**ORIGINAL PAPERS**

# The effect of training on the care burden of family caregivers of patients undergoing coronary artery bypass grafting

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**A** – Study Design, **B** – Data Collection, **C** – Statistical Analysis, **D** – Data Interpretation, **E** – Manuscript Preparation, **F** – Literature Search, **G** – Funds Collection

**Summary** **Background.** Caring for patients with coronary artery bypass grafting causes a care burden in caregivers.
**Objectives.** The present study was conducted to investigate the effect of training on the care burden of family caregivers of patients undergoing coronary artery bypass grafting.
**Material and methods.** This quasi-experimental design was conducted at the Heart Training-Medical Centre of the Kermanshah University of Medical Sciences, west of Iran. The participants included 100 people (two groups of 50) of family caregivers of patients undergoing coronary artery bypass grafting, selected using the convenience sampling method. Data was collected using the Novak and Guest care burden questionnaire. Caregiver training was held in three face-to-face sessions and over two telephone calls. Caregivers completed the questionnaire prior to and one month after the discharge of the patients.
**Results.** There was no statistically significant difference in care burden and its dimensions (except for emotional care burden) between the control and intervention groups before the intervention ($p > 0.05$). However, after the intervention, the mean scores of care burden and its dimensions (time-dependence care burden, developmental care burden, physical care burden, social care burden and emotional care burden) significantly decreased in the intervention group compared to the control group ($p < 0.05$).
**Conclusions.** Training caregivers reduces the care burden of family caregivers of patients undergoing coronary artery bypass grafting.
**Key words:** coronary artery bypass, caregivers, caregiver burden, family.

## Background

Demographic changes, the aging process and lifestyle changes have led to a growing trend of disease, incapacity and mortality due to non-communicable diseases [1]. As one of the non-communicable diseases, cardiovascular diseases are the most notable cause of death globally [2]. Coronary artery disease is one of the most common types of cardiovascular diseases and one of the leading causes of death and disability globally [3]. Based on World Health Organization (WHO) reports, in the United States, about 31% of deaths are due to cardiovascular diseases, especially coronary artery disease [4]. In Iran, more than 45% of deaths are due to coronary artery disease [5]. One of the main coronary artery disease treatment methods is coronary artery bypass grafting (CABG) [6]. More than eight million people globally and more than forty thousand people in Iran undergo coronary artery grafting annually [7]. This surgery aims to increase life expectancy and relieve and eliminate chest pain symptoms [8].

Cardiac rehabilitation (CR) is a significant care programme for patients with cardiovascular disease or patients undergoing coronary artery bypass grafting [9] that improves patients' activities of daily living and quality of life. Despite the benefits of CR, in some countries, this programme is not entirely accessible to all CABG patients [10]. Thus, spouses or family members should care for patients undergoing coronary artery bypass

grafting, especially in the recovery process [11], and as a result, the family endures much stress when caring for the patient after surgery. Lack of effective training programmes, lack of information about how to access cardiac rehabilitation programmes and lack of effective communication between the treatment team and the family are among these tensions [12]. These deficiencies and stresses can adversely affect caregivers' self-efficacy and self-belief [13]. This situation increases the care burden of caregivers [14]. Care burden has five dimensions: time-dependence care burden) there is a constraint on caregiver time), developmental care burden (the feeling that a caregiver is behind their peers), physical care burden (a feeling of chronic fatigue and damage to one's physical health), social care burden (a sense of conflict about a caregiver's role) and emotional care burden (negative feelings of the caregiver toward the patient or others) [15].

Care burden affects caregivers' physical and mental health, social relationships and financial life and is associated with psychological complications, less leisure time, a high work burden and a caregivers' burnout. Caregivers also feel frustration, anger, embarrassment, fear and sadness and experience stress due to patient behaviour, and as a result, they may have a negative attitude toward their patients [16]. Caregivers may enter health systems in the future as patients if they do not receive adequate support [17]; thus, support for caregivers is important.

