

# Relationship between Self-efficacy and Perceived Burden among Schizophrenic Patients' Caregivers

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## Abstract

**Context:** Caregiver burden is high in schizophrenia. Self-efficacy is an emotional and behavioral response to such stressors.

**Aims:** The aim of the study is to determine the relationship between self-efficacy and the perceived' burden among schizophrenic patients' caregivers.

**Setting and Design:** A total of 384 schizophrenic patients' caregivers referring to a psychiatry Clinic in Sari, Iran, were selected via convenient sampling, for this descriptive correlational study.

**Materials and Methods:** The caregivers filled the demographic questionnaire (the patient and the caregivers), the Zarit burden interview, and the general self-efficacy scale.

**Statistical Analysis Used:** Using SPSS 20 software, the demographics of the caregivers were compared using Chi-square tests for categorical data and *t*-tests for continuous data. Pearson's correlation and regression method were applied after normality testing ( $P > 0.05$ ).

**Results:** Among 40.5%, 38.7%, and 7.7% of the caregivers, the burden was mild-to-average, average-to-severe, and highly severe, respectively. The mean of caregivers' self-efficacy and burden was  $28.79 \pm 5.60$  and  $40.11 \pm 13.60$ , respectively. Furthermore, the burden had significant relationship with the patient's disease duration and income, caregiver's educational level, job, economic status, and relationship with the patient ( $P < 0.05$ ). Besides, the caregivers' self-efficacy had meaningful relationship with the patient's gender, income potential, housing status, and with the caregiver's age, gender, educational level, job, housing status, economic status, and relationship with the patient ( $P < 0.05$ ). The relationship between caregivers' burden and self-efficacy was significantly negative ( $r = -0.445$ ,  $P = 0.001$ ).

**Conclusion:** When the self-efficacy increases, the caregiver's burden decreases. The importance of economic status of the caregivers and the patient requires special attention.

**Keywords:** Burden, Caregiver, Schizophrenia, Self-efficacy

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## INTRODUCTION

Schizophrenia is one of the most deteriorative disorders in the world, severely impairing the person's thinking, perception, and emotion. Forty to ninety percent of the persons with schizophrenia live with their relatives.<sup>[1-4]</sup> Caring a psychologically disordered patient is a chronic, stressful, challengeable, and continuous process, resulting in negative consequences for caregivers' physical and mental health.<sup>[5,6]</sup> Caregiver's burden is a state with combined physical, social, and emotional pressure and economic constraints.<sup>[7]</sup> Regardless of countries' developmental level, the caregivers experience a high level of burdens the entire world.<sup>[6,8,9]</sup> The most risk factors seeming to be associated with the caregivers' perceived burden levels include the caregivers' age and the number of care hours engaged with patient per week,<sup>[10]</sup> medical expenses, losing job opportunities, fatigue, and psychosomatic health issues.<sup>[11,12]</sup> In addition, the type of psychiatric disorder, duration and severity of the disorder, care duration, outbreak of problematic behaviors, lack of social supports, and caregivers' negative feeling can result in higher caregiver's burden.<sup>[13,14]</sup>

A study pursuing the goal to determine the caregiver's burden in schizophrenic patients' family caregivers indicated that 12.2%, 36.4%, and 51.4% of the caregivers undergoing mild, moderate, and severe burden, respectively.<sup>[15]</sup> Of course, care duration has influenced the perception of care burden so that the more the care duration lasts, the higher the care burden increases.<sup>[16,17]</sup> Some other studies also found that the caregiver's burden of the women has been significantly higher than that of men.<sup>[15]</sup> The results by comparing the caregiver's burden suggested that the caregiver's burden of the chronic schizophrenic patients was significantly higher than that of the chronic bipolar disorder patients.<sup>[14]</sup> About 25% of the schizophrenic patients' caregivers, whether living with the patient or separately, have revealed a high level of depression.<sup>[18,19]</sup> In addition, a study showed that life expectancy among the schizophrenic patients' caregivers has been 10 years less than other caregivers. Besides, quality of life among the caregivers decreased meaningfully.<sup>[19]</sup> Another study also showed the negative effect of caring the schizophrenic patients on the caregivers' quality of life.<sup>[20]</sup>

