

Effects of a peer education on cardiac self-efficacy and readmissions in patients undergoing coronary artery bypass graft surgery: a randomized-controlled trial

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ABSTRACT

Aim: This study aimed to investigate the effects of a peer education on cardiac self-efficacy (CSE) and readmission of the patients undergoing bypass surgery.

Background: Self-efficacy is an antecedent vital factor in both initiating and maintaining healthy behaviours. It significantly improves after effects of heart attacks, anxiety and diminishes the possibility of readmission.

Design: This study is a randomized-controlled trial.

Method: Sixty patients undergoing bypass surgery were chosen and assigned equally into the control and intervention groups. While routine education was presented to the patients in the control group, intervention group were taught using the peer education in two sessions. CSE of all the selected patients was assessed orderly in 5 days, 4 weeks and 8 months after surgery. Moreover, their readmission was investigated after 8 months from surgery. Data was collected using demographic and the CSE scale. Data were also analysed by using χ^2 , Kolmogorov-Smirnov and repeated measures analysis of variance tests.

Results: The mean score of CSE in the intervention group was significantly different from the corresponding number in the control group in all three stages of data collecting ($p < 0.001$). Compared to the control group, a smaller number of the patients in the intervention group were readmitted to the hospitals after 8 months ($p = 0.011$).

Conclusions: Implementation of peer education has positive effects on CSE in patients who have bypass surgery and reduces their hospital readmission. It can be beneficial to apply this method as an educative-supportive approach in cardiac surgery fields.

Relevance to clinical practice: Implementation of peer education has positive effects on CSE in these patients and reduces their hospital readmission.

Key words: Coronary artery bypass graft • Education • Peer • Readmission • Self-efficacy

INTRODUCTION

Cardiovascular diseases (CVD) are considered to be the main cause of death over the world (Bonow *et al.*, 2011; Go *et al.*, 2013). More than 83 millions of Americans are

suffering from one of the CVD, which coronary artery disease has been pointed out as the main responsible of nearly 17 millions of them (Go *et al.*, 2013). The prevalence of CVD, in China, India, Pakistan, Iran and

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the Middle East is sharply increasing (Gaziano *et al.*, 2010; Bonow *et al.*, 2011; Zahra *et al.*, 2012). Almost 40% of deaths in the Middle East are because of CVD (Loscalzo, 2010). A comparison between the conducted studies in the USA and Europe with the ones in Iran has shown a similar pattern of prevalence and risk factors of the disease (Poortaghi *et al.*, 2013). Especially in Iran, 39.3% of deaths are related to such diseases, which can be accounted as the main reason of death in this country (Khosravi *et al.*, 2009; Roohafza *et al.*, 2010; Heydari *et al.*, 2011).

Although medication, and recent advances in new treatment methods such as thrombolytic therapy, balloon angioplasty, laser and atherectomy have been helpful in controlling coronary artery disease (CAD), surgery is still the only selective option for many of these patients (Smeltzer *et al.*, 2010; Acton, 2013). Coronary artery bypass graft surgery (CABG) has been reported to not only be the first but also the best option for the patients, whereas the new methods have definitely reduced the necessity of surgery (Woods *et al.*, 2010). CABG is a very stressful experience (Leegaard and Fagermoen, 2008) and those patients who decide to go through such experiences are more frightened than those who are suffering from other diseases, due mainly to the fact that their lives completely depend on the success of surgery (Koivula *et al.*, 2010; McKinley *et al.*, 2012). In addition, these patients may suffer from having fear, stress, anxiety, depression and tension, which can result in losing faith in their ability, and therefore self-efficacy (Gallagher and McKinley, 2009; Nabolsi and Carson, 2011).

