



The effects of care-oriented group discussion on burnout among the caregivers of patients with stroke

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Abstract

Background and aims: Patients with chronic illnesses such as stroke have different physical and mental problems and need the care and support of their family members. Family caregivers face many different problems and experience burnout during caregiving to their patients. The aim of this study was to investigate the effects of care-oriented group discussion (GD) on burnout among the caregivers of patients with stroke.

Methods: This two-group pretest-posttest quasi-experimental study was conducted in 2019. Participants were forty family caregivers of patients with stroke randomly selected from the neurology and stroke care ward of Sina hospital, Hamadan, Iran. They were randomly allocated to two twenty-person groups. Participants in the control group received routine care services, while participants in the intervention group received routine care services in addition to care-oriented GD in six two-hour sessions. Burnout was assessed before and two weeks after the study intervention and the SPSS program (v. 22.0) was used to analyze the data through the Kolmogorov-Smirnov, paired-sample *t*, independent-sample *t*, and Chi-square tests.

Results: Groups did not significantly differ from each other respecting the pretest mean scores of burnout and all its dimensions as well as the posttest mean scores of the personal and financial dimensions of burnout ($P > 0.05$). However, the posttest mean scores of burnout and its social and emotional dimensions in the intervention group were significantly less than the control group ($P < 0.05$).

Conclusion: As an effective strategy, care-oriented GD can be used to reduce burnout among the family caregivers of patients with stroke.

Keywords: Group discussion, Caregiver burnout, Stroke

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Introduction

Stroke is a clinical syndrome with local neurological lesions due to poor blood flow to the brain (1). It is the second leading cause of disability, the third leading cause of death surpassed by cardiovascular disease and cancer, and a leading cause of lifestyle modification (2,3). The annual prevalence of stroke in European countries is around one million per year (4,5).

Affliction of a family member by a chronic disease such as stroke affects all family members, requires them to modify their lifestyle, and causes them different physical, emotional, psychological, financial, and social problems and challenges such as depression, anxiety, anger, aggression, despair, embarrassment, and guilt (6,7). Meanwhile, they have poor knowledge and skills for patient care, receive limited support from healthcare providers, have limited social support, and are worried about disease progression (8). Stress, anxiety, depression, frustration, and limited self-confidence due to the heavy

responsibility of patient care can lead to burnout for family caregivers (9).

According to the American Psychiatric Association, burnout is a series of physical and mental symptoms caused by biological and environmental stressors, illnesses, and caregiving to family members and has different manifestations which vary according to the immediate culture (10). Different strategies have been developed to support family caregivers, reduce the negative consequences of caregiving such as burnout, and increase its positive consequences (11). Studies showed that strategies such as education, support, and psychotherapy can reduce caregiver burnout, improve care quality, and improve caregivers' physical and mental health (12,13). Group education strategies such as group discussion (GD) are valuable strategies to provide support and information to family caregivers (14). GD is a modern active educational strategy which can promote learning through providing learners with the opportunity to use

critical thinking. GD actively involves learners in learning and problem solving and thereby, facilitates their learning (15). Nonetheless, there are limited studies in this area. Thus, the present study was designed and conducted to reduce this gap. The aim of the study was to investigate the effects of care-oriented GD on burnout among the caregivers of patients with stroke.

Methods

Design

This two-group pretest-posttest quasi-experimental study was conducted in 2019.

Participants and setting

Participants were forty family caregivers of patients with stroke in the neurology and stroke care ward of Sina hospital, Hamadan, Iran. Sampling was randomly performed based on the following criteria: full consent for participation, age of 18–60 years, ability to speak, read, and write in Persian, no affliction by cognitive or neurologic disorders, chronic physical problems, or visual or hearing impairments, no history of taking psychotropic medications or substances, and caregiving experience of more than six months. Two or more absences from the intervention sessions and patient death during the study were considered as exclusion criteria. Participants were randomly allocated to a twenty-person control and a twenty-person intervention group. For randomization, twenty cards with A label for the control group and twenty cards with B label for the intervention group were prepared and put in a pot. Then, each participant randomly took one card from the pot and was allocated to either of the study groups based on the card label.

Using the results of a former study (16) and with a confidence level of 0.95, a power of 0.90, and a potential attrition rate of 10%, sample size was calculated to be twenty. Sample size calculation formula was as follows:

$$N = \frac{(z_{1-\frac{\alpha}{2}} + z_{1-\beta})^2 \times 2\sigma_{pooled}^2}{(\mu_1 - \mu_2)^2} \cong 20$$

