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The Relationship Between Caregiver Stress and Health Anxiety with the Mediation of Emotional Expression in Caregivers of Patients with Chronic Illnesses Admitted to Military Hospitals in Tehran

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A B S T R A C T

Objective: The present study aimed to determine the relationship between caregiver stress and health anxiety with the mediation of emotional expression in caregivers of patients with chronic illnesses admitted to military hospitals in Tehran.

Methods and Materials: This study employed a correlational research design using structural equation modeling (SEM). The study population consisted of all caregivers of patients with chronic illnesses admitted to military hospitals in Tehran during the first half of 2023. The sample size was 290 individuals, selected using convenience sampling. The research tools included the Novak and Guest Caregiver Stress Questionnaire (1989), the Salkovskis and Warwick Health Anxiety Questionnaire (2002), and the King and Emmons Emotional Expression Questionnaire (1990). The data were analyzed using structural equation modeling (SEM) with LISREL 8.54 and SPSS 24 software.

Findings: The analysis of direct path coefficients revealed a significant direct relationship between caregiver stress ($\beta = 0.23$, $p < 0.001$) and emotional expression ($\beta = -0.58$, $p < 0.001$) with health anxiety. All model fit indices supported the acceptability of the structural model with the collected data ($\beta = -0.42$, $p < 0.001$).

Conclusion: The study's findings suggest that emotional expression can play an important role in reducing the negative effects of caregiver stress on the mental health of caregivers of patients with chronic illnesses.

Keywords: *emotional expression, health anxiety, caregiver stress.*

1. Introduction

Chronic diseases encompass a set of complex, long-term conditions that are typically progressive and can affect individuals' quality of life. These diseases include diabetes, cardiovascular diseases, cancer, chronic respiratory diseases such as asthma and chronic obstructive pulmonary disease (COPD), chronic kidney diseases, and psychiatric conditions like depression and anxiety (Garbóczy et al., 2021). The burden of chronic diseases on societies is increasing and has a significant impact on healthcare systems and economies. Additionally, patients with chronic diseases often face psychosocial challenges such as chronic pain, disability, occupational and educational problems, and reduced quality of life (Putri et al., 2022). Successful management of chronic diseases requires a multidimensional approach that includes self-care, social support, and collaboration among healthcare teams. Risk factor control strategies such as lifestyle modification and adherence to treatments are also crucial (Sabetfar et al., 2021).

Caregivers of patients with chronic illnesses admitted to hospitals play a vital role in providing care and support for these patients. They are usually family members, close friends, or professional caregivers who bear the majority of the caregiving responsibilities (Sabzalipoor et al., 2021). These individuals face numerous challenges, including emotional stress, financial burden, and physical difficulties. Caregivers of patients with chronic illnesses admitted to hospitals must acquire specific skills, such as patient education, medication management, and performing medical tasks (Sabetfar et al., 2021). They must also interact with hospital staff and take an active role in decision-making regarding patient care. Supporting caregivers of patients with chronic illnesses admitted to hospitals is essential. Education, counseling, and support services can help reduce stress, increase awareness, and improve the quality of care (Li et al., 2023). Additionally, addressing caregivers' physical, psychological, and social needs can help maintain their health and well-being (Sabetfar et al., 2021).

Caregiver stress in caregivers of patients with chronic illnesses admitted to hospitals is a common and intense challenge. This stress can arise from various factors, such as the heavy responsibilities of caregiving, concern about the patient's condition, lack of support and resources, and role conflicts (Sari & Manungkalit, 2023). Long-term caregiver stress can lead to psychological disorders, physical fatigue, and even physical illnesses in caregivers. Caregivers of patients with chronic illnesses admitted to hospitals often face unique challenges, including navigating the complex hospital environment, communicating with healthcare staff, and managing complex medical care (Karimi Moghaddam et al., 2023). They may feel unprepared, frustrated, and highly stressed, which can affect their ability to provide effective care. Identifying and reducing caregiver stress in caregivers of hospitalized chronic patients is essential. Emotional and educational support, counseling services, and providing adequate resources and facilities can help reduce this stress (Li et al., 2023). Furthermore, involving caregivers in decision-making and patient care can enhance their sense of control and self-efficacy (Sari & Manungkalit, 2023).