Patients and their family caregivers are willing to be supported by medical staff, including nurses, and to be followed up after discharge [18, 19]. Family caregivers are mostly concerned about

training and receiving sufficient information about the patient's condition, surgery conditions and treatment plan [20]. Some studies show that family caregivers have limited information, resources and support to prepare themselves to play such a caring role. In addition, planning to train patients' caregivers can reduce their depression, anxiety, stress and psychological burden [21–23]. Solorzano et al. showed that a combination of training, mutual support and coping strategies presented in a comprehensive programme at the community level could reduce caregivers' care burden and improve their mental health [24].

In Iran, some studies showed that educational programmes could reduce anxiety [25] and the social health status [26] of family caregivers of patients undergoing coronary artery surgery. However, there are limited studies on the effect of training on the care burden of caregivers of patients with coronary artery bypass grafting. Thus, the present study seems necessary concerning the importance of caring for patients with coronary artery bypass grafting and the importance of training for caregivers in decreasing their care burden.

## Objectives

The present study was aimed to investigate the effect of training on the care burden of family caregivers of patients undergoing coronary artery bypass grafting.

## Material and methods

### Study design

This was a quasi-experimental study with a non-equivalent group pretest-posttest design, in which sampling was initiated by selecting first the control group and then the intervention group. Non-parallel sampling was applied to reduce the contaminate bias as the study field was the only setting for hospitalised patients undergoing coronary artery bypass grafting.

### Participants

This study was performed on family caregivers of patients undergoing coronary artery bypass grafting in the Heart Training-Medical Centre of the Kermanshah University of Medical Sciences, west Iran, in 2020. The inclusion criteria for patients and caregivers were willingness to participate in the study, age over 20 years and under 65 years, ability to speak, read and write in Persian, lack of neurological or mental disorders, lack of chronic restrictive diseases (such as chronic kidney disease) and infectious diseases and no previous history of coronary artery surgery. The criteria of being the patient's primary caregiver and not being a healthcare staff member were also considered for the caregivers. The exclusion criteria for both groups were lack of caregiver participation in more than one training session, changing of place of residence and unexpected problems for the patient or caregiver.
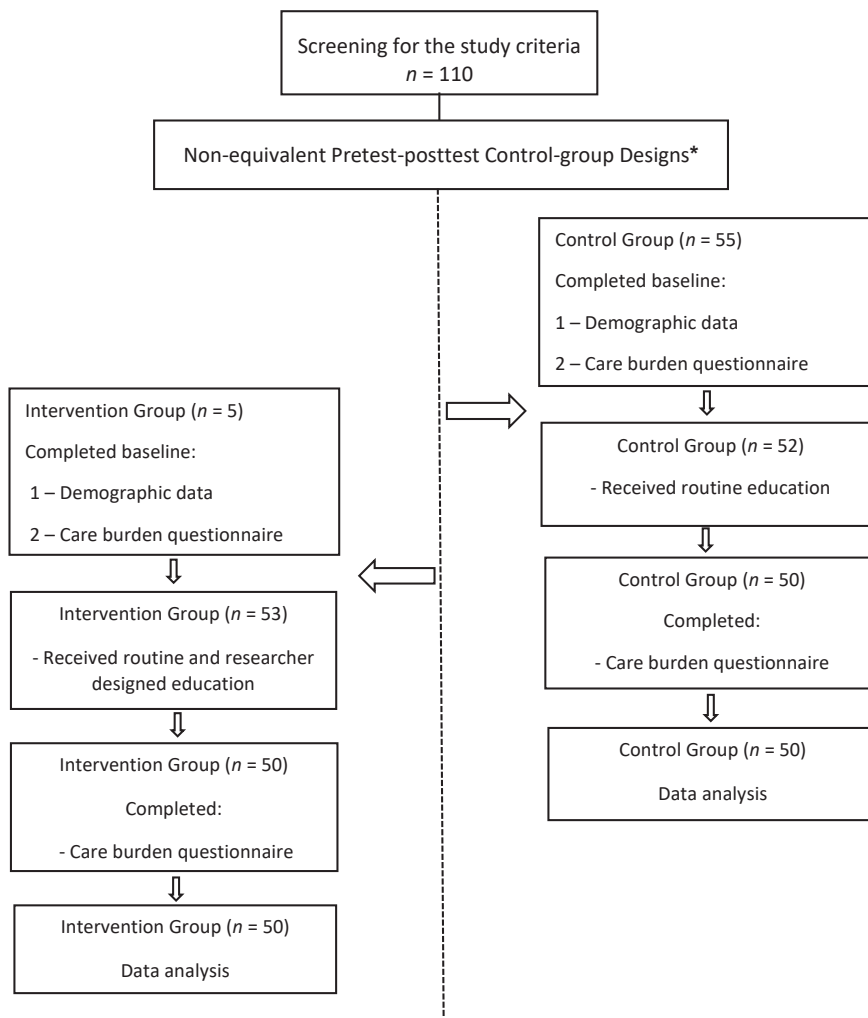
* At first, we chose the control group and then selected the intervention group.