The concept of "self-efficacy" refers to the individuals' different reactions to life stressful experiences and exclusively is applied in care area to describe how the caregivers tackle the ongoing challenges.<sup>[21]</sup> According to the self-efficacy theory, the higher and better self-efficacy may lower care burden.<sup>[22]</sup> Furthermore, it raises the sense of well-being and peace in the patients.<sup>[23]</sup>

The care of the mentally ill individuals in Sari, Mazandaran Province in Iran, is dealing with several challenges. First, the individuals with schizophrenia have limited capacity to work; as a result, the patient's care is usually provided by their family. Second, mental health delivery systems have no stable structures to maintain follow-up opportunities. Hence, caring the patients may be required and dependent on some inner ability and capacity of their caregivers. Since analyzing the schizophrenic patient caregivers' burden is a critical issue, it seems that the concept known as self-efficacy has influenced the perceived caregiver's burden as an enforcing and positive factor. Thus, the study pursues the goal to analyze the relationship between self-efficacy and perceived caregiver's burden in the schizophrenic patients' caregivers in a sample of Iranian population.

## MATERIALS AND METHODS

### Design

This was a descriptive – correlational study.

### Participations and setting

Three hundred eighty-four caregivers of the patients with schizophrenia, referring to Zare Hospital Clinic of Sari, Mazandaran Province, were selected via random sampling. The inclusion criteria were (1) caregivers aged 18 years or older. Diagnosis of schizophrenia for the patients was based on using the DSM-5 criteria that applied by the psychiatrists. The inclusion criteria for the caregivers included 18 years or older age, being a primary schizophrenic patients, caregivers (spouse, brother, sister, child) that doing the majority of daily care of the patients and managing the treatment program. Further, the exclusion criteria were suffering the caregivers from chronic psychiatric or physical diseases and taking psychotropic drugs. The data collection has lasted 6 consecutive months from April to October 2016 to complete the samples' size. On average, on a daily basis, five patients of the patients who referred to the mentioned clinic randomly selected based on the inclusion criteria. The calculated sample size has been determined as almost 384, according to a pilot study and the following formula:

$$n = \frac{\left( z_{1-\frac{\alpha}{2}} \right)^2 \times p(1-p)}{d^2}$$

$\alpha$  = error level, if  $\alpha = 0.05$ ,  $z_{1-\alpha/2} = 1.96$

$p$  = probability  $y$  (guess)

$d$  = acceptable error

After identifying the caregivers and talking with them for participating in the above research project and explaining the study, they signed written informed consent form. Then, they were asked to fill the blind questionnaires in a private room in the hospital. In this study, the researcher read the questionnaires for illiterate caregivers.

**Measures**

*Demographics questionnaires (the patient and the caregivers)*

The patient's and caregivers' demographic information is shown in Table 1.

*Zarit burden interview*

Zarit burden interview has been developed by Zarit et al., to measure care-induced burden of the caregivers. It is made up of 22 items measuring four dimensions of care burden (personal, affective, social, and economic). To answer each option, some scores have been assigned in the form of never (0), rarely (1), sometimes (2), quite frequently (3), and nearly always (4); the sum of the scores earned by each caregiver determines the care burden. The minimum and maximum score of each individual ranges from 0 to 88 and higher score indicates higher care burden and vice

versa. Having analyzed and determined the cutoff point, the score <20 has been rated as little or no burden, 21–40 as mild-to-moderate burden, 41–60 as moderate-to-severe, and 61–88 severe caregiver's burden.<sup>[24]</sup> Reliability and validity of the original and the Persian translation of the questionnaire have been verified in previous studies;<sup>[25,26]</sup> the original version's test–retest reliability coefficient has been reported as 0.71 and the internal consistency of Cronbach's alpha as 0.91.<sup>[26]</sup> In the current study, the internal consistency of the questionnaire was calculated as  $\alpha = 0.908$ .

