

Incentives for self-management after coronary artery bypass graft surgery

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ABSTRACT

Background: Chronic illnesses such as coronary heart disease are among the most prevalent and costly of all global health problems. Coronary heart disease is a leading cause of death worldwide, including Iran. One aspect of living with chronic illness is self-management which can reduce the impact of illness on daily life and maintain the quality of life. A qualitative understanding of how patients perceive the necessity of self-management is important for self-management support. The current study aims to determine patients' perception of the need for self-management following coronary artery bypass graft (CABG) surgery.

Materials and Methods: We used a content analysis approach to conduct this qualitative study. Data were collected by interviews with 25 patients who underwent CABG surgery at least 1 year prior to the study. Purposeful, followed by theoretical sampling was used until data saturation. Data were analyzed by descriptive qualitative content analysis according to the Graneheim and Lundman approach.

Results: Participants had different perceptions regarding the need for self-management. Three themes, "reflective thinking," "information revision," and "beliefs influences," comprised the basis of forming patients' perceptions to the need for self-management.

Conclusions: Patients' perceptions vary regarding the need for self-management. The difference in perception should be the basis for training programs to guide CABG patients for successful self-management.

Key words: Chronic disease, self-care, self-management

INTRODUCTION

Cardiovascular diseases (CVDs) are chronic diseases considered to be the main causes of death and disability worldwide.^[1,2] It is estimated that by 2020, CVDs will be the first cause of disability in the world. Although CVDs account for 20% of deaths worldwide, they comprise 35% of deaths in Iran.^[3] If medical therapy fails in patients with ischemic heart disease, only coronary artery bypass graft (CABG) surgery will guarantee patient survival and health.^[4] Although most patients report improved health after CABG surgery, many have mentioned that

recovery and rehabilitation is a process that has short- and long-term complications.^[5]

Biological, psychological, and social approaches based on the patient's perspective are important for patient support and to meet their needs.^[6] In terms of disease management, daily decision-making by the patient involves more than simple treatment choices or compliance with medical regimens. One of the responsibilities of healthcare providers, particularly nurses, is the provision of information based on the patients' needs by education and follow-up for support.^[7]

Over the past several decades, self-management for chronic diseases has received much attention in health education and literatures on health behaviors. A number of prevalent chronic diseases such as coronary heart disease require self-management in the form of a medication regimen, physical activity, weight and diet management, and specific behaviors related to this disease.^[8] Self-management is the ability of the individual in conjunction with family, community, and healthcare providers to manage symptoms, treatments, and lifestyle changes. Also, it is the management of cultural, spiritual, and social consequences and one's mental health status.^[9] Self-management is one of the strategies used by an individual for disease control, to improve health and live well with their disease.^[10] Since

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traditional views (caregiver-oriented view) have failed in the improvement of clinical outcomes in the management of chronic conditions where the patient is forced to accept instructions, self-management is proposed for chronic diseases.^[11]

Numerous studies have been conducted regarding the experiences of patients after CABG surgery. These studies are in the context of patients' experiences about the effect of CABG surgery on their health,^[5] the evaluation of concerns and needs of patients and their families after CABG surgery,^[12] and the experience of recovery after CABG surgery.^[13] The starting point of the process of self-management is based on patients' perceptions of self-management needs. Perceived self-management needs direct the types of self-management that patients seek.^[14] Currently, in Iran, there are no specific health programs or policies that support self-management in cardiac patients. So, the majority of cardiac patients after CABG surgery develop their own self-management plan and attempt to maintain this plan themselves. Therefore, we have designed this study to explain the formation of patients' perceptions regarding the need for self-management. The results can be useful to design self-management supporting programs in cardiac patients in terms of structural, cultural, social, and economic contexts.

MATERIALS AND METHODS

Study purpose

This study aimed to discover patients' perceptions regarding the need for self-management with the intent to attain a better understanding of the self-management process in CABG patients.

Design

This was a qualitative research study conducted by a content analysis approach. We held in-depth interviews for data collection.

Participants

We invited participants whose names were retrieved from the one Heart Surgery Center in Kerman city of Iran to participate in this study, according to the study inclusion criteria. Inclusion criteria included having a gap of at least one year from CABG surgery prior to study entry and agree to attend the study interviews and give detailed explanations to the interview questions. Participants were chosen for the study according to the concepts obtained from their interviews (theoretical sampling). Sampling continued until data saturation.

Data collection

Interviews were conducted at the Cardiac Rehabilitation Center. Duration of interviews ranged from approximately 20 to 100 min. Data were collected from December 2012 to November 2013. The semi-structured interviews began with a general question, "Can you talk about your experience with heart disease?" This was followed by probing questions such as "What is your motivation for self-care and prevention?" in order to obtain a deeper understanding of the data. Interviews were recorded by an MP3 player and transcribed after listening to the recordings for several times. Data collection and data analysis were conducted simultaneously and continued until data saturation.