**Figure 1.** Flow chart of the study

The minimum sample size was estimated in each group to be at least 43 people using the following formula:

$$n = \frac{\left(z_{1-\frac{\alpha}{2}} + z_{1-\beta}\right)^2 \left(\sigma_1^2 + \sigma_2^2\right)}{(\mu_1 - \mu_2)^2}$$

by considering a 95% confidence level of the test, and a test power of 80%, based on an estimated variance of 6.2 (which was obtained from a previous study) [26] and a minimum significant difference of 4 between the two groups (5%). To increase the power of statistical tests, the sample size of each group was increased to 55.

## Data measurement

The data collection tool consisted of two main parts: demographic information about patients and family caregivers (such as age, gender, education, marital status, employment, relationship with the patient and average monthly income of the patient's family) and information about patients' disease (history of diabetes, high blood pressure, high blood fats). The burden of family caregivers of patients was assessed using the Novak and Guest care burden questionnaire [15]. This questionnaire has 24 questions and 5 subscales of time-dependence care burden, developmental care burden, physical care burden, social care burden and emotional care burden. The items are scored based on a 5-point Likert scale (never: 0, rarely: 1, sometimes: 2, often: 3, almost always: 4). The scores of this questionnaire range from 0 to 96, with a higher score indicating a higher care burden status; furthermore, a score of 36 or more indicates a high care burden in the individual. After approving the plan (No: IR.UMSHA.REC.1399.240) and obtaining permission from the hospital officials, the researcher identified 50 caregivers of patients hospitalised at the Heart Hospital who fulfilled the inclination criteria. The caregivers were then given the necessary explanations about the study's objectives, and informed written consent was obtained from them. The caregivers received only routine education, which included one session about heart surgery the night before surgery. The caregivers in the control group also completed the questionnaire at the beginning of the study and one month after discharge of the patient.

After sampling from the control group, the researcher invited caregivers of patients in the intervention group who fulfilled the inclusion criteria. All caregivers in the intervention group were given the necessary explanations about the study's objectives and procedure and the training duration. The caregivers were also ensured about the confidentiality of their information, and informed written consent was obtained from them. Similar to the control group, the caregivers of patients in the intervention group completed the questionnaire at the beginning of the intervention and one month after discharge of the patient.

The training was run in three sessions through lectures, questions and answers, delivery of the training booklet about patient care after heart surgery and self-care for the caregivers.

The training of the caregivers focused on three main parts: 1) patient care, 2) self-care and 3) temporal care withdrawal or patient care participation with other family members. In the first part, the educational content included how to take care of the patient's surgery incision, safe use of medications, diagnosis of abnormalities and how to educate patients regarding nutrition, physical activity and pain control. In the second part, self-care included having adequate sleep and rest, exercising, having good nutrition, having social relationships, reducing stress, managing time and maintaining normal life needs. The third part focused on patient care withdrawal, including temporary abandonment of patient care, periodic self-care, patient care role sharing with other family members and use of available resources.

The subject of the first session was related to patient care, with an emphasis on the definition of the disease, surgical method, care techniques and safe use of drugs. The second session consisted of self-care (caregiver) and methods of temporary withdrawal from caring for the patient, in which a family-centred care programme was taught with an emphasis on self-care of the caregiver. The third session included the challenges and problems of the family with the patient and strategies to improve caregiver support after the discharge of each of the patients. In addition, after discharge, two telephone calls were made with the caregiver for a maximum of 10 minutes to answer any new questions that the main caregiver might have.