Health anxiety in caregivers of patients with chronic illnesses admitted to hospitals is a concerning issue. This anxiety involves intense and persistent concerns about their own health or the health of their loved ones, which can affect their daily functioning (Garbóczy et al., 2021). These caregivers often experience significant stress and psychological pressure, which can lead to health anxiety. Health anxiety in caregivers of hospitalized chronic patients can stem from various factors, including concern about disease progression, fear of treatment side effects, lack of information and awareness, and financial and social pressures (Barghbani et al., 2023). This anxiety can lead to avoidance of healthcare, psychological distress, and a reduced quality of life (Li et al., 2023). Symptoms of health anxiety in caregivers of hospitalized chronic patients include frequent worries about health, excessive focus on physical symptoms, constant searching for medical information, and difficulty accepting reassurance from doctors (Sari & Manungkalit, 2023). Identifying and treating this anxiety is crucial as it can impact caregivers' ability to provide effective care. Coping strategies for health anxiety in caregivers include education and information provision, counseling and psychotherapy, and access to support services and adequate resources. Involving caregivers in decision-making and patient care can also increase their sense of control and reassurance (Barghbani et al., 2023).

Emotional expression in caregivers of patients with chronic illnesses admitted to hospitals is a vital skill for coping with psychological stress and maintaining mental health. This skill refers to the ability to recognize, understand, and appropriately express emotions (King & Emmons, 1990). Healthy emotional expression can reduce tension, increase social support, and improve the quality of care. Caregivers of hospitalized chronic patients often face numerous emotional challenges, such as anxiety, sadness,

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anger, and guilt (Garbóczy et al., 2021). The inability to appropriately express these emotions can lead to prolonged psychological stress, emotional fatigue, and even psychiatric disorders. On the other hand, appropriate emotional expression helps caregivers better cope with the psychosocial challenges associated with their caregiving role. Through expressing their feelings and concerns, they can receive emotional support and find more adaptive strategies for coping with stress (Bashiri Nejadian et al., 2021). Emotional expression in caregivers can also affect the quality of their communication with the patient and healthcare staff. Honest expression of feelings and concerns can help better understand patient needs and make more appropriate caregiving decisions (Zeinali Siavoshani & Dehghan, 2021).

Caregiver stress and health anxiety in caregivers of patients with chronic illnesses admitted to hospitals may be interconnected through the mediating role of emotional expression. Caregiver stress, arising from heavy caregiving responsibilities, concerns about the patient's condition, and lack of support, can lead to the inability to appropriately express emotions (King & Emmons, 1990). This, in turn, can increase the risk of health anxiety in caregivers. Health anxiety involves intense and persistent concerns about one's health or the health of loved ones, which can affect daily functioning (Barghbani et al., 2023). Caregivers experiencing health anxiety may have difficulty expressing their feelings and concerns, which can exacerbate caregiver stress (Zeinali Siavoshani & Dehghan, 2021). On the other hand, appropriate emotional expression can help reduce caregiver stress and health anxiety in caregivers. By expressing their feelings and concerns, they can receive emotional support and find more adaptive strategies for coping with challenges (Bashiri Nejadian et al., 2021). This can reduce stress, increase relaxation, and, as a result, reduce health anxiety. Studies show that teaching emotional expression skills to caregivers can help reduce caregiver stress and health anxiety (Barghbani et al., 2023; Sharmi Alamdari et al., 2023). Therefore, attention to the mediating role of emotional expression in the relationship between these two stressors can provide more effective strategies for supporting caregivers.

This research aims to fill important gaps in understanding the psychosocial experiences of caregivers of patients with chronic illnesses admitted to hospitals. It examines the mediating role of emotional expression in the relationship between caregiver stress and health anxiety in this group. Previous studies have separately considered these variables, but the complex relationships between them through mediating variables have been less explored. This research can provide a deeper understanding of how these stressors affect each other by identifying the role of emotional expression in these relationships. The study identifies protective and vulnerability factors that influence caregiver stress, health anxiety, and emotional expression in caregivers. This information can help design supportive and preventive interventions to reduce vulnerabilities and strengthen protective factors. By better understanding the role of emotional expression, effective interventions can be designed to teach emotional regulation skills, provide cognitive-behavioral therapies, support groups, and counseling services for caregivers. These interventions can help reduce caregiver stress and health anxiety. Potential differences in caregivers' experiences across hospital departments, such as intensive care, surgery, internal medicine, etc., are examined. This information can help identify the specific needs of caregivers in each department and provide tailored support. Cultural and contextual differences in the experience of caregiver stress, health anxiety, and emotional expression in caregivers are also examined. This can assist in designing interventions tailored to specific cultural contexts. Overall, this research provides a foundation for offering more effective, customized support that meets the specific psychosocial needs of caregivers of hospitalized chronic patients. This can lead to improved mental health, reduced psychological stress, and, ultimately, enhanced patient care quality. In light of the aforementioned issues, the present study aimed to examine the relationship between caregiver stress and health anxiety with the mediating role of emotional expression in caregivers of patients with chronic illnesses admitted to military hospitals in Tehran.