*General self-efficacy scale*

The general self-efficacy (GSE) beliefs' scale, which was first constructed by Jerusalem and Schwarzer in 1979, included 20 items. This scale was summarized to a 10-item scale in 1981. The answers rate as “absolutely incorrect” to “absolutely correct” from 1 to 4 points. The total score range achievable in this scale is 10–40 and acquiring higher score signifies higher GSE. This scale lacks cutoff point; however, regarding the score range, the subjects have been divided into two classes as having the GSE of optimal level and of lower than optimal level. The above scale was translated into Persian in 1996 and has been used in various studies in Iran and normalized and validated. Its internal consistency estimate (using Cronbach's alpha) of 0.82, 0.73, and 0.81 has been reported in three studies in Iran.<sup>[27–29]</sup> The internal consistency of this scale was  $\alpha = 0.888$  in our study.

**Data analysis**

The SPSS 20 (IBM, Armonk, NY, USA) was used for data analyses. The demographics of the caregivers were compared using Chi-square tests for categorical data and *t*-tests for continuous data. Pearson's correlation and regression method were applied after normality testing ( $P > 0.05$ ).

**Ethical considerations**

After being approved by the research council and by the ethics committee of Mazandaran University of Medical Sciences (Code: ir.mazums. 1393.1207), the introduction letter was gained for referring to Zare Hospital and accessing the schizophrenic patients' files. World Medical Association Declaration of Helsinki and the ethical principle for medical research were considered. Participation in the study was voluntarily, and the participants were informed that their individual information is confidential and they can refuse to continue the study at any time. Written informed consent was received from them, too.

**RESULTS**

The study results of the patients' demographic characteristics suggested that 27.6% and 25% of the patients were in the

**Table 1: The patients' demographic characteristics**

Variable	Frequency (%)
Patient's gender	
Man	219 (56.4)
Woman	159 (41.0)
Patient's age	
20-30	89 (22.9)
31-40	107 (27.6)
41-50	99 (25.5)
51-60	73 (18.8)
Disease history	
1-10	159 (41.0)
11-15	123 (31.7)
16-20	67 (17.3)
21 and through high	28 (7.2)
Patient's education level	
Illiterate	61 (15.7)
Primary level	77 (19.8)
Secondary level	101 (26.0)
Diploma	100 (25.8)
Associate degree	26 (6.7)
Bachelor	18 (4.6)
Patient's job*	
Jobless	183 (47.2)
Farmer	90 (23.2)
Self-employed	78 (20.1)
Office employee	20 (5.2)
Retired	14 (3.6)
Patient's income	
Low	212 (54.6)
Average	152 (39.2)
Good	9 (2.3)
Housing	
Personally owned	212 (56.4)
On lease	164 (43.6)

\*As the women who have the responsibility of homemaking have no income for their work, homemakers were considered as jobless in this study

age groups of 31–40 and 41–50 years and 65.4% of them were men. The disease duration of 41% and 31.7% of the patients was < 10 years and 15–11 years, respectively. 26% and 25.8% of the patients' educational state were of secondary high school and high school diploma level. 47% of them were unemployed. The income of 54.6% of the patients was reported as low. 93.8% had health insurance coverage [Table 1].

The results of the caregivers' demographic characteristics revealed that 36.9% and 27.8% of the caregivers were in the age groups of 41–50 and 51–60 years and 60.1% of them were women, 9% of them were illiterate and 33.5% had high school diploma, 75.3% reported their economic status as average, 32.7% were unemployed, and 84.3% of the caregivers spent 1–8 h daily on caring the patient. 37.4% and 28.9% of the caregivers were the patient's spouse and parents, respectively [Table 2].