## Statistical analysis

All data was analysed with SPSS-20 software using descriptive and analytical statistical tests including Chi-square, independent *t*-Test, paired *t*-Test and ANCOVA (concerning the normality of the data). The significance level was considered to be $p < 0.05$ in the tests.

## Ethical approval

The present paper was derived from an MSc student dissertation (N: 9903201590) supported by the Vice-Chancellor for Research and Technology of Hamadan University of Medical Sciences, west Iran. It was approved by the Ethics Committee and the Research Deputy of the Hamadan University of Medical Sciences under the code IR.UMSHA.REC.1399.240.

## Results

Table 1 shows the demographic (qualitative) variables of patients undergoing coronary artery bypass grafting in the intervention and control groups. Most of the participants for the intervention group were male (60%), with the other variables as follows: married (82%), could read and write (82%), lived in the

**Table 1. Comparison of the demographic variables of the patients undergoing coronary artery bypass grafting in the intervention and control groups**

| Variables | Groups | Control group n (%) | Intervention group n (%) | Statistical test* |
|---|---|---|---|---|
| Gender | male | 30 (60) | 30 (60) | $\chi^2 = 1$ $p = 0.581$ |
| | female | 20 (40) | 20 (40) | |
| Education | could read and write | 34 (68) | 41 (82) | $\chi^2 = 513.5$ $p = 0.138$ |
| | below diploma | 6 (10) | 5 (10) | |
| | diploma | 10 (20) | 3 (6) | |
| | college education | – | – | |
| Marital status | married | 42 (84) | 41 (82) | $\chi^2 = 612.2$ $p = 0.271$ |
| | divorced | (4) | – | |
| | widow | 6 (12) | 9 (18) | |

**Table 1. Comparison of the demographic variables of the patients undergoing coronary artery bypass grafting in the intervention and control groups**

| Variables | Groups | Control group | Intervention group | Statistical test* |
|---|---|---|---|---|
| | | n (%) | n (%) | |
| Occupation | housewife | 18 (36) | 20 (40) | χ² = 855.4 p = 0.434 |
| | worker | 18 (36) | 14 (28) | |
| | employee | 3 (6) | 3 (6) | |
| | self-employed | 6 (12) | 2 (4) | |
| | retired | 5 (10) | 11 (22) | |
| Place of residence | city | 31 (62) | 33 (66) | χ² = 174.0 p = 0.677 |
| | village | 19 (38) | 17 (34) | |
| Type of housing | personal | 44 (88) | 47 (94) | χ² = 099.1 p = 0.295 |
| | rent | 6 (12) | 3 (6) | |
| Household income | low | 46 (92) | 48 (96) | χ² = 527.9 p = 0.23 |
| | medium | 4 (8) | 1 (2) | |
| | high | – | 1 (2) | |
| History of surgery | yes | 4 (8) | 1 (2) | χ² = 895.1 p = 0.169 |
| | no | 36 (92) | 33 (98) | |
| Family history of coronary artery disease | yes | 9 (18) | 13 (26) | χ² = 932.0 p = 0.334 |
| | no | 41 (82) | 37 (74) | |

* Chi-square test.

**Table 2. Comparison of the demographic (qualitative) variables of the family caregivers of patients in the intervention and control groups**