Albert Bandura's (1977) theory of self-efficacy was developed within the framework of social cognitive theory. Self-efficacy judgements are about what one thinks one can do, not what one has. These judgements are a product of a complex process of self-appraisal and self-persuasion that relies on cognitive processing of diverse sources of efficacy information (Bandura, 1977; Bandura, 1990). Bandura categorized these sources as past performance accomplishments, vicarious experiences, verbal persuasion and physiological states (Bandura, 1997). Bandura has defined self-efficacy as one's belief in one's ability to succeed in specific situations. One's sense of self-efficacy can play a major role in how one approaches goals, tasks and challenges (Bandura, 1995). Self-efficacy referred to the individual's confidence in fulfilling specific health behaviours to accomplish a desired goal (Kang and Yang, 2013). In other words, it stabled the patients' conditions and helped them to effectively deal with stress, tensions and stresses resulted from the CAD. The tension due to CABG surgery affects the patients' self-efficacy and their ability to follow their daily activities (Sarkar *et al.*,

2007; LaPier *et al.*, 2009). Therefore, it can be derived that self-efficacy plays an important psychological role in the reduction of after effects caused by the surgery and rehabilitating period (Johansson *et al.*, 2007; Barnason *et al.*, 2009; Tung *et al.*, 2012).

The number of readmission of the CABG surgery patients is relatively high. It has been reported that such cases in addition to the number of neoplasm patients are the most readmission cases in hospitals (Aranda *et al.*, 2009; Price *et al.*, 2013). Therefore, finding a way to deal with readmission is a major health care issue (Andersson *et al.*, 2011). About 17.4% from the total amount of 102.6 billion dollars is allocated to medical services in the USA has been spent to resolve this clinical challenge (Hannan *et al.*, 2011; Price *et al.*, 2013). Also, in Iran, millions of dollars are allocated to the readmitted subjects, especially CAD patients (Bathaei *et al.*, 2009).

Cardiac Self-efficacy (CSE) is in fact a cardiac-specific measure of one's belief regarding his/her ability to perform activities related to the symptoms and challenges of CVD (O'Neil *et al.*, 2013). For those who suffer from CAD, self-efficacy is an efficient tool for the prediction of readmission chance (Sarkar *et al.*, 2009; Negarandeh *et al.*, 2012). Low CSE is related to the poor health and depression in patients; also, patients with low self-efficacy do not believe in their abilities, so the period of their recovery might be longer than normal period of recovery in these patients; and the possibility of readmission is relatively high in such cases. (Sarkar *et al.*, 2007; Maeda *et al.*, 2013; Robertson *et al.*, 2013).

In addition, the patient undergoing CABG should be educated regularly in order to be prepared for the unexpected conditions after the surgery (Smeltzer *et al.*, 2010). Education reduces the period of hospitalization and efficiently prepares the patients for the convalescent period (Buka, 2008; Falvo, 2010). The role of preoperative patient education is very important to shorten the length of hospital stays (Zhang *et al.*, 2012), patient readmissions rate and getting ready for recovery at home (Guo *et al.*, 2012; Zhang *et al.*, 2012).

Peer education as a method of patient education is proven to be very effective in terms of facilitating, advancing and providing a place in which the patients receive their education (Webel *et al.*, 2010). Peer education is defined as a tool applied by people who share the same experiences (Shiner, 1999; Turner and Shepherd, 1999). The friendly relationship between them are needed for reliance on peers (Sharif *et al.*, 2010). In a study conducted on 52 patients with human immunodeficiency virus (HIV), it was indicated that applying peer education increases the patients' motivation and also contributes to the reduction of risky behaviours and increase exercise programmes (Al-Iryani *et al.*,

2010). Peer education is based on the fact that human beings, through exchanging their experiences and information, can improve their skills and dexterity (Dickinson, 2009; Foubert, 2010). Most people are in agreement on the application of peer education method due to its role in enforcing their identity and changing their views via role playing (Peel and Warburton, 2009).

