razi Hospital, Tehran, Iran, in 2014. The method was

as available sampling. In this way, the burdens of caregivers and coping strategies were studied between caregivers of patients with schizophrenia and bipolar diagnosis.

An experienced psychiatrist diagnosed all patients. A psychologist interviewed based on Diagnostic and Statistical Manual of Mental Disorders (DSM V) approved their diagnosis. They all fulfilled DSM 5 criteria for schizophrenia or bipolar disorder type I. Caregivers were randomly chosen for research and sample consisted of 100 patient’s families (50 caregivers of schizophrenia patients and 50 caregivers of bipolar disorder type I patients). Inclusion criteria were as follows: diagnosis of schizophrenia or bipolar I disorder according to DSM 5, primary caregivers between 20 and 75 years old, at least 2 years past from diagnosis disorder, no history of another medical condition, drug misuse or dependency among caregivers. Caregivers of patients whom they had a comorbid condition or intellectual disability were excluded.

First, a diagnosis of schizophrenia and bipolar disorder was confirmed by meet DSM 5 criteria. Informed consent was obtained from each caregiver. All participants were evaluated with family burden interview and coping strategy inventory.

Demographic questionnaire: the questionnaire of caregivers was include age, gender, employee status, education level, marital status, organic and psychiatric disorders, and family relationship.

Family burden interview scale (FBIS): Pai and Kapur [19] developed the caregiver burden scale. This questionnaire is a semi-structured interview. This scale measures objective and subjective aspects of burden. It consists of 24 items and 6 categories of burden. Subcategories include financial burden, disruption of routine family activities, family leisure, family interactions, and effect on physical and mental health of others. Each question has three-point scale and is scored from zero to two. The maximum score on this scale is 48 and the minimum is zero. The reliability of this scale is 0.72 [19].

Coping strategies inventory (COPE): this questionnaire is a multi-dimensional tool that assesses a variety of coping strategies and has been designed by Carver et al. This inventory has 72 items and 18 categories. Each category evaluates four classes. In conclusion, this checklist consists of three major categories: problem-focused (5 scales), emotion-focused (5 scales), and less useful (8 scales). Each question scored from zero to four. Range of scoring in emotion focused and problem focused is 0 to 20, and scoring range in less useful is 0 to 32. The reliability of the scale has been reported from 42 to 76% [20].

Data were analyzed using SPSS (Statistical Package for the Social Science) version 21, produced by IBM Corporation in USA, July 2009 and it was used in Iran from

Table 1 Perceived caregiving burden in the caregivers

Caregiver burden	Schizophrenia	Bipolar I disorder
Mild burden	0 (0%)	4 (8%)
Moderate burden	15 (30%)	13 (26%)
Sever burden	35 (70%)	33 (66%)

Table 2 Comparison of coping strategies in schizophrenia and BMD I caregivers

Variable	Mean difference	SD ^a difference	t	df ^b	Sig ^c
Problem focused	1.3	1.45	0.89	98	0.37
Emotion focused	0.4	0.54	0.73	98	0.46
Less useful coping	−0.78	0.78	−0.98	98	0.32

Bipolar mood disorder

^a Standard deviation

^b Degree of freedom

^c Significance

2011. Numerical data were presented by mean and standard deviation. Pearson’s correlation was used for assessment of relation between continuous variables.

Results

In this study, 100 patients and their caregivers were included. The mean age of caregivers of schizophrenia patients was 54.9 (SD = 10.595) and caregivers of bipolar I disorder was 53.86 (SD = 10.186). The major group of caregivers was patients’ mothers. Less of caregivers were patients’ daughter. Most of them were housekeeper and least of them were jobless. Twenty-nine percent of the family caregivers had diplomas and 22% were illiterate. Maximum age for caregiver was 80 and minimum was 26. The minimum number of years of living with patient was 3 years and the maximum was 47 years ($M = 22.07$, $SD = 12.015$). The maximum time for contacting was 24 h and the minimum was 2 h (19.71 ± 6.815). The maximum hours of caring for patient were 24 h and the minimum was 1 h (6.51 ± 7.55).

Caregivers’ burden in bipolar patients ranged 8–48 and it is ranged 23–48 in schizophrenia patients. Caregiving burden among BMD I and schizophrenia is reported in Table 1.

There were no statistically significant difference between family burden of schizophrenia patients and bipolar I disorder patients (Table 2).

Table 3 shows correlation between burden and problem solving was negative. Pearson coefficient did not indicate significant correlation between burden and coping

Table 3 Pearson correlation coefficient between burden and coping strategies

Variable	n (%)	Burden	Sig ^a
Problem focused in bipolar caregivers	50 (100%)	-0.291	0.04*
Problem focused in schizophrenia caregivers	50 (100%)	-0.278	0.05**
Emotion focused in bipolar patients caregivers	50 (100%)	-0.186	0.19
Emotion focused in schizophrenia patients	50 (100%)	-0.185	0.19
Less useful coping in bipolar caregivers	50 (100%)	0.04	0.78
Less useful in schizophrenia caregivers	50 (100%)	-0.14	0.33
Problem focused in both groups	100 (100%)	-0.291	0.04*
Emotion focused in both groups	100 (100%)	-0.172	0.08
Less useful in both groups	100 (100%)	-0.47	0.63

^a Significance * $P < 0.01$; ** $P < 0.05$

focused on emotion. There is no significant correlation between burden and less useful strategies.