| Variables | Groups | Control group | Intervention group | Statistical test* |
|---|---|---|---|---|
| | | n (%) | n (%) | |
| Gender | male | 17 (34) | 17 (34) | p = 0.583 |
| | female | 33 (66) | 33 (66) | |
| Education | could read and write | 8 (16) | 11 (22) | χ² = 6.862 p = 0.078 |
| | below diploma | 7 (14) | 10 (20) | |
| | diploma | 14 (28) | 20 (40) | |
| | college education | 21 (42) | 9 (18) | |
| Marital status | single | 15 (30) | 9 (18) | χ² = 2.833 p = 0.243 |
| | married | 35 (70) | 40 (80) | |
| | divorced | – | 1 (2) | |
| Occupation | unemployed | 15 (31.1) | 7 (14.1) | χ² = 7.248 p = 0.203 |
| | housewife | 22 (44) | 20 (50) | |
| | worker | 4 (8) | 25 (14) | |
| | employee | 12 (24.9) | 13 (16.2) | |
| | free job | 6 (12) | 10 (20) | |
| | retired | 5 (10) | 11 (22) | |
| Place of residence | city | 42 (84) | 39 (78) | χ² = 0.585 p = 0.44 |
| | village | 8 (16) | 11 (22) | |
| Type of housing | personal | 35 (70) | 41 (82) | χ² = 2.561 p = 0.295 |
| | rent | 14 (28) | 9 (18) | |
| Household income | low | 39 (78) | 47 (94) | χ² = 510.10 p = 0.15 |
| | medium | 11 (22) | 2 (4) | |
| | high | – | 1 (2) | |
| Family history of coronary artery disease | yes | 12 (24) | 5 (10) | χ² = 3.473 p = 0.062 |
| | no | 38 (76) | 45 (90) | |
| Living with the patient | yes | 20 (40) | 28 (56) | χ² = 2.564 p = 0.109 |
| | no | 30 (60) | 22 (44) | |

* Chi-square test.

city (66%), were housewives (40%), had a personal house (94%), had low income (96%), had no history of surgery (98%), had no family history of coronary artery disease (74%). For the control group, the majority were male (60%), with the other variables as follows: married (84%), could read and write (68%), lived in the city (62%), were housewives (36%), were employed (36%), had their own house (88%), had low income (92%), had no history of surgery (92%), had no family history of coronary artery disease (82%). The use of the Chi-square test showed that the two groups of patients were homogeneous in terms of gender, education level, marital status, occupation, place of residence, type of housing, household income, family history of coronary artery disease and history of surgery.

Table 2 shows the demographic (qualitative) variables of the family caregivers of patients in the intervention and control groups. The majority of participants (66%) in the two groups were female. Most of the caregivers for the intervention group were married (80%), had diplomas (40%), were housewives (50%), lived in the city (78%), had their own house (82%), had low income (94%). For the control group, the majority of caregivers were married (70%), had a university education (42%), were housewives (44%), lived in the city (84%), had a personal house (70%), had low income (78%). Furthermore, most caregivers in the control group (60%) did not live with the patient, although most caregivers in the intervention group (56%) lived with the patient. The results showed that the two groups of family caregivers of patients were homogeneous in terms of gender, education level, marital status, occupation, accommodation, type of residence, household income, family history of coronary artery disease and living with the patient.

Table 3 shows the demographic (quantitative) variables of the caregivers and the patients undergoing coronary artery bypass grafting in the intervention and control groups. The Independent $t$-Test showed that patients in the control and intervention groups were homogeneous regarding age, household dimension and body mass index. Moreover, the control and intervention groups of family caregivers were not significantly different in terms of age, household dimension and body mass index.

Table 4 shows the mean scores of the care burden and its dimensions before and after the intervention between the control and intervention groups of the family caregivers of patients. There were no significant differences between the mean scores of care burden and its dimensions before the intervention in the two groups except for the emotional care burden domain. However, after the intervention, the mean scores of care burden and its dimensions, namely time-dependence care burden, developmental care burden, physical care burden, social care burden and emotional care burden, decreased in the intervention group compared to the control group.

| Table 3. Comparison of the demographic (quantitative) variables of the patients undergoing coronary artery bypass grafting and the patients' caregivers in the intervention and the control groups | | | | |
|---|---|---|---|---|
| **Groups** | **Variables** | **Control group** $n$ = 50 | **Intervention group** $n$ = 50 | **Statistical test*** |
| | | **Mean ± SD** | **Mean ± SD** | |
| Patients | age (years) | 58.86 ± 5.14 | 60.12 ± 5.11 | $p$ = 0.223 $t$ = -1.228 |
| | family size (person) | 3.78 ± 1.37 | 3.86 ± 1.65 | $p$ = 0.793 $t$ = -0.263 |
| | BMI (kg/m²) | 26.25 ± 3.21 | 25.48 ± 2.58 | $p$ = 0.223 $t$ = -1.228 |
| Caregivers | age (years) | 36.72 ± 8.55 | 38.72 ± 9.38 | $p$ = 0.268 $t$ = -1.114 |
| | family size | 3.78 ± 0.92 | 4.1 ± 1.24 | $p$ = 0.205 $t$ = -1.277 |
| | BMI (kg/m²) | 25.22 ± 3.47 | 25.22 ± 2.55 | $p$ = 0.998 $t$ = 0.003 |