Colella (2009) performed her thesis entitled 'the effect of a professionally guided telephone peer support intervention on early recovery outcomes in men following CABG' with 185 male participants and found that peers have an important role in the patients' behaviours, including diet, self-efficacy, motivation enhancement and stress reduction (Colella, 2009). Peers mainly help and provide the patients with emotional support before the surgery, and prepare them for the convalescence period.

Considering the great importance of peer education, there has not been any study to investigate the effects of peer education on self-efficacy and readmission in patients undergoing the CABG surgery. Therefore, this study aimed to investigate the effects of peer education on CSE and readmission of the patients undergoing CABG surgery.

MATERIALS AND METHODS

Study design

This study is a randomized-controlled trial (Figure 1).

Setting and participants

This study was conducted on 60 patients who were undergoing CABG surgery. The patients were selected from two hospitals located in an urban area of Iran. In addition, the study units were chosen based on the simple sampling strategy. Inclusion criteria used to choose the suitable patients were as the following:

- Do not have any record of CABG surgery,
- Understanding and talking Persian language,
- Willingness to participate in the research,
- Age between 40 and 70 years,
- Did not have dementia, confusion, mental and psychological problems which might hinder their participation.

In addition, exclusion criteria in this study were patient's death, serious physical problems after CABG surgery, emergency and unexpected surgeries, or cancellation of the CABG surgery due to patient's situation. The selected patients were randomly assigned into two groups, the control and intervention using the block randomization method (Efird, 2010; Friedman *et al.*, 2010).

Measures

Clinical and demographical characteristics of the patients

The data was collected by applying a questionnaire, consisting of demographic and clinical information, including age, gender, marital status, educational level, job, smoking, insurance, body mass index (BMI), information about surgery, hyperglycaemia, hyperlipidemia, hypertension, having chest pain, palpitation and dyspnea. The validity of the demographical questionnaire was checked using the content validity method. The questionnaire was given to 10 faculty members in Tehran University of Medical Sciences in order to apply their advice for the improvement of the questionnaire items. In addition, 10 patients who were undergoing the CABG surgery were asked to read the questionnaire and give their feedbacks on its content. Sample size calculated base on Parent and Fortin (2000) study required to achieve 80% power at a significance level of 5% was calculated.

Cardiac self-efficacy

The Cardiac Self-Efficacy Scale was used to assess CSE (Sullivan *et al.*, 1998). This instrument was developed to measure self-efficacy related to heart diseases. This scale consists of 16 items divided in two main sections such as symptom control and functioning maintenance items with respectively eight and five items. There are three additional items associated with obesity, smoking and dietary habits, which were applied to subjects requiring modification of risk factors. Each item was scored on a 5-point Likert scale, ranging from 0 (i.e. strongly disagree) to 4 (i.e. strongly agree) (Kang and Yang, 2013; O'Neil *et al.*, 2013).

Validity and reliability of CSE scale

The validity of the CSE was also determined using the content validity method. It should be mentioned that this type of scale has never been applied in Iran. Therefore, two translators translated the original questioner distinctively. Then, the back translation method was applied to justify the validity of the translated questionnaire. Furthermore, the content validity index (CVI) was determined by asking 10 faculty members at Tehran University of Medical Sciences about the content, clarity and simplicity of the questionnaire. Each section's content, clarity and simplicity were 93.4%, 89.8% and 90.8%, respectively. In total, the CVI of the questionnaire was 91.33%. Moreover, the reliability of the questionnaire was determined using the internal consistency method. Thirty patients undergoing the CABG surgery were invited to fill in the questionnaire and determine its reliability. The Cronbach's alpha