The findings indicated the mean burden score was  $40.11 \pm 13.60$  (range: 7–78). In addition, 40.5% and 38.7% of the caregivers experienced the burden as mild-to-average and average-to-severe, respectively. Besides, 7.7% of them reported care burden as highly severe. In this study, the mean care self-efficacy of the caregivers was  $28.79 \pm 5.60$  (range: 13–40). The schizophrenic patient caregivers' burden had significant relationship with the disease duration, patient's income, and with the caregiver's educational level, job, perceived economic status, and relationship with the patient. There were no significant difference between other variables and the caregivers' burden [Table 2]. Besides, the schizophrenic patients' caregivers' self-efficacy had statistically meaningful relationship with the patient's gender, income potential, housing status and with the caregiver's age, gender, educational level, job, housing status, relationship with the patient, and perceived economic status [Table 2]. There was no significant statistical relationship between other study variables and the caregivers' self-efficacy. Furthermore, the results showed a negative and significant relationship between the caregivers' perceived burden and their self-efficacy ( $r = 0.445$ ,  $P = 0.001$ ) [Tables 3 and 4].

**DISCUSSION**

The results indicated that most of the caregivers experience mild-to-average and average-to-severe care burden, respectively. Moreover, the score of the caregivers' self-efficacy has been in moderate level and the caregivers' burden had a negative meaningful relationship with their self-efficacy. That is, the higher the caregivers' self-efficacy score, the less the burden is. This is congruent with other

**Table 2: The caregivers' demographic characteristics**

Variable	Frequency (%)
Caregiver's age	
20-30	27 (7.0)
30-40	17 (4.4)
41-50	143 (36.9)
51-60	108 (27.8)
<60	85 (21.9)
Caregiver's gender	
Man	151 (38.9)
Woman	233 (60.1)
Caregiver's education level	
Illiterate	35 (9.0)
Primary	49 (12.6)
Secondary	65 (16.8)
Diploma	130 (33.5)
Associate degree	60 (15.5)
Bachelor	47 (12.1)
Caregiver's job*	
Jobless	127 (32.7)
Farmer	97 (25.0)
Self-employed	45 (11.6)
Office employee	88 (22.7)
Retired	29 (7.5)
Caregiver's housing	
On lease	175 (45.1)
Personally owned	181 (46.6)
Economic status	
Poor	70 (18.0)
Average	292 (75.3)
Good	25 (6.4)
Other patients	
Yes	103 (26.5)
No	284 (73.2)
Daily care hours	
1-8	327 (84.3)
9-16	17 (4.4)
17-24	22 (5.7)
Relation	
Spouse	145 (37.4)
Parents	112 (28.9)
Siblings	50 (12.9)
Child	55 (14.2)
Sister-in-law	20 (5.2)

\*As the women who have the responsibility of home-making have no income for their work, homemakers were considered as jobless in this study

studies in Iran and other countries. A study conducted in Thailand revealed that the schizophrenic patients' caregivers reported average care burden<sup>[30]</sup> and another study in Turkey found out moderate care burden and low self-efficacy among the caregivers of the elderly people.<sup>[31]</sup> Besides, a study on schizophrenic patients' caregivers in Turkey indicated a medium level of self-efficacy for caregiving families (self-efficacy scale developed by Sherer *et al.*)  $76.4 \pm 17.76$  and the mean of burden score (by Zarit burden interview) that was  $68.64 \pm 18.60$ . Further, a negative significant relationship was discovered between self-efficacy and caregivers' burden ( $r = -0.260$ ).<sup>[32]</sup> Compared with our study, the research also showed the same level of self-efficacy, higher mean of the caregivers' burden, and lower correlation between the two variables. The results of another study on relationship between

**Table 3: The relationship between caregivers' burden and self-efficacy with demographic characteristics of the schizophrenic patients and their caregivers**