Table 1. The characteristics of the study intervention

Session	Objectives	Content	Methods
1	Identification of the role of care in ensuring patient health; Improvement of care-related knowledge and skills	Caregivers' and family members' roles and challenges in caregiving to patients with stroke	Group discussion, lecture, question and answer, and experience sharing
2	Improvement of stroke-related knowledge and skills; Establishment of realistic treatment- and prognosis-related expectations	Strategies to increase caregivers' support for patients with stroke; Stroke and its definitions and characteristics	Group discussion, lecture, question and answer, and experience sharing
3	Improvement of medication-related knowledge and skills; Improvement of readiness for patient care; Ensuring control over patient; Reduction of care-related stress; Improvement of communication skills	Medications for stroke management, their importance, their side effects, and side effect management; Coping skills and their improvement; Effective communication with patient; Time management and problem solving	Group discussion, lecture, question and answer, and experience sharing
4	Maintenance and improvement of caregiver health; Improvement of knowledge about sources of support and patient care	Importance of self-care and healthy lifestyle (adequate sleep, healthy eating, physical exercise, and receiving mental and emotional support from others); Introduction of the sources of support and how to access them	Group discussion, lecture, question and answer, and experience sharing
5	Improvement of readiness for patient care; Ensuring control over stroke-related conditions	Management of symptoms and care-related conditions and how to refer to healthcare centers	Group discussion, lecture, question and answer, and experience sharing
6	—	Summary of the previous session and conclusion	Group discussion and lecture

Data collection

Data were collected using Zarit Caregiver Burden Inventory. This inventory has 22 items in four main dimensions, namely personal burnout (items 1, 2, 7, 10, 11, 17, 19, 20, and 21), social burnout (items 3, 6, 12, and 13), emotional burnout (items 4, 5, 8, 9, 14, 18, and 22), and financial burnout (items 15 and 16). Item scoring is done on a five-point Likert scale as follows: 0: "Never"; 1: "Rarely"; 2: "Sometimes"; 3: "Often"; and 4: "Always". Therefore, the possible total score of the scale is 0–88, with higher scores showing greater burnout. A former study cross-culturally adapted this inventory for the Iranian culture and confirmed its reliability with a test-retest correlation coefficient of 0.94 (17). In the present study, the face and content validity of the inventory were assessed and confirmed by ten faculty members of Hamadan University of Medical Sciences, Hamadan, Iran, and its reliability was confirmed with a test-retest correlation coefficient of 0.94. Participants completed this inventory through the self-report method at two time points, namely before and two weeks after the intervention.

Intervention

Study intervention was education through care-oriented GD (Table 1). The second author provided educations in six two-hour weekly GD sessions under the supervision of a psychiatric nurse. The content of the education sessions was determined after assessing participants' needs and reviewing the existing literature. In GD sessions, chairs were arranged in a circle in order to promote communication and discussion among participants. The time of the sessions was determined according to participants' preferences.

Data analysis

The SPSS program for Windows (v. 22.0) was used to analyze the data via the Kolmogorov-Smirnov, paired-sample *t*, independent-sample *t*, and chi-square tests.

Results

The mean of participants' age in the control and the

intervention groups was 39.4 ± 11.67 and 38.46 ± 12.35 years, respectively. Most participants in both groups were female (60% vs. 75%) and 50% of participants in the control group and 55% of participants in the intervention group were married. Respecting educational level, 50% of participants in the control group had university degree and 40% of participants in the intervention group had below-diploma education. In addition, 40% of participants in the control group and 35% of participants in the intervention group had child-parent relationship with their patients. The length of caregiving experience was 3.15 ± 1.96 years in the control group and 3.92 ± 4.12 years in the intervention group and the mean of caregiving time in 24 hours in the control and the intervention groups was 12.3 ± 6.5 and 10.6 ± 5.4 hours, respectively. Groups did not significantly differ from each other in terms of

participants' characteristics ($P > 0.05$; Table 2).

There were no significant between-group differences in terms of the pretest mean scores of burnout and its dimensions ($P > 0.05$). Moreover, the mean scores of burnout and its dimensions did not significantly change in the control group. Similarly, the mean scores of the personal and the financial dimensions of burnout did not significantly change in the intervention group. However, the mean scores of burnout and its social and emotional dimensions significantly reduced in the intervention group ($P < 0.05$). Accordingly, between-group differences respecting the posttest mean scores of the personal and financial dimensions of burnout were not significant ($P > 0.05$), while the posttest mean scores of burnout and its social and emotional dimensions in the intervention group were significantly less than the control group ($P < 0.05$) (Table 3).