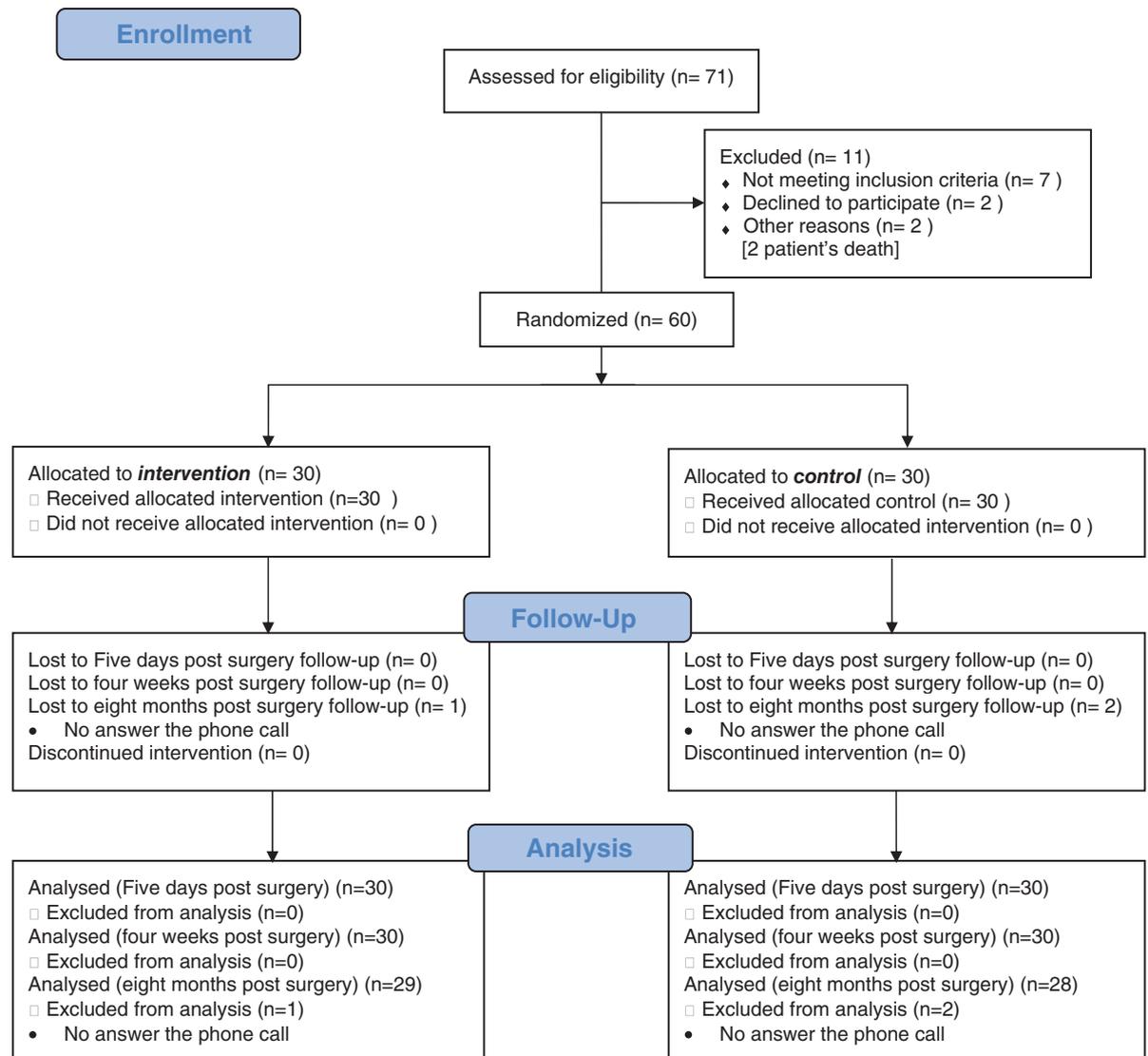


Figure 1 The process of study design.

coefficient was 0.977. In a two previous study, a Cronbach's alpha of CSE scale was 0.87–0.90 (Sullivan *et al.*, 1998) and 0.77 (Kang and Yang, 2013).

Readmission

Readmission of the patients was tracked down after 8 months after the surgery via phone.