According to Levin test results, there was condition of equality of variances ($\text{sig} = 0.156$). The average burden in schizophrenia and bipolar groups were, respectively, 36.52 and 34.60. The burden in families of two groups had no significant differences. The average of experienced concrete tension in caregivers of two groups was 23.04 and mental tension was 13.18. This finding showed that the concrete tension was higher in caregivers.

Two independent sample t-tests showed that the burden in caregivers of patients with schizophrenia and BMD was not different ($t = 1.83$, $P < 0.24$). No difference was observed between burden and type of disorder.

Discussion

The aim of this study was assessment of burden in caregivers of schizophrenia and bipolar disorders' patients. This study showed correlation between caregivers' coping styles and burden in same groups.

The main hypothesis of this study was that there is relationship between the amount of burden and coping strategies on caregivers of both chronic schizophrenia and bipolar disorders. Caregivers of schizophrenia experience more considerable level of burden than caregivers of patients with bipolar disorder. Secondly, this study evaluated correlation between burden and types of coping strategies such as focused on problem-solving, emotion-focused and less effective and ineffective styles. The results showed significant correlation between burden and problem-solving coping strategies. It was line in both groups of caregivers. This finding was not statistically significant on two other coping strategies in this study ($N = 100$) and on the other hand, the sampling method was available. The participants

referred from one center that all of them have same geographical location, low socio-economic level, and low literacy and education is associated with results.

This study found that both groups of caregivers have economic problems and failure about fun and job.

Some researchers believe that if the problem was not solved by emotion-focused coping strategies, it can lead to further given the chronic disorder such as schizophrenia or bipolar disorder [21]. According to the literature, it seems that in situations where the problem is solvable, problem-focused coping strategies are more adaptive, but in cases where the problem lasts, emotion-focused strategies may also be adaptive [22]. Several studies show that this factor is associated with burden, coping styles as protective factors associated with caregivers' burden. Improvement of coping against problems reduces problems of caregiver [23]. A longitudinal study showed family burden will reduce in caregivers who used less emotion-focused coping strategies [24]. Using coping strategies such as problem-focused skills decrease care burden. The other study showed a direct relation between coping strategies used by spouses of bipolar patients and their feeling of burden [10]. Another study found that using emotion-focused coping strategies can reduce burden. Problem-solving is often more useful [14]. Another study showed problem-focused coping styles was common in caregivers of bipolar patients and in caregivers of patients with schizophrenia emotion-focused coping was more common. In Abdel et al. caregivers of schizophrenia patients experienced, more burdens but it is not related to coping styles they used. The first part of it is congruent with current study [25]. Tan et al. showed that caregivers of chronic schizophrenia felt more distress and burden. The results of above studies are consistent with this study [26]. Recognition, problem solving, emotion regulation and empathy are related to executive function of frontal lobe. Frontal lobe may involved in both schizophrenia and bipolar disorder.

Consistent with our findings, Rahmani et al. indicated schizophrenic caregivers used maladaptive coping styles and perceived high level of burden.

Majority of human-related diseases are associated with burden in some ways. The severe and prolonged burden has more psychological and physiological congruence effects [27].

In a preliminary study, it was shown that prefrontal cortex has an axial role in bipolar disorder pathophysiology [28]. Empathy is a function about prefrontal cortex and amount of caregiver empathy can influence the perceived burden [29].

According to previous studies, schizophrenia is a chronic and regressive disorder. Therefore, it is a stressful

event for caregivers. Young caregivers experience more stress than older ones.

Limitations of the present study are as follows: sample is selected from two centers that it makes bias in conclusion and generalization. Due to recurrent hospitalization and low social class, most of families prefer to hospitalize their patients for long period. This study cannot be generalized because loss of controlling on variables such as age, sex, employment status. Self-report questionnaire make bias in reporting problems. These questionnaires are too long that it will be tiring for caregivers to answer it. Severity of symptoms and the patient's functional disability can also affect the caregiving burden in schizophrenia and bipolar I disorder and suggest to be examined in future studies.

Conclusions

Caregivers of schizophrenic patients experience a significant level of burden more than caregivers of patients with bipolar I disorder. The effects of burden on caregivers depend on assessment their recognition of the problem and the resources that are available to deal with it. Each person's vulnerability to psychological pressure by his or her coping skills and social support is available. In this study there was a significant relationship between using coping strategies focused on problem-solving and burden on caregivers in both groups chronic schizophrenia and bipolar chronic. Training of caregivers for problem-focused copings can also reduce the burden.

Abbreviations

FBIS	Family burden interview schedule
COPE	Coping orientations to problems experienced
DSM 5	Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition
BMD	Bipolar mood disorder

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Author contributions

TA did the project as a main author. AF and TA wrote primary draft. BB revised the whole manuscript. RB has role of supervision in all part of manuscript preparation and submission. All authors read and approved the final manuscript.

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Availability of data and materials

The first author takes full responsibility for the data, has full access to all of the data, and has the right to publish any and all data separate from any sponsor.

Declarations

Ethics approval and consent to participate

The ethical committee of Azad University (Semnan branch) approved this study, in 2013. Ethical code is IR.AU.MSPREC.1394.449. Authors confirmed

commitment to American Psychological Association (APA) ethical standards in this treatment, and it is essential to mention that all members who voluntarily participated in this study, were informed about the intention of this intervention and filled the consent form.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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