Table 2. Group comparisons with respect to participants' characteristics

Characteristics	Group		P Value	
	Intervention Mean \pm SD or No. (%)	Control Mean \pm SD or No. (%)		
Gender	Female	15 (75)	12 (60)	0.501 ^a
	Male	5 (25)	8 (40)	
Marital status	Married	11 (55)	10 (50)	0.570 ^a
	Single	5 (25)	9 (45)	
	Divorced	2 (10)	1 (5)	
	Widowed	2 (10)	1 (5)	
Educational level	Below diploma	8 (40)	5 (25)	0.410 ^a
	Diploma	6 (30)	5 (25)	
	University	6 (30)	10 (50)	
Kinship with patient	Father	1 (5)	2 (10)	0.177 ^a
	Mother	0	2 (10)	
	Spouse	5 (25)	1 (5)	
	Sister	5 (25)	2 (10)	
	Brother	2 (10)	5 (25)	
Occupation	Child	7 (35)	8 (40)	0.163 ^a
	Unemployed	0	1 (5)	
	Farmer	1 (5)	2 (10)	
	Housewife	13 (65)	8 (40)	
	Worker	3 (15)	1 (5)	
	Employee	0	5 (25)	
	Self-employed	1 (5)	2 (10)	
Monthly income (US dollars)	Retired	2 (10)	1 (5)	0.213 ^a
	< 175	12 (60)	6 (30)	
	175–250	1 (5)	4 (20)	
	250–350	2 (10)	2 (10)	
Age (y)	> 350	5 (25)	8 (40)	0.889 ^b
Caregiving duration per 24 hours		38.46 ± 12.35	39.4 ± 11.67	0.426 ^c
Length of caregiving (y)		10.6 (5.4)	12.3 (6.5)	0.456 ^c
Family size		3.92 (4.12)	3.15 (1.96)	0.422 ^c
		5.06 (1.39)	5.42 (1.35)	

^a The results of the Chi-square test; ^b The results of the independent-sample *t* test
^c The results of the mann-whitney *u* test.

Discussion

This study investigated the effects of care-oriented GD on burnout among the caregivers of patients with stroke. Findings showed that care-oriented GD in six two-hour weekly sessions significantly reduced burnout among these caregivers. This is in agreement with the findings of several previous studies. For example, a study found that care-oriented GD significantly reduced burnout among the caregivers of patients receiving hemodialysis (18). Caregiving is a complex and multidimensional activity, the nature and determinants of which evolve over time (19). Another study found that progressive muscular relaxation significantly reduced caregiver burden and depression among the family caregivers of older patients with stroke (16). Moreover, a study found the effectiveness of a multidisciplinary education course

Table 3. Within- and between-group comparisons with respect to the mean scores of burnout and its dimensions

Dimensions	Group	Time		P value ^a
		Before	After	
Personal	Control	19.82 \pm 3.35	18.95 \pm 4.02	0.519
	Intervention	20.76 \pm 4.54	19.9 \pm 4.57	0.761
	P value ^b	0.45	0.236	—
Social	Control	9.18 \pm 2.59	8.57 \pm 3.44	0.521
	Intervention	10.24 \pm 2.88	6.23 \pm 2.08	0.013
	P value ^b	0.603	0.002	—
Emotional	Control	16.9 \pm 4.06	16.3 \pm 3.72	0.231
	Intervention	16.38 \pm 4.5	14.35 \pm 2.94	0.012
	P value ^b	0.601	0.029	—
Financial	Control	5.88 \pm 2.22	4.09 \pm 1.68	0.124
	Intervention	5.07 \pm 1.73	4.14 \pm 1.06	0.212
	P value ^b	0.863	0.336	—
Total	Control	27.71 \pm 5.11	26.9 \pm 5.74	0.203
	Intervention	28.22 \pm 8.49	20.68 \pm 5.93	0.001
	P value ^b	0.831	0.001	—

^a The results of the paired-sample *t* test; ^b The results of the independent-sample *t* test.

What does this paper contribute to the wider global clinical community?

- Most family caregivers of patients with stroke are female.
- Care-oriented GD is effective in significantly reducing burnout among the family caregivers of patients with stroke.
- Care-oriented GD can be used to reduce burnout among the caregivers of patients with chronic illnesses such as stroke.

in significantly reducing caregiver burden and improving health protection ability among family caregivers (20) and a study reported the significant positive effects of home care for patients with stroke and education for their caregivers on caregiver burden and quality of life (21). Some studies also found the positive effects of education on burnout among the caregivers of patients with diabetes mellitus, cancer, and cardiovascular disease (17,22). For example, a study found that supportive educational group intervention reduced caregiver burnout, improved patient care, and improved perceived health status (23).

In contradiction to our findings, a study found that a coping-based intervention had no significant positive effects on burnout among the caregivers of patients with heart failure (24). This contradiction may be due to the fact that participants in that study were the caregivers of terminally-ill patients in nursing homes (24).

Limitations

A limitation of this study was its small sample size which reduces the generalizability of the findings. Moreover, educational programs in media during the study might have affected participants' knowledge.

Conclusion

This study suggests the effectiveness of care-oriented GD in significantly reducing burnout among the family caregivers of patients with stroke. Therefore, integration of care-oriented GD into care plans for patients with chronic illnesses such as stroke and their caregivers is recommended to reduce caregiver burden, improve the quality of patient care, and improve caregivers' physical and mental health. Future studies are recommended to compare the effects of different educational methods on burnout among the caregivers of patients with stroke.

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Conflict of Interests

None is declared.

Ethical Approval

The Ethics Committee of Hamadan University of Medical Sciences, Hamadan, Iran, approved this study (code: IR.UMSHA.

REC.1397.752). Participants received information about the study aim and methods and provided informed consent for participation.

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