Selecting the peers

The peers were selected from the patients who had already undergone the CABG surgery and could be accessed for participation in the study. The factors upon which the authors tried to select the peers were as the following (Parent and Fortin, 2000; Abedian *et al.*, 2011; Dehghani *et al.*, 2013):

- Diploma graduate,
- One year from their last CABG surgery,
- Showing a high level of self-efficacy using the CSE.

According to the above-mentioned criteria, two peers were selected.

Educating the peers

The peers were educated by related experts through lectures, and interactive discussions during three sessions. In the first session, the concepts, importance, benefits of peer education and communication skills (i.e. non-verbal behaviours, active listening and ability to receive and send the clear communication messages) were taught. In the second session, the required level of practice, control of dyspnea,

fatigue, chest pain, weight, diet, regular level of activity and social interactions were taught to the peers. In the last session, the other requirements of CABG candidates, such as medication, following the treatment regime, and sexual relationships were the main issues of the education (Bassampour, 2004; Alkubati *et al.*, 2012).

Furthermore, the peers discussed the educated topics at the end of each session and also their educational experiences. In order for the peers to be allowed to enter the study, the peers had to show that they were able to learn the subjects of the educational sessions through filling checklists. The checklists contained 20 components which were based on the educational sessions.

Intervention

As a therapeutically standard procedure, both intervention and control groups were given routine information on surgery and recovery during the hospitalization by health professionals. After the peers were prepared with three educational sessions, the patients in the intervention group also went through two educating sessions at two consecutive days before CABG surgery; it is noteworthy that each session lasted for 1 h by peers. However, the control group only received the routine education provided by the hospitals. Patients in intervention group underwent peer education prior to surgery and the education was presented until the day before the surgery. Educational sessions were held in the open-heart surgery ward of the hospital; and also, the researcher had a supervisory role during the sessions. Then, the study groups were evaluated three times after their surgery (i.e. the evaluations were carried out in 5 days, 4 weeks and 8 months after the surgery), and their readmission was also investigated after 8 months from the surgery. It should be mentioned that the conditions of the patients after 4 weeks and 8 months from the surgery were evaluated via making phone contacts with their family members.

Ethical considerations

The consent form of the study was reviewed and approved by the Research Ethics Committee of the Tehran University of Medical Sciences, Tehran, Iran, on 6 January 2013. In addition, the Iranian Registry of Clinical Trials registered the study. The study was conducted in accordance with the ethical principles provided by the Declaration of Helsinki and the guidelines of the Iranian Ministry of Health and Medical Education. In this study, the selected participants were thoroughly informed about both the purpose and the

process of the study. Moreover, they were ensured that participation and withdrawal from the project are voluntary. Finally, an informed consent form was obtained from each participant. Besides, the permission to use the CSE scale was granted by Professor Mark Daniel Sullivan.

Data analysis

Data were analysed using Statistical Package for the Social Sciences (SPSS) (version 16.0 for Windows). To describe the data frequency, descriptive statistics was utilized. In addition, the χ^2 test, independent samples *t*-test, repeated measures analysis of variance (ANOVA) and Bonferonni were applied to compare the data. The normality of the data was tested using two Sample Kolmogorov-Smirnov test and data has a normal equality of distribution (significance = 0.8). *P*-value < 0.05 was considered statistically significant. It should be noted that final analysis 5 days and 4 weeks after the surgery was carried out with 60 patients. Also, three of the patients did not answer their phone when the authors tried to make contact with them after 8 months from the surgery (one patient in the intervention group and two patients in the control group) were performed with 57 patients (Figure 1).

RESULTS

Demographical and baseline characteristics of the patients

In this study, 60 patients were selected and divided into two groups of 30 individuals, namely, the control and intervention groups. According to Table 1, the patients in both groups were homogenous in terms of demographic data. Mean and standard deviation of age in the intervention and control groups were 58.90 ± 8.33 and 60.73 ± 7.96 , respectively. In statistical terms, the *t*-test did not show significant differences in the patients' ages. Further information is included in the Table 1.