* Independent $t$-Test.

| Table 4. Mean scores of the care burden dimensions of the family caregivers of patients undergoing coronary artery bypass grafting before and after the intervention | | | | | | |
|---|---|---|---|---|---|---|
| **Care burden** | **Intervention** | **Intervention group** | | **Control group** | | **Statistical test** |
| | | **Mean** | **Standard deviation** | **Mean** | **Standard deviation** | |
| Time-dependence care burden | before | 15.32 | 3.08 | 15.38 | 3.99 | $p$ = 0.933[†] |
| | after | 4.52 | 2.77 | 14.92 | 4.47 | $p$ = 0.001[†] |
| | | $p$ = 0.001[‡] | | $p$ = 0.599[‡] | | |
| Developmental care burden | before | 12.94 | 3.57 | 11.60 | 4.95 | $p$ = 0.124[†] |
| | after | 3.38 | 2.19 | 14.22 | 3.78 | $p$ = 0.001[†] |
| | | $p$ = 0.001[‡] | | $p$ = 0.001[‡] | | – |
| Physical care burden | before | 8.96 | 3.27 | 8.24 | 3.70 | $p$ = 0.306[†] |
| | after | 2.12 | 1.81 | 9.48 | 2.88 | $p$ = 0.001[†] |
| | | $p$ = 0.001[‡] | | $p$ = 0.005[‡] | | |
| Social care burden | before | 7.20 | 4.17 | 5.54 | 4.97 | $p$ = 0.076[†] |
| | after | 1.46 | 1.43 | 8.27 | 3.84 | $p$ = 0.001[†] |
| | | $p$ = 0.001[‡] | | $p$ = 0.001[‡] | | – |

**Table 4.** Mean scores of the care burden dimensions of the family caregivers of patients undergoing coronary artery bypass grafting before and after the intervention

| Care burden | Intervention | Intervention group | | Control group | | Statistical test |
|---|---|---|---|---|---|---|
| | | **Mean** | **Standard deviation** | **Mean** | **Standard deviation** | |
| Emotional care burden | before | 11.40 | 3.37 | 9.46 | 4.32 | $p = 0.014^†$ |
| | after | 3.08 | 2.05 | 11.86 | 2.08 | $p = 0.001^⚹$ |
| | | $p = 0.001^‡$ | | $p = 0.001^‡$ | | – |
| Total care burden | before | 55.82 | 13.21 | 22/50 | 25/16 | $p = 0.365^†$ |
| | after | 14.56 | 7.48 | 20/59 | 74/12 | $p = 0.001^†$ |
| | | $p = 0.001^‡$ | | $p = 0.001^‡$ | | – |

† Independent *t*-Test, ‡ Paired Samples Test, ⚹ ANCOVA.

## Discussion

This study aimed to investigate the effect of training of family caregivers of patients undergoing coronary artery bypass grafting on their care burden. Caring for patients undergoing coronary artery bypass grafting can exert undue stress of varying degrees on the caregivers' health in all physical, emotional, psychological and social dimensions and reduce the quality of services provided to patients. In summary, the results showed that training intervention for family caregivers reduced their care burden during caring for patients undergoing coronary artery bypass grafting.