Ethical considerations

The Ethics Committee of Kerman University of Medical Sciences approved this study prior to participant recruitment and data collection from the participants. All participants signed written informed consents for study participation and were assured of the confidentiality of their information.

Data analysis

We used the qualitative content analysis method for data analysis. This method provides an extensive, in-depth description of the phenomenon and new knowledge and a practical guide for actions. The ultimate achievement of content analysis is to provide descriptive concepts and categories of data.^[15] We used the content analysis method proposed by Graneheim and Lundman. The main steps in this method are verbatim transcription of the recorded interviews which are reviewed a number of times with the intent to understand the general meaning, dividing the text of interviews into hidden meaning units, making abstract meaning units, assigning codes to these units, and then classifying the initial codes into subcategories and main categories according to similarities and differences.^[16]

Rigor

We used the four measures of Guba and Lincoln, credibility, transferability, dependability, and confirmability, to assess the validity of the findings.^[17] In this regard, in addition to a long-term relationship with participants to assess credibility, participants' review, member check, and peer check were used. Diversity of the data in terms of gender, age, and disease severity before surgery and member check suggested confirmability of the findings.

RESULTS

A total of 25 participants were interviewed. Participants had a mean age of 54 years and have had were 1-3 years after their CABG. Of the participants, 22 were married and 3 were widows. At an early stage, we extracted

1059 initial codes. After classifying and merging, we derived nine subcategories, followed by three themes, i.e. “reflective thinking,” “information revision,” and “beliefs influences” [Table 1].

Reflective thinking

Three subcategories, “the need for moderation,” “the need for role management,” and “monitoring limitations,” resulted in the reflective thinking theme. Research findings indicated that surgery was a turning point that made patients review their lives and resulted in new perspective and reprioritization in life. Most patients felt the need for adjustment, relaxation, slower paced lifestyle, and finding meaning in their new life after surgery.

“I shouldn’t return to the previous life style. I should act carefully and in a controlled way. The surgery gave me a great lesson to be kinder to my body and adjust myself to things that cannot be changed.”

Some participants perceived the need for self-management to maintain previous roles, such as maternal or paternal. Most believed that taking care of themselves was necessary in order to take care of their children. They believed that self-management was necessary to maintain their roles in the family.

“I think I don’t belong to myself now and I belong to my family. I should take care of myself more because of them as I should be responsible to them.”

Participants attempted to identify and monitor their limitations and strengths. Limitations monitoring ‘better enabled them to perceive the need for self-management. For example, awareness of the limits of decreased physical ability allowed them to perceive the need for adjustments to their physical activities.

“I do my daily activities according to my abilities. My body can’t take it anymore. I adjust myself to my abilities and that’s why I reduced my working hours.”

A number of participants who expressed awareness of their disabilities in some areas and reviewed their

Table 1: Formation of the perception of the need for self-management

Themes	Subcategories
Reflective thinking	Need for moderation
	Need for role management
	Monitoring limitations
Information revision	Interaction with the social system
	Interaction with the health system
	Media information system (media, Internet)
Beliefs influence	Beliefs about the risk factors for coronary heart disease (cause of disease)
	Beliefs about the disease process
	Beliefs about being or not being a cardiac patient

status as cardiac patients and their limitations felt the need for self-management. Others, however, who noted improvement in both their symptoms and relative abilities considered the need for self-management as a short-term process that would be resolved over time.

“As I don’t have any particular symptom and my physical condition is much better than before, sometimes I think that maybe I’m not a cardiac patient. So I neglect the doctor’s recommendations such as walking and diet.”

Information revision

Patients regularly attempt to obtain information about the cause of their disease, the ways to prevent restenosis of the coronary arteries, and how to perform health promotion behaviors. Apparently, the concern of a cardiac event relapse leads them to information revision and to seek new information.

In the present study, both disease perception and the need for self-management were significantly influenced by various information sources such as family, friends and acquaintances, peers, healthcare providers, and media sources (the Internet, radio, and TV). Most participants expressed that over time, new needs were increased and they needed to obtain additional information and receive continued support from the healthcare providers in order to choose an appropriate self-management behavior.

Healthcare providers in hospital and Cardiac Rehabilitation Center provide credible and reliable information to patients. Patients feel such information is extremely useful. Initially, the patient’s need for self-management is formed under the influence of the recommendations of the healthcare providers, particularly nurses.