Cardiac self-efficacy of the patients

The CSE of the patients was checked in order of 5 days, 4 weeks and 8 months after their surgery. The average and standard deviation of the collected data were calculated and shown in Table 2. In addition, comparisons of two groups are depicted in Figure 2. The CSE of the patients in the intervention group was higher, compared with those in the control group; also, repeated measures analysis of variance indicated a significant difference in the level of CSE between the study groups ($p < 0.001$).

Table 1 Demographic information of the population in the intervention and control groups

Characteristics	Groups		p-value
	Intervention n (%)	Control n (%)	
Age	40–55	11 (36.7)	0.393* $t = 0.871$
	55–70	19 (63.3)	
	Mean (SD)	58.90(8.33) 60.73 (7.96)	
Gender	Male	23 (76.7)	1.000 [†]
	Female	7 (23.3)	
Marital status	Married	27 (90)	0.500 [‡]
	Single	3 (10)	
Job	Employee	7 (23.3)	0.874 [†]
	Free jobs	17 (56.7)	
	Homemaker	6 (20)	
Educational level	Illiterate	14 (46.7)	0.279 [‡]
	Elementary	15 (50)	
	Diploma	1 (3.3)	
Smoking	Yes	12 (40)	1.000 [†]
	No	18 (60)	
Insurance	Yes	22 (73.3)	0.542 [†]
	No	8 (26.7)	
Body mass index	Normal	8 (26.7)	0.502 [†]
	Overweight	16 (53.3)	
	Obese	6 (20)	
Information about surgery	Yes	3 (10)	0.095 [†]
	No	27 (90)	
Hyperglycaemia	Yes	9 (30)	1.000 [†]
	No	21 (70)	
Hyperlipidemia	Yes	10 (33.3)	0.592 [†]
	No	20 (66.7)	
Hypertension	Yes	10 (33.3)	0.069 [†]
	No	20 (66.7)	

*Independent sample t-test.

†Chi-square test.

‡Fisher's exact test.

Readmission rate of the patients

As it is shown in Table 3, there was a significant difference between the patients in intervention and control groups in terms of numbers of readmission cases with χ^2 tests ($p = 0.011$).

DISCUSSION

On the basis of the results, peer education could be considered as a practical, clinical, effective and suitable tool to be applied for increasing the CSE, which can be contributed to the increase of patients' self-confidence to develop physical activity. It is in fact due to a direct relationship between self-efficacy, self-confidence and physical activity in patients with CVD (Lau-Walker, 2004; Du *et al.*, 2012).

As it is mentioned before, the average score of CSE in the patients of the intervention group at 5 days, 4 weeks

and 8 months is significantly higher, compared with the control group ($p < 0.001$). This result is in line with the reports of a previously conducted study in which the self-efficacy of patients in the intervention group at the 5 days after the surgery was significantly higher than its correspondent in the control group. However, the average score of both groups did not significantly differ from each other after 4 weeks from the surgery (Parent and Fortin, 2000). In a study conducted by Kang and Yang (2013), a direct correlation was found between the CSE and receiving education. In other words, higher level of education and experience result in the higher level of CSE (Kang and Yang, 2013).

In a study conducted by Carroll (1995) on 133 individuals (i.e. comprised of 32 women and 101 men) whose age was above 65 and were recovering from CABG surgery in a hospital in New York, the importance of self-efficacy expectations was evaluated by applying Jenkins self-efficacy expectation scale. On the basis of the results, high self-efficacy directly and positively influences the patients' self-preservation behaviours (Carroll, 1995). The result of the study conducted by Jenkins and Gortner (1998) is also in line with this (Jenkins and Gortner, 1998). In addition, another study reported that cardiac rehabilitation programme results in the increase of self-efficacy in the patients (McConnell *et al.*, 2000). Millen and Bray (2009) showed that educational intervention, based on Bandura Social Cognitive theory, results in the promotion of self-efficacy. They reported that the self-efficacy of the intervention group, compared with the control group, was significantly higher after 4 weeks from the surgery (Millen and Bray, 2009).