2. Methods and Materials

2.1. Study Design and Participants

The present study employed a correlational research design. The statistical population of the study included all caregivers of patients with chronic illnesses admitted to three military hospitals (Baath, Golestan, and Fajr) in Tehran during the first six months of 2023. To estimate the sample size, Kline's (2016) recommended formula was used. According to this formula, the sample size should be 2.5 to 5 times the number of items in the research instruments, with a minimum of 200 participants (Kline, 2016). Based on this information, there were 24 items in the Novak and Guest

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Caregiver Burden Questionnaire (1989), 18 items in the Salkovskis and Warwick Health Anxiety Questionnaire (2002), and 16 items in the King and Emmons Emotional Expression Questionnaire (1990), totaling 58 items (see Model 1). Therefore, the minimum sample size (by multiplying the number of items by 5) was 290 participants. Thus, three military hospitals in Tehran (Baath, Golestan, and Fajr) were selected through convenience sampling. Considering the inclusion and exclusion criteria, the convenience sampling method was used, and 290 caregivers of patients with chronic illnesses admitted to these hospitals were selected as the sample. The inclusion criteria were: family caregivers with at least one year of continuous caregiving experience, being 18 years or older, and the ability to describe caregiving experiences. The exclusion criteria were: failure to respond to all items of the research instruments, unwillingness to continue participation, and suffering from physical or mental disorders.

2.2. Measures

2.2.1. Caregiver Burden

The Caregiver Burden Inventory was developed by Novak and Guest to measure caregiver burden (Novak & Guest, 1989). The questionnaire consists of 24 items and 5 subscales: time-dependent burden (5 items), developmental burden (5 items), physical burden (4 items), social burden (5 items), and emotional burden (4 items). Responses are rated on a 5-point Likert scale, ranging from completely false (1) to completely true (5). Scores for each subscale are calculated by summing the scores for each item within that subscale. The total score is calculated by summing the scores of all items. The score range for this questionnaire is between 24 and 120, with higher scores indicating greater caregiver burden. Scores between 24 and 39 indicate mild caregiver burden, 40 to 71 indicate moderate caregiver burden, and 72 to 120 indicate severe caregiver burden. Novak and Guest reported Cronbach's alpha coefficients of 0.85 for time-dependent burden, 0.85 for developmental burden, 0.86 for physical burden, 0.73 for social burden, 0.77 for emotional burden, and 0.81 for the total score (Novak & Guest, 1989). In the study by Abbasi et al., the Cronbach's alpha for the total scale was reported as 0.80, and content validity was assessed. The content validity index (CVI) for relevance, clarity, and simplicity of the items was evaluated by 10 faculty members, with values of 91.8% for relevance, 90.2% for clarity, and 93.6% for simplicity, resulting in an overall CVI of 91.86% (Abbasi et al., 2013).

2.2.2. Health Anxiety

This questionnaire includes 18 items with responses based on a 4-point Likert scale (from 0 to 3) (Salkovskis & Warwick, 2001). Each item presents four options, each describing the respondent's perception of health and illness in a statement format, and the respondent selects the statement that best describes them. Each item is scored from 0 to 3, with higher scores indicating greater health anxiety. Salkovskis and Warwick reported a test-retest reliability of 0.90 and a Cronbach's alpha reliability coefficient of 0.82 for this questionnaire. Validity was assessed using the Illness Attitudes Scale (IAS), with a reported validity coefficient of 0.63 (Salkovskis & Warwick, 2001). The questionnaire was first translated into Persian by Nargesi (2017). The correlation between this questionnaire and the Ahvaz Hypochondriasis Test was reported as -0.75, indicating good validity for the health anxiety questionnaire. The negative correlation is due to the scoring method of the two tools: higher scores on the Health Anxiety Questionnaire indicate greater health anxiety, while higher scores on the Ahvaz Hypochondriasis Test indicate lower health anxiety (Nargesi et al., 2017).