“Experienced nurses in the ward gave me good information and advice. I think their knowledge is correct as it is as the result of their experiences.”

However, some patients did not receive information during the initial periods after surgery (hospital or rehabilitation centers) due to their lack of mental or physical preparation. Therefore, their perception of the need for self-management was influenced by the lack of proper knowledge. Hence, it seems that training and providing information should be a continual process and not limited to the short period of time after surgery.

“Because of depression and as I thought I wouldn’t be alive for a long time, I didn’t listen to their advice about nutrition and exercise. But now I understand that there’s no difference between others and me, so I’d like to start again and learn by training.”

Most patients wanted to establish ongoing relationships with their healthcare providers, particularly nurses, in order to

receive information on a daily basis, as they experienced different needs over time. The need for self-management has been shown to change over time. This change in perceived self-management necessity was related to fluctuations regarding the disease and life conditions experienced by the patient.

“During the early days after surgery, I had some questions. After 8 months, I had another set of questions and now I have new questions. Doctors don’t have time to answer some of these questions. I think nurses can help us better.”

Participants, in the context of the need for self-management, received different information from family, friends, and acquaintances. Peers were one of the most important information sources for them. Peers can be a good source for information and an important motivating factor in feeling the need for self-management behaviors. Generally, ideas and beliefs received from families, friends, and peers had greatly influenced the formation of patients’ perceptions of the need for self-management.

“One of my relatives who had surgery told me that I should reach a conclusion about what’s good for me, but emphasized continuing the doctor’s advice about diet and walking.”

Most participants received the necessary motivation from their peers who previous underwent surgery and recovered with no specific problems. It seems that visiting these peers results in a sense of confidence and motivation for patients to continue life and perform self-management behaviors.

“I found a relative who had surgery 10 years ago and nothing happened to him. Visiting and talking with him was very hopeful.”

Patients received information from available sources such as the Internet and media. The information received from different sources was incomplete and, in some cases, contradictory, which confused the patients. In addition, there was no specific reference for patients to obtain reliable and complete information after the end of the rehabilitation period. This impacted participants’ opinions regarding the need for self-management.

“I obtained information at first from my doctor, then the nurses, after which I got complementary information from the Internet. There is a multiplicity in information. In some cases, there are contradictions between information from Internet sources and information given by doctors and nurses. This confuses me.”

To form a correct perception of the need for self-management, it seems necessary to provide inclusive, exclusive,

coordinated information and proper justification to patients by the healthcare providers.

Beliefs influence

The most important finding was the role of beliefs and values in prioritizing self-management and determining their life priorities. Beliefs regarding the risk factors of cardiac disease, being or not being sick, and beliefs about cardiac disease as a chronic or transient problem formed the theme of “beliefs influence.” In the current study, the perception of need to self-management was significantly influenced by patients’ beliefs about the causes of cardiac disease. The view of participants about their need to perform preventive behaviors and health promotion, as well as control and management of the effect of this disease greatly depended on their beliefs about the risk factors of cardiac disease. The belief of the individual in only one risk factor might lead to neglect and failure to manage other risk factors.

“The stress knocked me down. If there is no stress, one can eat everything and nothing will happen to him even if he doesn’t exercise.”

Some participants were certain about their heart condition according to assurance and encouragement received by cardiac surgeons or specialists to return to a normal life. This mistaken perception was an obstacle that prevented them from understanding the need for self-management; they did not consider themselves as cardiac patients who required lifelong self-management.

“The surgeon told me that my heart muscles were very young and in good condition. Although my heart arteries were blocked, my heart muscle is still young. I don’t think I am a cardiac patient.”

The lack of a correct perception of the nature of cardiac disease and the sudden CABG surgery led some participants to have an incorrect perception of the chronic nature of cardiac disease and not to feel the need for performing preventive and healthy behaviors.

“Sometimes I think I didn’t have any cardiac problem and perhaps they performed surgery on me unnecessarily. Maybe my heart didn’t have any problem. Because before surgery my physical condition was normal and then a sudden surgery was performed on me, such thing comes to my mind.”

Patient’s belief in the chronic nature of cardiac disease was effective on shaping the need for self-management.

“At 6–7 months after surgery, I thought there was no need for any more diet and walking.”

Participants’ perceptions of the need for self-management ranged from a series of reasonable judgments and deep

understanding to superficial, folklore, and non-professional judgments.

Misperceptions, wrong beliefs, misconceptions, and the lack of briefing and appropriate training affected patients' perceptions of the need for self-management and the resultant performance of self-management behaviors. Thus, participants needed continual, professional help with rational decision-making in order to manage their disease.