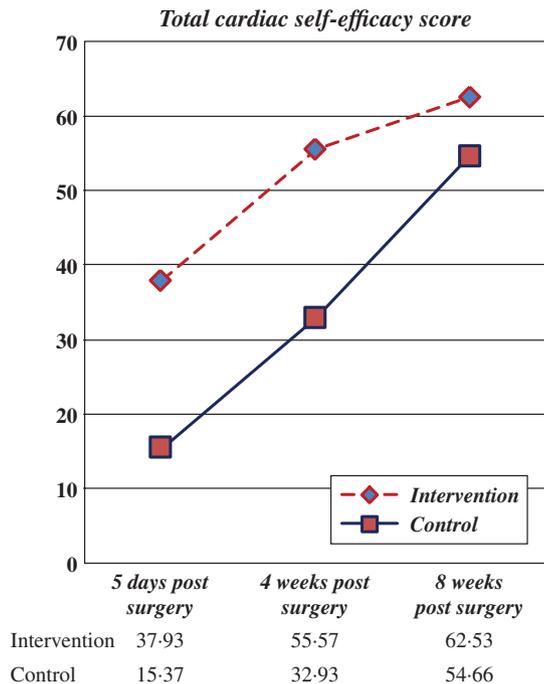
The increased risk of heart failure associated with lower baseline self-efficacy was explained by worse cardiac function and increased hospitalizations. These findings indicate that measuring CSE provides a rapid and potentially helpful evaluation of cardiac function among outpatients with CAD (Sarkar *et al.*, 2009). In addition, in another study conducted by Lien *et al.* (2012), it is reported that self-efficacy promotion beneficially increases the chance of diabetic patients who are suffering from coronary artery disease for CABG surgery, and also boost the tolerance of the patients after the surgery which contributes to higher activity (Lien *et al.*, 2012).

It is reported that the patients who have high CSE have significantly better functional status, better mental and physical health functioning and reduced cardiac hospital admissions 9-month post discharge in CAD patients. In a study conducted by O'Neil *et al.* (2013), it was indicated that higher CSE is in fact a protection against any hospital admission at follow-up. Kang and Yang (2013) mentioned in their article that

Table 2 Cardiac self-efficacy of the population in the intervention and control groups

Cardiac self-efficacy	Groups					
	5 days		4 weeks		8 months	
	Intervention	Control	Intervention	Control	Intervention	Control
Mean(SD)	37.93 (9.5)	15.37 (5.74)	55.57 (2.86)	32.93 (8.41)	62.53 (1.54)	54.66 (6.73)
p-value	<0.001*		<0.001*		<0.001*	

*Repeated measures analysis of variance.

**Figure 2** Comparison of the cardiac self-efficacy scores in the intervention and control groups over time.

'Cardiac self-efficacy is an important factor in initiating and maintaining health behaviours, which leads to a decreased recurrence of cardiac events and improved cardiac functions such as left ventricular ejection fraction (EF) in patients with CADs (Kang and Yang, 2013).

On the basis of the results, peer education significantly reduces the rate of readmission. In addition,

Table 3 Readmission of the population in the intervention and control groups

Characteristics		Groups		p-Value
		Intervention n (%)	Control n (%)	
Readmission	Yes	3 (10.3)	11 (39.3)	0.011*
	No	26 (89.7)	17 (60.7)	

*Chi-square test.

the χ^2 test showed that there is a significant difference in the rate of readmission between both groups ($p=0.011$). In other words, the patients of intervention group who received peer education are more unlikely to readmit, compared with the control group's patients during 8 months after surgery. In fact, three patients of the intervention group, due to the several reasons such as having pneumonia, diarrhoea and chest pain, had to readmit, compared with 11 patients in control group. In the control group, 11 patients rehospitalized because of several reasons during 8 months after surgery such as warfarin overdose (four patients), psychological problems (depression and anxiety; four patients) and saphenous site infections (three patients).