2.2.3. Emotional Expression

King and Emmons developed the Emotional Expression Questionnaire in 1990 to assess the importance of emotional expression in individual health (King & Emmons, 1990). The questionnaire contains 16 items and three subscales: positive emotional expression (7 items), intimacy expression (5 items), and negative emotional expression (4 items). Responses are rated on a 5-point Likert scale, ranging from strongly agree (5) to strongly disagree (1). For items 7, 8, and 9, due to the inverse direction of these items, the scoring is reversed. The total score is calculated by summing the scores of all 16 items, with a minimum possible score of 16 and a maximum of 80. Scores between 16 and 32 indicate weak emotional expression, 33 to 54 indicate moderate emotional expression, and scores above 48 indicate strong emotional expression. King and Emmons reported Cronbach's alpha coefficients of 0.70 for the total scale, 0.75 for positive emotional expression, 0.79 for negative emotional expression, and 0.93 for intimacy expression. The reliability of this scale was confirmed through internal consistency with a Cronbach's alpha coefficient of 0.68 for the total scale. Additionally, Rafieinia et al. (2006) reported good validity for the questionnaire, with significant internal

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consistency among the subscales, and reported a Cronbach's alpha coefficient of 0.75 (Rafieinia et al., 2006).

2.3. Data analysis

For data analysis in this study, both descriptive and inferential statistics were used. Descriptive statistics included skewness and kurtosis, minimum and maximum scores, mean, and standard deviation. In the inferential statistics section, tolerance and variance inflation factor (VIF) were calculated, and structural equation modeling (SEM) was used. The significance level for all tests was set at 0.05. For model fit tests, the chi-square goodness-of-fit index with a probability value greater than 0.01, root mean square error of approximation (RMSEA) with a cutoff point below 0.08, goodness-of-fit index (GFI) with a cutoff point above 0.90, adjusted goodness-of-fit index (AGFI) with a cutoff point above 0.90, comparative fit index (CFI) with a cutoff point above 0.90, and the normed fit index (NFI) with a cutoff point above 0.90 were used, in line with the criteria proposed by Bentler and Yuan (Bentler & Yuan, 1999). A tolerance value below 0.10 and a VIF value above 10 indicated a violation of the multicollinearity assumption. To estimate indirect effects, the bootstrap test was employed. Data were analyzed using SPSS version 24 and LISREL 8.54 software.

3. Findings and Results

In this study, 163 respondents were male (56.21%), and 127 were female (43.79%). Regarding marital status, 55 participants were single (18.97%), 218 were married (75.17%), and 17 were divorced (5.86%). In terms of education, 38 participants had a high school diploma or lower (13.10%), 59 had an associate's degree (20.34%), 150 had a bachelor's degree (51.72%), and 43 had a master's degree or higher. In terms of age, 38 participants were under 35 years old (13.10%), 125 were between 35 and 50 years old (43.10%), and 127 were over 50 years old (43.80%). Regarding caregiving frequency, 90 participants provided care 1 to 2 times (31.03%), 127 provided care 3 to 5 times (42.76%), and 76 provided care more than 5 times (26.21%). Table 1 presents the mean, standard deviation, skewness, and kurtosis of the research variables to assess the normality of the univariate data distribution.

Table 1

Means, Standard Deviations, Skewness, and Kurtosis of Research Variables

Variable	Mean	Standard Deviation	Skewness	Kurtosis	Min	Max
Time-dependent caregiver burden	12.28	3.575	0.606	-0.073	6	24
Developmental caregiver burden	11.72	4.619	0.409	-0.495	5	25
Physical caregiver burden	9.07	3.449	0.667	-0.081	4	20
Social caregiver burden	11.04	3.855	0.710	0.728	5	25
Emotional caregiver burden	11.36	4.221	0.729	-0.297	5	23
Positive emotional expression	24.11	5.397	-0.548	-0.138	8	35
Intimacy expression	17.40	3.713	-0.510	-0.227	6	25
Negative emotional expression	10.96	3.541	0.058	-0.659	4	19
Health anxiety	24.60	10.873	0.398	-0.369	2	52

Table 1 shows that the skewness and kurtosis values for all components are within the ±2 range, indicating that the assumption of normality for the univariate data distribution is met. According to the Kolmogorov-Smirnov test (Table 2), if the significance level for the research indices is greater than 0.05, the data distribution is considered normal.