Variables	Mean±SD	Test and significance (F, df, P)
<b>Burden</b>		
<b>Disease history</b>		
<10	36.60±14.03	6.142, 3, <0.001
11-15	42.97±13.10	
16-20	42.88±12.92	
21 and through high	38.88±10.55	
<b>Perceived patient's income</b>		
Low	41.23±13.50	5.522, 2, 0.004
Average	38.95±13.48	
Good	24.00±9.033	
<b>Caregiver's education level</b>		
Illiterate	47.40±14.14	6.122, 5, 0.001
Primary	43.02±16.50	
Secondary	43.49±14.64	
Diploma	36.80±12.29	
Associate degree	40.89±10.42	
Bachelor	34.75±11.06	
<b>Caregiver's job*</b>		
Jobless	42.88±13.88	3.237, 4, 0.013
Farmer	39.70±13.75	
Self-employed	36.70±14.78	
Office employee	37.17±11.79	
Retired	42.96±12.03	
<b>Caregiver's perceived economic status</b>		
Low	48.59±12.76	32.103, 2, 0.001
Average	39.29±12.64	
Good	24.72±10.67	
<b>Relation with patient</b>		
Spouse	41.41±13.74	3.639, 4, 0.006
Parents	42.40±14.03	
Siblings	36.44±13.42	
Child	37.05±11.28	
Sister-in-law	33.31±12.21	
<b>Self-efficacy</b>		
<b>Perceived patient's income</b>		
Low	28.67±5.03	3.414, 2, 0.034
Average	28.74±6.03	
Good	33.55±6.65	
<b>Caregiver's age</b>		
20-30	44.84±13.77	79.384, 4, 0.037
30-40	40.41±11.38	
41-50	39.15±12.62	
51-60	39.59±13.73	
<60	41.32±14.49	
<b>Caregiver's education level</b>		
Illiterate	26.29±6.11	6.052, 5, <0.001
Primary	29.04±4.84	
Secondary	26.49±5.48	
Diploma	29.48±5.50	
Associate degree	29.05±5.35	
Bachelor	31.33±5.26	
<b>Caregiver's job*</b>		
Jobless	27.42±5.71	5.232, 4, 001
Farmer	28.40±5.09	
Self-employed	30.54±5.67	
Office employee	30.46±5.30	
Retired	29.29±5.21	
<b>Perceived caregiver's income</b>		
Low	26.03±5.29	5.232, 4, 001
Average	29.03±5.37	
Good	32.92±5.69	

Contd...

**Table 3: Contd...**

Variables	Mean±SD	Test and significance (F, df, P)
<b>Relation with patient</b>		
Spouse	27.82±5.28	6.637, 4, 0.001
Parents	27.69±5.75	
Siblings	30.06±5.26	
Child	31.15±5.23	
Sister-in-law	31.66±5.73	

\*As the women who have the responsibility of home-making have no income for their work, homemakers were considered as jobless in this study. SD: Standard deviation

self-efficacy and stress among adult informal caregivers of the end-of-life patients showed a negative and high correlation ( $r = -0.53$ ;  $P < 0.01$ ).<sup>[33]</sup> According to these studies' results, there is a negative and significant correlation between self-efficacy and caregivers' stress or burden with different correlation power according to cultures and diseases.