DISCUSSION

This study aimed to explain the perception of patients regarding the need for self-management after CABG surgery. Maintaining meaning, control, and balance is essential in life for all humans.^[18] In a qualitative study conducted on the self-management of chronic patients, participants have redefined normalization and readjusted their expectations accordingly.^[19] In another qualitative study about experience after angioplasty, participants stated that angioplasty was a turning point for creating a new vision and for reprioritization, which supported the findings of the current study.^[20] In literature review, perception of the need for self-management was frequently described as one's perceived threat of the disease.^[21,22] The theme of "reflective thinking" in the present study has suggested the individual's perception of disease threat. Living with a chronic disease causes disruption in normal lifestyles such that living with the previous lifestyle is not useful and new lifestyles should be developed.^[23]

In the current study, participants believed they needed to perform self-management behaviors because of their maternal or paternal roles. In one group of chronic patients, facilitating social roles such as parental role was mentioned as a reason for self-management.^[24] Being a parent led to feelings of perceived vulnerability.^[25]

In the current study, monitoring limitations such as decreased physical power placed limitations on everyday activities which reminded participants of the need for self-management. Monitoring has been shown to lead to familiarization with constraints and perceived facilities.^[19] Time and attention that patients spend on the need for or lack of need for self-management are based on the effect of the disease on a patient's body.^[6]

The perception of the need for self-management was influenced by the belief about the causes of disease, the disease nature (whether cardiac disease is chronic or acute), and being sick or healthy. Beliefs and values determine patient's priorities for both self-management and life priorities.^[24] The perception of disease is generated

by a patient's perception about the potential causes of the disease.^[26] Patients do not tend to change those areas of their lifestyles that they do not understand as possible reasons for disease;^[27] therefore, beliefs about the cause of disease can affect the adaptation of lifestyle changes.^[28] The results of a qualitative study that evaluated self-management patterns in chronic patients has shown that health beliefs are effective on the pattern of an individual's health-related daily decisions.^[23] Research on health beliefs is often based on theories of health behavior such as the health belief model, social cognitive theory, and the theory of reasoned action. These theories emphasize the cognitive aspect of decision-making for performing health behaviors.^[29]

An important point in these findings was that some participants believed that a risk factor did not necessarily lead to adopting preventive behaviors. This group of patients did not consider themselves to be sick or did not understand the chronic status of cardiac disease. This belief was created in patients because of their physical recovery after surgery or the doctor's reassuring words. The findings of a qualitative study showed that most patients did not consider themselves to be cardiac patients or to have the same identity as a cardiac patient after myocardial infarction.^[30]

The individuals' perception of heart attack as an acute event will lead to reduced motivation for long-term changes in lifestyle.^[20] In a qualitative study, participants who considered heart attack as a symptom of a chronic condition spent a lot of time to address the possible causes of their disease. In contrast, those who considered the heart attack as an acute event avoided thinking about it.^[30] Encouraging patients to return to a normal life should not be considered a barrier to secondary prevention. The right balance should be created between reassuring patients and notifying them of their disease process and conditions. The patient's perception of the disease or his cognitive picture of the disease is formulated from his beliefs regarding his condition.^[31]

Another finding of this study was the effect of information processing in shaping the need for self-management. Several information resources could act as facilitators or barriers to the need for self-management. The requirement of information about chronic diseases was a major prerequisite for self-management. This information should be according to individual needs.^[32] Uncertainty about the information received from the healthcare providers would be replaced by advice received from peers or others.^[33] Although knowledge alone has not been shown to lead to behavior change,^[34] the lack of knowledge plays an important role in the lack of motivation for change.^[20]

In the current study, participants needed comprehensive, complete, and reassuring information in order to understand their real need for self-management activities. Insufficient information and the lack of continued information affected the need for self-management. Health professionals and policy makers should provide new, reliable, and accessible information resources for CABG patients.

Therefore, nurses, doctors, and other healthcare providers need to ensure that patients have the correct perception about the coronary disease nature and emphasize that CABG surgery is not permanent treatment and they need lifelong lifestyle changes.

CONCLUSION

Understanding patients' perception of the need for self-management can be a good beginning for self-management intervention in CABG patients. Professionals need to pay attention to the complexity of patients' understanding of the need for self-management, as this perception affects their choices for disease control and coping with disease. It can be concluded that CABG patients will benefit from training interventions that aim to correct and adjust patients' perceptions of the need for self-management. Patients are unable to learn well after CABG surgery due to psychological and physical problems. Meanwhile, hospital nurses have little time to train and help patients; therefore, it is necessary to have community health nurses for guiding self-management. Due to the lack of self-management programs in Iran, more studies are needed to explain the process of self-management for patients after CABG or other cardiac patients according to individual patient needs.

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