Table 2

Results of the Kolmogorov-Smirnov Test for Research Indices

Index	Significance Level	Test Result
Time-dependent caregiver burden	0.194	Normal
Developmental caregiver burden	0.173	Normal
Physical caregiver burden	0.207	Normal
Social caregiver burden	0.159	Normal
Emotional caregiver burden	0.351	Normal
Positive emotional expression	0.204	Normal

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Intimacy expression	0.251	Normal
Negative emotional expression	0.105	Normal
Health anxiety	0.281	Normal

As shown in Table 2, the significance levels of the Kolmogorov-Smirnov test for the research indices are greater than 0.05, indicating that the data distribution is normal. Given the results of the Kolmogorov-Smirnov test and the normality of the data, Pearson correlation coefficients were used to examine the relationships between the research variables. The results of this test are presented in Table 3.

Table 3

Results of the Correlation Test Between Research Variables

No.	Variable	2	3	4	5	6	7	8	9	10	11
1	Time-dependent caregiver burden	0.531	0.360	0.386	0.466	0.683	0.538	-0.457	-0.486	0.442	-0.552
2	Developmental caregiver burden		0.840	0.563	0.496	0.871	0.526	-0.457	-0.501	0.603	-0.611
3	Physical caregiver burden			0.574	0.471	0.816	0.488	-0.386	-0.469	0.529	-0.539
4	Social caregiver burden				0.661	0.803	0.588	-0.404	-0.531	0.523	-0.568
5	Emotional caregiver burden					0.787	0.730	-0.507	-0.687	0.546	-0.683
6	Total caregiver burden						0.725	-0.559	-0.676	0.669	-0.747
7	Health anxiety							-0.708	-0.798	0.534	-0.821
8	Positive emotional expression								0.650	-0.417	0.878
9	Intimacy expression									-0.546	0.866
10	Negative emotional expression										-0.739
11	Emotional expression total										

All p<.05

As shown in Table 3, the significance level of the correlation test between the research variables is less than 0.05, indicating that the relationships between the variables are significant at the 95% confidence level. Given the positive correlation between caregiver burden, its variables, and negative emotional expression with health anxiety, it can be stated that this correlation is direct. Higher levels of caregiver burden, its variables, and negative emotional expression are associated with higher levels of health anxiety. Additionally, the negative correlation between emotional expression, positive emotional expression, and intimacy expression with health anxiety suggests that as these variables increase, health anxiety decreases.

Table 4

Model Fit Indices of the Structural Model

Fit Index Name	Desired Value	Value
Chi-square/df	< 3	2.658
RMSEA	< 0.08	0.073
RMR	< 0.05	0.042
GFI	> 0.90	0.090
NFI	> 0.90	0.93
IFI	> 0.90	0.94
CFI	> 0.90	0.94

One of the best model fit indices in structural equation modeling is the root mean square error of approximation (RMSEA). For models with good fit, the RMSEA value should be less than 0.08. Hence, models with an RMSEA greater than 0.08 are considered poorly fitted. Another fit index is the ratio of chi-square to degrees of freedom, which should be less than 3. Based on the LISREL output, the chi-square value was calculated as 305.08, with 135 degrees of freedom. Thus, the chi-square to degrees of freedom ratio for the conceptual model of the study was 2.259, which is an acceptable value. Additionally, the output of the model indicated an RMSEA value of 0.061, which is acceptable.

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Both the aforementioned indices and the remaining fit indices yielded acceptable values. The significance of the path coefficients between the variables was examined using software output. The path coefficients and the significance results are presented in Table 5.