A study found out that the care burden among the chronic schizophrenic patients is significantly higher than that of the chronic bipolar patients.<sup>[14]</sup> Another study revealed the schizophrenic patients' female caregivers' burden as significantly higher than that of the male ones.<sup>[34]</sup> In the current study, although 60% of the caregivers made up of women including the schizophrenic patients' spouses and their parents, there was not a significant relationship between the caregivers' gender and burden. These results are in accordance with other studies among other physically and mentally ill patients' caregivers<sup>[30,31,34,35]</sup> and incongruent with a study on the burden of the caregivers of the elderly with psychiatric disorders in Iran.<sup>[36]</sup> Of course, along with their motherhood responsibility and household management, the women in our society are usually in charge of taking care of other family members, especially their sick children and husbands. The issue which highly justifies this matter regarding their multiple roles in family. Further, the present study revealed that women and the older caregivers had significantly lower self-efficacy score compared with the male caregivers and the younger caregivers. Of course, this matter requires further contemplation and analysis regarding confounding variables. The findings indicated that the caregivers' educational level, their economic status, job, and relationship with the patient had meaningful relationship with the score of self-efficacy and the burden, which does not match with another research on female caregivers of elderly with Alzheimer's disease in Iran,<sup>[35]</sup> while it is in accordance with another study on schizophrenic patients family caregivers' in Iran<sup>[37]</sup> and other countries, among other physically and mentally ill patients' caregivers.<sup>[31,38-40]</sup> This study reported that the caregivers with the educational level of high school diploma have lower care

**Table 4: Comparison of the mean of caring and self-efficacy score with demographic characteristics of the schizophrenic patients and their caregivers**

Variables	Mean±SD	Test results (t, df, P)
<b>Burden</b>		
Patient's housing		
Personally owned	38.13±14.58	-2.99, 351, 0.002
On lease	42.44±11.88	
Caregiver's housing		
Personally owned	38.34±14.59	3.17, 337, 0.002
On lease	42.73±11.18	
<b>Self-efficacy</b>		
Patient's gender		
Female	29.37±5.8	-1.919, 363, 0.05
Male	28.23±5.01	
Caregiver's gender		
Female	28.05±5.54	3.058, 369, 0.002
Male	29.86±5.51	
Patient's housing		
Personally owned	30.08±5.83	5.08, 362, 0.001
On lease	27.18±4.82	

SD: Standard deviation

burden and higher self-efficacy. It seems as the caregivers' knowledge about schizophrenia and its outcomes imposes extra worries on the caregivers with higher education, and on the other hand, majority of the caregivers with high school diploma and under diploma (a moderate and low educational level in Iran) are mainly homemakers and/or self-employed, and consequently, it seems that they possess sufficient time to run their personal, social, and occupational chores and plan their caring responsibilities as they desire. This matter causes the caregivers to carry out their social-occupational responsibilities and care role appropriately, and finally, they will end up in higher self-efficacy and lower care burden score. In summary, promoting and increasing self-efficacy can prevent from negative outcomes of caregivers' burden and better adaptability with the ongoing challenges. Psychological interventions and self-help groups may play an important and effective role in promoting the caregivers self-efficacy.

Besides, the study revealed that some economic variables such as housing status, the caregiver's job, and the patient's and caregiver's perceived economic status have significant relationship with the caregivers' self-efficacy and burden. These results are in accordance with many studies.<sup>[31,34,37-39]</sup>

Using self-report questionnaires was a limitation in our study, as well as gathering patients' demographic data from their caregivers. Furthermore, the study has two strengths; random sampling and sufficient sample size.

**CONCLUSION**

There is a negative correlation between caregiver burden and self-efficacy among the caregivers' schizophrenic patients. When the caregivers' self-efficacy increases, the

burden of care decreases. Further, correlation between some economic variables with burden and self-efficacy revealed the important role of financial status of the caregivers. In other words, although self-efficacy is an inner capacity, some external supports, especially economic support, is very important.

Considering the importance self-efficacy and also financial supports in caring of the patients, drawing health careers' attention on the role of family in care of their patients, identifying caregivers and referring them to supportive sources, and providing supportive-training service to them may promote their self-efficacy and consequently lower the burden.

**Conflicts of interest**

There are no conflicts.

**Authors' contributions**

A . Ramzani contributed with data collection, writing the first draft of the article. M. Zarghami was advisors of the article.J. Yazdani charati contributed data analysis and interpretation results. Bagheri performed data collection. H Azimi Lolaty designed and supervised the work.

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