On the basis of the results of the previously conducted studies in this field, there are several reasons for readmission in coronary heart diseases. For example, in a study conducted on 30 000 CABG patients, procedural complication was the main reason of readmission among the patients. In addition, heart failure is reported to be the second important factor (Rumsfeld and Allen, 2011). There is also another study on 33 936 CABG patients in which the same results are reported (Hannan *et al.*, 2011).

Psychosocial problems such as depression and anxiety are also in direct relationship with readmission; also, symptoms of depression and anxiety are associated with morbidity following CABG surgery (Tully *et al.*, 2008). Educational needs after discharge in CABG surgery patients are very high; so before discharging them, pre- and post-operation patient information must be assessed and the deficit should be corrected (Alkubati *et al.*, 2012). So, patients should be educated regarding these matters. Preoperative, postoperative and at discharge education for the patients with CAD can diminish readmissions rates, and improve health and provide a better recovery period at home (Bauer *et al.*, 2009). Therefore, peer education could prevent the readmission costs and help maintaining patients' health. In addition, patient educations are part of the patient's rights and it increases patient's CSE and reduces his readmissions rate.

All people in a stressful situation try to find someone who has similar experience. If this attempt does not occur in right direction, (i.e. the patient consults with someone who experienced a terrible and stressful condition), the patient's ability to perform normally will be affected and his/her self-efficacy will be diminished. Overall, the implementation of peer education can increase the efficacy of cardiac patients, reduce readmission and accelerate their recovery. Therefore, nurses can use a peer education to improve CSE, outcomes and reduce the rate of readmissions in patients who have CABG surgery.

LIMITATIONS

This present work was a two-group study with a rather small sample size. Further studies included with larger sample sizes are recommended.

CONCLUSION

This study showed that a peer education programme could improve CSE and decrease hospital readmission among patients candidate for CABG surgery. The findings of this study could serve as a basis for further development of peer education programmes in CABG patients. Therefore, implementation of peer education has positive effects on CSE in patients undergoing bypass surgery and reduces their hospital readmission. It can be beneficial to apply that as an educative-supportive approach in cardiac surgery fields.

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S. H. V., M. A. C. H., M. S. H. and A. D. designed the study; M. S. H., S. H. V., M. T., and A. A. collected and analysed the data collection; and S. H. V., M. S. H., M. A. C. H., M. T. and A. D prepared the manuscript.

ETHICAL CONSIDERATIONS

The consent form of the study was reviewed and approved by the Research Ethics Committee of the Tehran University of Medical Sciences, Tehran, Iran, on 6 January 2013. In addition, the Iranian Registry of Clinical Trials registered the study. The study was conducted in accordance with the ethical principles provided by the Declaration of Helsinki and the guidelines of the Iranian Ministry of Health and Medical Education. In this study, the selected participants were thoroughly informed about both the purpose and the process of the study. Moreover, they were ensured that participation and withdrawal from the project are voluntary. Finally, an informed consent form was obtained from each participant. Besides, the permission to use the CSE scale was granted by Professor Mark Daniel Sullivan.

WHAT IS KNOWN ABOUT THIS TOPIC

- Cardiovascular diseases are considered the main cause of death over the world.
- CABG is a very stressful experience and these patients may suffer from having fear, stress, anxiety, depression and tension, which can result in losing faith in their ability, and therefore self-efficacy.

WHAT THIS PAPER ADDS

- This is the first randomized-controlled trial applied peer education approach on CSE and readmission rate in patient undergoing bypass surgery.
- Peer education increases the CSE and decreases readmission for patients with bypass surgery.
- Demonstration of the potential utility of CSE scale in patients with bypass surgery.

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