Table 5

Results of Structural Model Evaluation

No.	Path	Standardized Path Coefficient (β)	Unstandardized Path Coefficient	Standard Error (SE)	t-value	Test Result
1	Caregiver burden → Health anxiety	0.23	0.351	0.057	2.75	Confirmed
2	Emotional expression → Health anxiety	-0.58	-0.672	0.061	-5.93	Confirmed
3	Caregiver burden → Emotional expression → Health anxiety	-0.42	-0.505	0.055	-4.18	Confirmed

The research model shows that 24.4% of the total effect of caregiver burden on health anxiety is explained indirectly through the mediating variable of emotional expression. Additionally, since the direct path between caregiver burden and health anxiety was significant in the model, even with the mediating variable of emotional expression, it can be concluded that emotional expression has a partial mediating role in the relationship between caregiver burden and health anxiety. The path coefficient between these two variables was 0.23, indicating the positive effect of caregiver burden on health anxiety. In other words, a one-unit change in caregiver burden leads to a 0.23-unit increase in health anxiety. The path coefficient between emotional expression and health anxiety was -0.58, indicating the negative effect of emotional expression on health anxiety. A one-unit change in emotional expression leads to a 0.58-unit decrease in health anxiety. The path coefficient between caregiver burden and emotional expression was -0.42, indicating the negative effect of caregiver burden on emotional expression. A one-unit change in caregiver burden leads to a 0.42-unit decrease in emotional expression.

To examine the mediating role of emotional expression in the relationship between caregiver burden and health anxiety, the bootstrap method was used. In this method, if the lower and upper bounds of the bootstrap confidence interval are both positive or both negative, and zero is not included between these bounds, the indirect path is significant, and the hypothesis is accepted. Additionally, if the significance level is less than 0.05, the indirect effect is accepted. Based on this criterion, the significance or non-significance of the indirect path is presented in Table 6.

Table 6

Results of the Bootstrap Method for Examining the Significance of the Indirect Effect

Independent Variable	Mediating Variable	Dependent Variable	Indirect Effect	Upper Bound	Lower Bound	t-value	Standard Error	Significance Level
Caregiver burden	Emotional expression	Health anxiety	-0.42	-0.208	-0.613	-4.18	0.036	0.001

According to Table 6, the significance level is 0.001, which is less than 0.05, and the confidence interval does not include zero. Therefore, the mediating role of emotional expression in the relationship between caregiver burden and health anxiety is confirmed.

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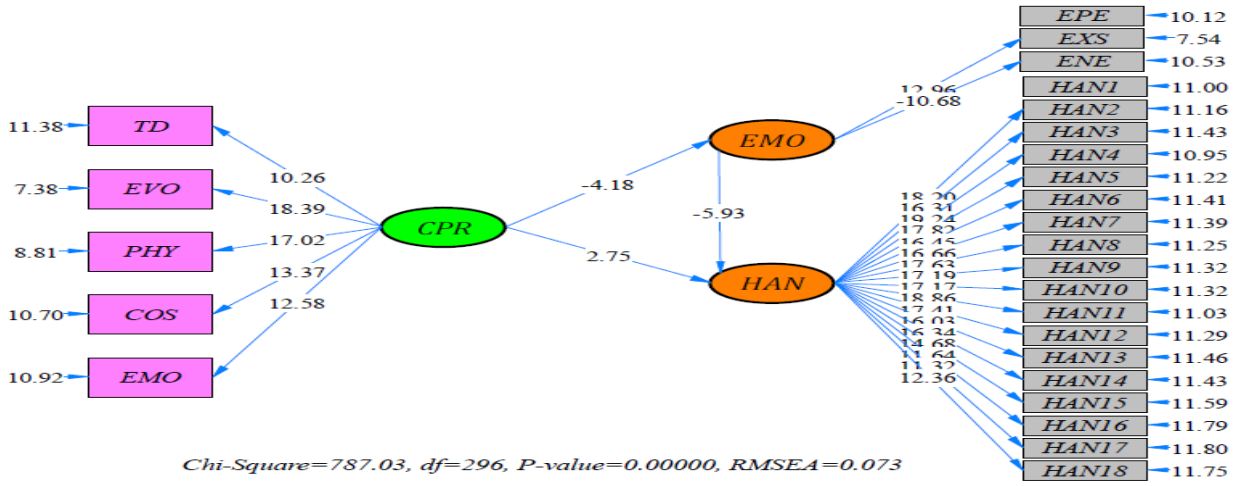
Figure 1

Significance Values of the Structural Model



4. Discussion and Conclusion

The present study aimed to investigate the relationship between caregiver burden and health anxiety with the mediating role of emotional expression in caregivers of patients with chronic illnesses admitted to military hospitals in Tehran. Given that the direct path between caregiver burden and health anxiety remained significant in the model, even with the inclusion of emotional expression as a mediating variable, it was found that emotional expression significantly mediates the impact of caregiver burden on health anxiety at a 95% confidence level. Caregiver burden has a positive and direct effect on health anxiety, while emotional expression has a negative and direct effect on health anxiety. Moreover, caregiver burden negatively and directly affects emotional expression.