One of the present study results showed that the training intervention caused a reduction in the mean score of time-dependence care burden in caregivers. This result is consistent with other studies. For example, in an interventional study conducted in Iran, the results showed that when using continuous care, the time-dependence care burden in caregivers of patients undergoing coronary artery bypass grafting was reduced [26]. The study by Ghane et al. on family caregivers of patients undergoing haemodialysis also showed that the mean score of time-dependence care burden in the intervention group was significantly decreased after the intervention [27]. It seems that training intervention may lead to an increase in the information and experiences of caregivers in the intervention group when caring for their patients, while the caregivers in the control group probably spend more time gathering information; therefore, they had less time to meet their needs. Thus, this sense of constant responsibility caused an increase in their care burden. One of the other results of the study showed that the mean score of developmental care burden in two intervention and control groups was not significant before the intervention. However, after the intervention, the mean score of the care burden was decreased in the intervention group. This result is consistent with the study by Rodrigues de Lima et al. [28] and Williams et al. [29], which showed that caregivers spend less time focusing on their developmental needs due to the care of dialysis patients. By understanding patients' self-care benefits by caregivers, they would encourage patients to take care of themselves, and thus the caregivers would have more time to promote their growth and development. In this regard, the results of the study by Mollaei et al. showed that caregivers who empowered patients' self-care experienced less care burden [30].

Another result of the present study revealed that the mean score of physical care burden decreased at the end of the study in the intervention group. The long-term care of patients undoubtably causes caregivers to be physically stressed and show symptoms such as body pains, abdominal discomforts, headaches, insomnia and fatigue [31, 32]. Therefore, training interventions seem to be needed to reduce the care burden of caregivers. In this regard, as shown in a similar study, the physical care pressure of caregivers – who were responsible for the care of patients undergoing haemodialysis – decreased after six sessions of the sup-portive training programme method [27]. Similarly, NasrAbadi et al. investigated the effect of continuous care on the health status of family caregivers of patients undergoing coronary artery bypass grafting. These authors showed that the mean score of caregivers' physical care burden decreased after the intervention. According to them, the use of continuous care causes a reduction in the physical care burden in caregivers [26]. It could be stated that training intervention caused caregivers to pay more attention to themselves besides only caring for the patient.

Another result of the present study showed that the training intervention caused a reduction in the mean score of the social care burden of caregivers in the intervention group. In this study, the caregivers in the intervention group were encouraged to seek help besides using available resources, such as other family members. However, the caregivers of the control group had more challenges, which might increase their care burden. The results obtained from different studies were similar to the present study [25, 33]. Likewise, in the study by Han et al., social support reduced the social care burden of the caregivers of patients with Alzheimer's disease [34]. A correlation study also showed that social support causes parents to experience fewer problems and less care burden when caring for children with autism [35].

We also found that emotional care burden decreased after the training programme in the intervention group. Consistent with our results, in an interventional study, a psychosocial support programme could decrease perceived stress of family caregivers' of patients with mental disorders [36]. In another interventional study, the behavioural-cognitive programme reduced the emotional care burden of home caregivers of the elderly with Alzheimer's disease [37]. It seems that caregivers with higher emotional health may control their negative emotions and feelings, better evaluate the care experience and be less biased toward patients. Thus, they may experience less emotional care burden [38, 39]. Inversely, caregivers without educational intervention are more likely exposed to psychological and emotional stresses, especially stress related to patient care. In this regard, the results of some studies revealed that without training, caregivers of patients with multiple sclerosis [40] and caregivers of haemodialysis patients [33] experienced more emotional care burdens.

To our knowledge, this is one of the few studies in Iran to deal with the care burden of family caregivers of patients undergoing coronary artery bypass grafting.

### Limitations of the study

One limitation of this study is the lack of randomisation of caregivers into intervention and control groups, which may lead to the possibility of selection bias. However, the researchers assessed between-group differences at baseline. Another limitation of this study is related to the use of the self-report collection technique, which may lead to social desirability. However, a validated questionnaire was used to confront this type of bias. Yet another limitation of our study is that the caregivers' infor-

mation and skills were not assessed, which are suggested to be assessed in future studies.

## Conclusions

The present study results showed that intervention with the training of family caregivers of patients undergoing coronary artery grafting could reduce their care burden. Thus, training interventions for patients' caregivers should be considered in the planning of the healthcare system. Training patients' caregivers can reduce their care burden; therefore, it can either improve patient care quality or guarantee the physical and psychological health of caregivers, being the most significant element of a patient's care. Otherwise, these caregivers would experience a care burden and could be considered patients themselves in the future.

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