This finding can be explained by the notion that caregiver burden refers to the psychological and emotional strain resulting from caring for an ill individual (Putri et al., 2022). Caregivers of patients with chronic illnesses face numerous challenges, which can lead to burnout and stress. This caregiver burden may impact the caregivers' mental health, placing them at risk for health anxiety (Sabetfar et al., 2021). Recent studies have shown a relationship between caregiver burden and health anxiety in caregivers of patients with chronic illnesses, and emotional expression acts as a mediating variable in this relationship (Karimi Moghaddam et al., 2023; Sari & Manungkalit, 2023). The results of this study demonstrate that there is a significant relationship between caregiver burden and health anxiety in caregivers of patients with chronic illnesses, and this relationship is mediated by emotional expression. The findings indicate that caregivers who experience higher levels of caregiver burden are more likely to experience health anxiety, especially if they are unable to appropriately express their emotions (Sabetfar et al., 2021). Due to the demanding and exhausting role of caregiving, caregivers of chronic patients are exposed to high levels of stress and psychological pressure. These caregiver burdens can lead to symptoms of anxiety, concern, and health-related fears (Li et al., 2023). Studies have shown that individuals who are able to express their emotions experience less anxiety and worry. It seems that emotional expression, by providing an opportunity for emotional release, reduces the psychological burden associated with caregiving and prevents the onset of anxiety symptoms (Karimi Moghaddam et al., 2023).

Health anxiety is a type of anxiety in which an individual is intensely worried about having a serious or life-threatening illness, even if there is little medical evidence to support this concern (Nakhaei Moghadam et al., 2024; Navidi Poshtiri et al., 2022). Caregivers of patients with chronic illnesses may experience increased insecurity and worry about their own health due to their constant involvement with the illness and witnessing their loved one's suffering (Barghbani et al., 2023). This study highlights the importance of supporting caregivers of patients with chronic illnesses. Providing psychological support and teaching stress management and emotional expression skills can help reduce caregiver burden and health anxiety in these individuals (Putri et al., 2022; Sabetfar et al., 2021). Paying attention to caregivers' mental health can improve both their

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quality of life and that of the patients they care for (Barghbani et al., 2023).

Emotional expression refers to individuals' ability to appropriately express and communicate their emotions and feelings. This study shows that caregivers who are unable to express their emotions are more at risk for health anxiety because they cannot manage caregiver burden constructively. Emotional expression can help reduce stress and improve mental health (King & Emmons, 1990). Therefore, training caregivers of chronic patients in emotional expression skills can help reduce their anxiety and health-related concerns. Nurses can assist caregivers in coping with the pressures of caregiving by teaching and empowering them in the area of emotional expression (Rafieinia et al., 2006).

This study emphasizes the importance of supporting caregivers of patients with chronic illnesses. Providing psychological support and teaching stress management and emotional expression skills can help reduce caregiver burden and health anxiety in these individuals (Rafieinia et al., 2006). Attention to caregivers' mental health can improve both their quality of life and the well-being of the patients they care for (Nargesi et al., 2017). Overall, the findings of this study suggest that emotional expression plays an important role in reducing the negative effects of caregiver burden on the mental health of caregivers of patients with chronic illnesses. Therefore, focusing on this variable in clinical and educational planning for nurses seems essential. Strengthening emotional expression skills in caregivers of patients with chronic illnesses can be effective in reducing their health anxiety.

5. Limitations & Suggestions

Like other studies, this research has limitations. The sample was limited to caregivers of patients admitted to military hospitals in Tehran, and the results cannot be generalized to a broader population. The data collection method was based on self-report questionnaires, which may have affected the validity of the results. The cross-sectional design of the study, conducted within a specific time frame, did not allow for the study of changes over time. Therefore, longitudinal studies are recommended to investigate changes in variables over time and to better establish causal relationships. Future research should examine individual differences and contextual factors such as age, gender, socioeconomic status, and type of illness. Additionally, qualitative methods, such as interviews, could be used to gain a deeper understanding of caregivers' experiences and to identify other influencing factors. Expanding research to include other healthcare centers and caregivers of patients with different conditions could improve the generalizability of the results.

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Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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Authors' Contributions

All authors equally contributed in this article.

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